Youth Physical Activity Towards Health (Y-PATH)
Meeting the Needs of Irish Teachers and Students

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Declaration of Authorship

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Master of Science is entirely my own work, that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

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List of Abbreviations

ANOVA	Analysis of Variance
CSPE	Civic, Social, Political Education
DCU	Dublin City University
DEIS	Developing Equality of Opportunity in Schools
FMS	Fundamental Movement Skills
HR	Heart-Rate
HRA	Health-Related Activity
HSD	Honest Significant Difference
MIGI	Move it Groove it
MRC	Medical Research Council
MVPA	Moderate-Vigorous Physical Activity
NCCA	National Council for Curriculum and Assessment
OECD	Organisation for Economic Co-operation and Development
PA	Physical Activity
PE	Physical Education
PL	Physical Literacy
QPE	Quality Physical Education
RCT	Randomised Controlled Trial
REC	Research Ethics Committee
SHAPE	Society of Health and Physical Educators
SPARK	Sports Play and Active Recreation for Kids
SPHE	Social, Personal, Health Education
SPSS	Statistical Package for the Social Science
USA	United States of America
Y-PATH	Youth Physical Activity Towards Health

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Abstract

Youth Physical Activity Towards Health (Y-PATH)
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Introduction: Physical activity (PA) levels in children are below recommended guidelines and are declining throughout adolescence, threatening negative consequences such as obesity, heart disease, stroke and type II diabetes to the current and future health of Irish young people. Physical Education (PE) is provided to promote PA to school-going students and to enable them to pursue healthy and active lives. The World Health Organization (WHO) recommends school-based interventions to assist the promotion of PA among young people.
Purpose: The purpose of this research was to trial, refine and extend the PE element of the Y-PATH programme in line with national curricular developments, based on the thoughts and opinions of students and specialist PE teachers in Irish post-primary schools.
Methods: Following the completion of a 12-week intervention of the Y-PATH PE programme in Irish post-primary schools (N=9), cross-sectional data were collected from participating students (N=317) using questionnaires, in order to investigate students' PA levels, physical self-worth, enjoyment and experiences of PE. Additionally, all students were afforded the opportunity to express their thoughts and opinions using open-ended questions. Focus group and semi-structured interviews were conducted to gather data on the thoughts and opinions of participating PE teachers (N=15) on the programme and were analysed qualitatively using thematic analysis.
Results: Following the intervention, repeated measures Analysis of Variance (ANOVA) tests revealed that students with higher levels of PA had higher self-worth, greater enjoyment of PE and more positive experiences in PE class in comparison to those students with lower levels of PA, all of which are central components of the Y-PATH PE programme. Findings from the teacher feedback revealed four main themes. These themes explored the usability of materials and resources, Y-PATH content suitability, implementation considerations and the current PE curricular context.
Conclusion: Data collected indicated the majority of students who were involved in data collection had positive experiences participating in Y-PATH PE. Teacher feedback revealed the Y-PATH programme is suitable for students across single-gender and mixed gender

schools, and across schools located both in urban and rural areas. Both student and teacher feedback provided valuable insight to the research team in relation to the use of the programme in the classroom, to guide the refinement and extension of the Y-PATH PE programme.

Chapter 1
Introduction to Thesis

1.1.General introduction

People who live physically active lives generally live longer, and have lower incidences of non-communicable illnesses, such as heart disease, stroke, type two diabetes, depression and some cancers (CDC, 2014; World Health Organization, 2017). Furthermore, regular physical activity (PA) participation during childhood plays an integral role in weight control and obesity prevention (Biddle et al., 2014; Miller et al., 2015; Tremblay et al., 2016; World Health Organization, 2017). For health benefits, the World Health Organization (WHO) continue to recommend that children and adolescents acquire a minimum of 60 minutes moderate-to-vigorous physical activity (MVPA) per day (World Health Organization, 2017).

Previous national surveillance data reported that only 12% of post-primary school children in Ireland (12-18 years) were meeting the MVPA guidelines, and those who were meeting these guidelines were reported to have the best health profile of all participants (Department of Education and Skills, 2014; Woods et al., 2010). According to the Growing Up in Ireland Study, 2012, of 7,400 participants aged 13-years old in Ireland, 39% were meeting guidelines on nine days in a two-week period, 47% of these male compared to 31% of females (Growing Up in Ireland, 2012). Furthermore, only 23% of participants (10-17 years) reported to meeting MVPA guidelines on seven days and 9% reporting being physically active less than once per week (Kelly et al., 2014).

In light of the low levels of PA among Irish adolescents being reported, it has been found that the number of days in which children reach the recommended 60 minutes of MVPA is significantly increased if they participate in regular physical education (PE) lessons and sport in school (Mooses et al., 2017; Woods et al., 2010). PE is a contributor to public health and well-being, and it is recommended by the Association for Physical Education that a holistic approach is taken, encompassing psychological, social and physical aspects of a person's wellbeing (Association for Physical Education, 2008, 2015; SHAPE America, 2014). Physical literacy (PL) is a term used to describe the knowledge, skills and attitudes needed to lead a healthy and active lifestyle (Mandigo et al., 2009; Whitehead, 2007) and is a '*cornerstone'* for participation in PA (Canadian Sport for Life, 2014). PE lessons provide students with the opportunities to be physically active while developing PL and healthy lifestyle habits (Lalor et al., 2007; SHAPE America, 2013; Trudeau and Shephard, 2005; Woods et al., 2010). The Society of Health and Physical Educators (SHAPE) in the

United States of America (USA) have redefined PE as the '*pursuit of PL*' and have introduced national standards and outcomes to support students becoming physically literate (SHAPE America, 2014, 2015). Quality PE (QPE) describes a PE programme which encourages this '*pursuit of PL*', through the promotion of movement competence in students (SHAPE America, 2015; UNESCO, 2015).

The Junior Cycle for students in 1st, 2nd and 3rd year (12-15 years) (Department of Education and Skills, 2014) in Irish post-primary schools is undergoing reform, with the introduction of a Framework for Junior Cycle (2015), which endeavours to provide students with a quality, inclusive and relevant education (Department of Education and Skills, 2015). PE has become a compulsory component of the recently introduced Junior Cycle Framework, under the new subject area of Wellbeing (Department of Education and Skills, 2015; NCCA, 2017). Wellbeing PE requires a minimum of 80 minutes scheduled class time per week throughout the three-year Junior Cycle (NCCA, 2017). The National Council for Curriculum and Assessment (NCCA) identifies six indicators of Wellbeing in which PE teachers are to plan and teach for; which include 1) being active, 2) responsible, 3) connected, 4) resilient, 5) responsible and 6) aware (NCCA, 2017).

While considering a QPE programme for students and teachers in the new Junior Cycle, inspiration can be taken from successful international evidence-based interventions, such as 'Move it Groove it' in Australia and 'Sports Play and Active Recreation for Kids' in the USA (Beard et al., 2001; McKenzie et al., 2009). In Ireland, the post-primary school intervention programme entitled 'Youth Physical Activity Towards Health' (Y-PATH) has received much attention within the literature (Belton et al., 2014; McGrane et al., 2017; O'Brien, 2013). Y-PATH is a multi-component, school-based PL programme, focusing on the development of health-related activity (HRA) knowledge and fundamental movement skills (FMS), which are defined as basic, recognisable patterns of movement (Department of Education Victoria, 1996; Gallahue and Donnelly, 2007), through a motivational climate (Belton et al., 2014; McGrane et al., 2017; O'Brien, 2013). It has been designed for Junior Cycle students, aged 12-15 years old (Department of Education and Skills, 2014), in Irish post-primary schools, to be delivered through four core components- students, teachers, parents/ guardians and the use of media (see Figure 1.1.).

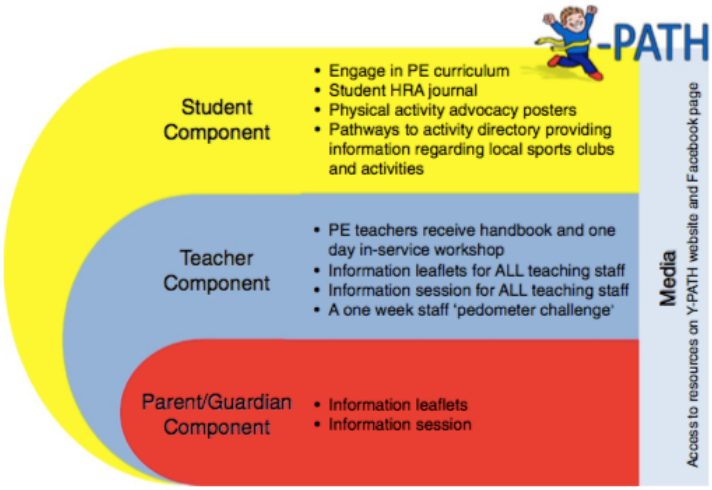

Figure 1.1. Overview of the structure of the Y-PATH programme (Belton et al., 2014)

The programme has been extensively evaluated and developed since its inception in 2010 (Belton et al., 2014; McGrane et al., 2017; O'Brien, 2013; O'Brien et al., 2013, 2015b), in line with the Medical Research Council (MRC) framework for developing complex interventions (moving from theory and modelling, to exploratory research, and onto a randomised controlled trial) (Medical Research Council, 2008). The first phase of the programme was piloted with students in a non-randomised controlled trial (n= 174, 12-14 years) in 2011/12, showing positive results in the increase of PA levels and FMS proficiency among participating students (O'Brien et al., 2013). A randomised controlled trial (RCT) was then conducted (n = 482, 12-13 years) in 2013/14, to investigate the FMS proficiency of students participating in the Y-PATH programme (McGrane et al., 2017). Fifteen FMS, which are divided into three subsets of skills (locomotor, object control and stability) (Gallahue et al., 2012; McGrane et al., 2017) were tested at the beginning, post-intervention and three months later, concluding that Y-PATH has the potential to increase FMS proficiency regardless of student gender, weight and activity levels (McGrane et al., 2017).

While previous Y-PATH research has extensively investigated the effect and impact of the programme on students, this study focuses on the needs of the post-primary specialist PE teachers, and their students participating in Y-PATH PE. This stage of the Y-PATH development coincides with a critical time of curricular change, and the status of PE in the Irish Junior Cycle (Department of Education and Skills, 2015). Aligned with these curricular changes in Ireland, this study also gives significant attention to the requirements of the new Junior Cycle Framework for PE

within the guidelines for Wellbeing (Department of Education and Skills, 2015; NCCA, 2017).

1.2. Aims

The aim of this study is to trial, refine and extend the PE element of the Y-PATH programme in line with national curricular developments, based on the thoughts and opinions of practicing students and specialist PE teachers in Irish post-primary schools.

1.3. Objectives

1. To equip participating specialist PE teachers to deliver the Y-PATH PE programme to students in in years one and two of the Irish Junior Cycle.
2. To evaluate the thoughts and opinions of specialist PE teachers, following the implementation of a 12-week trial of the Y-PATH PE intervention, with their 1st and 2nd year students.
3. To investigate student PA levels, physical self-worth, enjoyment of and experiences of Y-PATH PE.
4. To refine year one and year two of the Y-PATH PE programme if recommendations are made, and to develop year three, in light of the feedback collected following the 12-week intervention.
5. To ensure that the Y-PATH PE programme meets the six indicators of Wellbeing within the new Junior Cycle, following feedback from PE teachers who have participated in the programme.

1.4. Thesis Structure

- Chapter one introduces the reader to the area of research, and contents of the study.
- Chapter two contains a critical review of previous literature in the areas of PA, PL, Wellbeing within the new Junior Cycle in Ireland, and global examples of quality PE delivery.
- Chapter three is a research paper examining student feedback from participating in the Y-PATH programme.

- Chapter four is a qualitative paper, investigating the thoughts and perspectives of specialist PE teachers on the Y-PATH programme, following a 12-week delivery of the programme.
- Chapter five consists of a conclusion to the research and provides recommendations for the future of the Y-PATH programme.

Chapter 2

Review of Literature

2.1. Physical activity

'Physical activity is defined as any bodily movement produced by skeletal muscles that results in energy expenditure' (Caspersen et al., 1985: 126). The health benefits acquired from being physically active are extensive, and exhibit a dose-response relationship; with greater benefits obtained from higher levels of PA (McKinney et al., 2016). An association has been made between physical inactivity and the incidence of major health risks, including overweight and obesity, elevated blood pressure and diabetes (British Heart Foundation, 2013; Institute of Medicine of the National Academies, 2013; National Center for Chronic Disease Prevention and Health Promotion, 2011; Twisk, 2001). It is alarming that physical inactivity has been identified as the fourth leading risk factor in global mortality, contributing significantly to the incidence of non-communicable diseases (NCDs), such as cardiovascular disease, diabetes and cancer (World Health Organization, 2010). Low levels of PA participation in childhood and adolescence are an indicator of PA levels in adulthood, indicating the urgency of promoting PA amongst young people, to offset both immediate and future risks of physical inactivity (Dishman and Dunn, 1988; Institute of Medicine of the National Academies, 2013; Kuh and Cooper, 1992).

2.1.1. Physical activity levels and the associated guidelines for children and adolescents in Ireland

Irish guidelines for PA are in line with global recommendations, which advise that children and adolescents should accumulate 60 minutes of MVPA on a daily basis. (World Health Organization, 2010). Activities for young people should be appropriate based on age, skill level, maturity and can accumulated in shorter amounts throughout the day (Department of Health and Children and Health Service Executive, 2009).

Children generally enter post-primary school in Ireland at the age of 12, and attend throughout their teenage years (Department of Education and Skills, 2014). Cross-sectional data recorded in an Irish study indicated that over half (67%) of Irish adolescents were not meeting the MVPA guidelines for health (Belton et al., 2014),. This is in keeping with global trends, with 80.3% of young people (13-15 years) reportedly not reaching MVPA guidelines, with girls less active than boys (Hallal et al., 2012). These PA levels are highly influenced by a number of determining factors in a young person's environment and are discussed below.

2.1.2. Determinants of PA in youth

Understanding the determining factors associated with childhood PA levels are critically important for increasing the evidence base associated with effective interventions for increasing PA levels among adolescents (Atkin et al., 2016; Craggs et al., 2011; Mendonça et al., 2014) and these determinants of PA participation are highly complex (Humbert et al., 2006; Sallis et al., 2000; Woodfield et al., 2002). Three major factors have been previously identified as influencers of PA participation, which include i) intrapersonal, ii) social and iii) environmental (Humbert et al., 2006; Sallis and Owen, 1999), each of which must be addressed individually (Spence and Lee, 2003).

2.1.2.1. Intrapersonal domain

Socioeconomic status (SES) is a significant factor in the intrapersonal domain impacting on participation in PA (O'Donoghue et al., 2018; Spence and Lee, 2003), in addition to ethnicity (Woodfield et al., 2002). The evidence to-date is contradictory, with some studies finding that young people from higher SES backgrounds are more physically active than those with lower SES (Woodfield et al., 2002). More recently, the inverse was found among young people in a rural setting in West Virginia, with higher PA levels being observed among those from a lower SES background (Cottrell et al., 2015). In Ireland, a study in 2010 from a nationally representative sample found that SES had little impact on the number of children meeting PA guidelines (Woods et al., 2010). However, statistically significant results in the Irish Health Behaviour in School Aged Children (HBSC) study were found in favour of young people from higher SES backgrounds being more active than those from lower SES backgrounds (Kelly et al., 2014).

Gender and age are also major factors to be considered in the intrapersonal domain. It is consistently reported that a higher percentage of young males are meeting MVPA guidelines than young females, with the World Health Organization (WHO) reporting that 25% of boys, and just 15% of girls at 15 years of age in Europe are meeting MVPA guidelines for health (World Health Organization, 2017). Significantly reduced PA levels amongst young females have also been observed in an Irish context, (Harrington et al., 2016; Kelly et al., 2014; Woods et al., 2010: 29). For example, the Growing Up in Ireland study previously found that boys were more likely to participate in exercise than girls, and were more likely to participate in individual and team sports (Growing Up in Ireland, 2012).

Age is a significant determining factor in PA levels among children and adolescents, with an age-related decline in PA being recorded in consistent research studies, both nationally and internationally (Kelly et al., 2014; Woods et al., 2010; World Health Organization, 2017). The 2014 Irish HBSC study discovered that PA levels among young people decrease during adolescence (Kelly et al., 2014), aligned with results published in 2010, specifically that 39% of primary, and just 25% of post-primary level students are meeting the recommended MVPA guidelines for health (Woods et al., 2010).

Perceived competence also plays a major role in contributing to PA levels in young people (Humbert et al., 2006). It is a psychological factor influencing an individual's PA behaviour, which is an acknowledged category of factors when exploring PA trends in a population (Cortis et al., 2017). Perceived physical competence is a person's own perceptions of their physical abilities (Bell, 1997). Positive associations between perceived physical competence and PA levels are commonly found in the research (Sallis et al., 2000; Slingerland et al., 2014; Sollerhed et al., 2008), however, these variable relationships have been found to have a stronger correlation amongst males than females in the PE setting (Fairclough, 2006). Research has suggested reasons for lower levels of perceived physical competence amongst females can be attributed to socio-ecological factors relating at individual, family, school and environmental levels (Telford et al., 2016). Developing perceived physical competence is central to stimulating motivation in PE (De Meester et al., 2016) and a primary underlying mechanism in PA promotion (Stodden et al., 2008).

2.1.2.2. Social domain

Family and peer support are major social influences on a young person's PA levels (Spence and Lee, 2003). Support, encouragement and the PA levels of friends are positively associated with a young person's PA levels (Maturo and Cunningham, 2013; Mendonça et al., 2014). Young people often report PA as being fun, when speaking about being with friends during activity (Humbert et al., 2006). Furthermore, a systematic review of 106 studies on the influences of friendships on a young person's PA concluded that children's' PA levels were positively associated with encouragement from friends, their friend's PA levels, and engagement with friends in PA (Maturo and Cunningham, 2013).

Additionally, family support is also positively associated with a young person's engagement with, and participation in PA (Mendonça et al., 2014). Family members

are often those providing the encouragement and the opportunities for their children to be physically active (Barr-Anderson et al., 2010; Beets et al., 2006, 2010; Duncan et al., 2005; Mendonça et al., 2014). Family cohesion, communication between the parent and child, and positive parental engagement have shown positive associations for PA in a longitudinal study involving adolescents (n=13,246) (Ornelas et al., 2007).

2.1.2.3.Environmental domain

Access to facilities and community services are significant environmental factors influencing PA participation (Humbert et al., 2006). Living in close proximity and access to recreational facilities and parks are associated with higher levels of PA in children (Carlin et al., 2017; Roemmich et al., 2006). In 2006, a review of literature was published investigating the association of the physical environment with PA in children. The study concluded that participation in PA was positively associated with public, recreational and transport infrastructure, such as playgrounds and sidewalks, however, some transport infrastructure, such as the number of roads and local conditions (crime and depravation) were negatively associated with children's PA levels (Davison and Lawson, 2006). In Ireland, significant determinants of a young person reaching the PA guidelines include their involvement in extra-curricular sport and actively commuting to and from school (Woods et al., 2010).

2.2. Physical literacy

In addition to examining the determining factors that might predispose a young person in becoming physically active, the concept of PL warrants consideration. PL is defined by Whitehead as having the motivation, confidence, physical competence, knowledge and understanding for lifelong PA (Whitehead, 2013). Based on Whitehead's definition of PL, the Australian Sports Commission state that PL will *'predispose an individual to engage in physically meaningful pursuits, such as sport and PA'* (Keegan et al., 2017: 9). The Aspen Institute in the USA considers the long-term impact of developing PL, as it can equip learners to become physically active for life (The Aspen Institute, 2015). When PL is carefully defined and measurable, it can help to better position PE within the educational context, and is what QPE should aim to achieve (Tremblay and Lloyd, 2010). It captures the essence of QPE and creates the foundation of cognitive, behavioural and fitness-related skills needed for participation and enjoyment PA and sport (Lloyd et al., 2010; Tremblay and Lloyd, 2010). It is through a knowledge-based PE programme that PL can be developed in young people (O'Brien et al., 2015b). Each

of Whitehead's aspects of PL (motivation, confidence, physical competence, knowledge and understanding) are explored below (Whitehead, 2013).

2.2.1. Motivation

Underlying motivation is central to, and of critical importance to whether or not an individual participates in PA (Hoare et al., 2017; Lundvall, 2015). In *'Physical Literacy: Throughout the Lifecourse'*, Whitehead (2010) writes about motivation being vital to progressing in and excelling in PA, developing positive attitudes toward PA and becoming physically active for life. The importance of the motivation needed to establish patterns of lifelong PA arise from the pleasure and joy derived from regular PA (De Rossi et al., 2013; McClelland, 2013). Various factors can influence a person's motivation, including perceived competence, interest, psychological needs (Chen, 2015). These factors have been found to have an impact on students' motivation in PE (Chen et al., 2012). Physically literate individuals engage in PA primarily for intrinsic purposes such as enjoyment and self-actualisation, requiring children and adolescents to explicitly learn to be motivated, along with the other components of PL (confidence, physical competence, knowledge and understanding for lifelong PA) (Chen, 2015; Whitehead, 2013).

2.2.2. Confidence

Mandigo et al. (2009) recognise that PL is more than just the physical capability of a person, but a whole-person approach is needed, considering the attitudes of an individual toward PA. Confidence to participate, increases when an individual has developed proficient skills and abilities in a wide range of activities (Mandigo et al., 2009; Whitehead, 2007). This strong link between physical competency and confidence then feeds into the necessary assets to develop the intrinsic motivation needed to participate in PA (McClelland, 2013; Whitehead, 2010). While competency refers to the ability to do something successfully or efficiently, confidence is the self-assurance arising from one's abilities to do something (Oxford University Press, 2010). Without competency, it can be difficult to develop the confidence. It is essential for young people to develop FMS for this confidence and motivation to be fostered (PHE Canada, 2011).

2.2.3. Physical competencies

An individual's physical competency can be clearly assessed by examining their FMS, which are defined as basic, recognisable patterns of movement (Department of Education Victoria, 1996; Gallahue and Donnelly, 2007). FMS are considered the building blocks needed to become physically literate (Mandigo et al., 2012). These are broken down into three categories: stability (e.g.: balancing on one leg), locomotor (e.g.: hopping) and manipulative (e.g.: throwing and catching) (Gallahue et al., 2012; Haywood and Getchell, 2005; Logan et al., 2017; Stodden et al., 2008). A study completed in the UK, examining the effectiveness of interventions on FMS, PA and psychological well-being among children, concluded that a child's locomotor skills are a key determinant of their levels of PA, fitness and body fatness (Foweather, 2010a, 2010b). Furthermore, proficient manipulative movement skills have been found to contribute to increased PA and fitness among adolescents (Barnett et al., 2008, 2009). This distinct association demonstrates how important it is to provide children and teenagers with the opportunity to learn and develop these skills at an early age. It appears that young people who are competent and confident in performing FMS are more likely to participate in PA during adolescence, leading to increased levels of physical fitness, and a reduced risk of overweight, obesity and NCDs (Barnett et al., 2008; Cliff et al., 2011; Morano et al., 2011; O'Brien et al., 2013).

The SPANS study in Australia, conducted with a cohort of 8,100 school-going children and adolescents in New South Wales, which assessed seven of the FMS (locomotor and object control skills), found that a mean of 69.4% of boys and 53.8% of girls in year 10 (15-16 years) achieved advanced levels of proficiency (Hardy et al., 2010). A study of 152 children (9-10 years old) in the UK investigated FMS proficiency across six skills (three locomotor and three object control skills), which revealed that the boys' overall proficiency fell in the low-moderate range (from 23% to 61%) and girls resulted in the low range (from 6% to 33%) (Foweather, 2010a). Given that a child has the developmental potential to master FMS by 6 years of age (Gallahue and Ozmun, 2006), it appears that a large cohort of this generation is not meeting expectations of FMS acquisition (Booth et al., 1999; Hardy et al., 2010; Mitchell et al., 2013). However, physical competency is only one segment of the concept of PL, as Whitehead emphasizes that PL is not only about being able 'to do', but also includes the ability to 'read' the environment and to respond appropriately (Whitehead, 2006).

2.2.4. Knowledge and values

To maximise participation in PA, participants should be provided with the knowledge and understanding of its importance in their lives (Hastie and Wallhead, 2015; Siedentop, 1994). The ability to 'read' the surroundings, and respond to situations intelligently is central to achieving PL, and it is the PE educator who should provide opportunities for students to be exposed to a variety of activities that '*cover all movement forms'* (Whitehead and Almond, 2013: 75). Edwards et al. (2017) refer to three categories in relation to the knowledge and values held for participation in PA within the cognitive domain of learning, which include '*knowledge and understanding of activities, knowledge and understanding of healthy and active lifestyles and the value to take responsibility for PA'* (Edwards et al., 2017: 118). Edwards et al. (2017) argue that PL is necessary for participation in PA, placing emphasis on the value of PA for life and for young people to develop an understanding of the importance of PA, health and wellbeing (Edwards et al., 2017; Whitehead, 2013: 28–33, 51–55). In Canada's national framework entitled 'Pathways to Wellbeing', PL is regarded as the 'cornerstone' to participation in PA and physical wellbeing for life (Canadian Sport for Life Society, 2016; Collins and Crossman, 2014). Given that low levels of student wellbeing are considered an important contributor to underdevelopment of students in post-primary schools (Kindekens et al., 2014) it is pivotal to ensure student wellbeing is fostered.

2.3. Addressing low levels of physical activity and physical literacy in adolescents

Current physical inactivity and health trends are worrying, with the rate of obesity set to continue to rise on a global scale, until at least 2030 (Hamann, 2017). Adolescents need to be equipped with sustainable approaches for engaging in regular PA participation, as PA levels during adolescence are likely to track into adulthood (Dishman and Dunn, 1988; Kuh and Cooper, 1992; Woods et al., 2010; World Health Organization, 2017). A 21-year study investigating PA levels from childhood through to adulthood, concluded that PA among children and adolescents influences PA levels in adulthood, and thus, the public health of the general population (Telama et al., 2005).

Multi-component PA interventions are found to be effective in improving PA levels, with the school setting providing an ideal context for delivering such interventions (McMinn, 2012; World Health Organization, 2009). Evidence-based PE programmes have been recommended to offset the issues arising from physical

inactivity (McKenzie et al., 2009), and to achieve increased levels of MVPA among participants (Dobbins et al., 2013) and lasting positive changes in PA behaviour (Belton et al., 2014; Centers for Disease Control and Prevention, 2001). Children and youth should be afforded lessons in PE throughout primary and post-primary school (Lonsdale et al., 2013), by exposing them to the opportunities of being physically active (Trudeau and Shephard, 2005), as PE provides students with a safe environment in which to learn about moving well, developing PL, and healthy habits for life (Lalor et al., 2007; Woods et al., 2010).

When considering the development of a new PE programme, particular importance has been placed on hearing the student voice, and listening to their experiences of participating in PE class (Kane and Chimwayange, 2014). Students at post-primary school often disengage from participating in PE (El-Sherif, 2014). Students have expressed the desire to have their thoughts and opinions counted in relation to the PE syllabus design content, thus leading to increased participation and meaningful PE experiences for students (El-Sherif, 2014). Numerous studies have found that allowing the students have a say in what they learn can have a great impact on their performance and achievement (The Education Alliance, 2004). Furthermore, a review of 50 peer-reviewed articles on meaningful experiences in PE for young people has found sufficient evidence to support students expressing their opinions, specifically in order to give direction to PE teachers on how to prioritize meaningful engagement for students (Beni et al., 2017).

2.4. Current context for physical education in Irish schools

The Irish post-primary school system is divided into Junior Cycle for students in 1st, 2nd and 3rd year (typically 12-15 years), and Senior Cycle for students from 4th through to 6th year (Department of Education and Skills, 2014). The Junior Cycle curriculum is in the process of change, with the goal of providing a more flexible curriculum for Irish post-primary schools to follow (Department of Education and Skills, 2015). This new framework, which features revised subjects, short courses, a focus on literacy and numeracy, and new approaches to assessment and reporting, is underpinned by a number of criteria. These criteria include 24 statements of learning, eight principles of Junior Cycle, and eight key skills for students to attain across each subject area within the Junior Cycle (Department of Education and Skills, 2015). The statements and principles guide the planning and evaluation for each programme within the Junior

Cycle (NCCA, 2017), while key skills are to be achieved to indicate successful learning by students within the curriculum and beyond school (Department of Education and Skills, 2015). One significant change, with direct implications for PE, is the introduction of a new area of learning, entitled 'Wellbeing', which focuses on helping students feel confident, happy, healthy and connected (Department of Education and Skills, 2015). Dogde et al. consider the multitude of definitions of the concept of wellbeing and conclude that it is the balancing point between someone's resources and the challenges they face (Dodge et al., 2012). In light of these changes, PE teacher education for qualified and trainee teachers and the impact of the new Framework (Department of Education and Skills, 2015) on PE as a subject in post-primary schools warrant attention.

2.4.1. Physical education teacher education in Ireland

Post-primary schools in Ireland are run by the Irish Government, under the Department of Education and Skills (DES). Vocational post-primary schools are managed by Education and Training Boards (ETBs), while community and comprehensive post-primary schools are managed by Boards of Management (Department of Education and Skills, n.d.).

The National Council for Curriculum and Assessment (NCCA) is a statutory body for the Department of Education and Skills (DES), providing guidance in areas of curriculum development and assessment procedures. The NCCA provide the existing guidelines for Junior Cycle PE in post-primary schools in Ireland, and are providing the overview and guidance to the introduction of the new Junior Cycle in Irish post-primary schools (NCCA, 2003.). The new Junior Cycle curriculum is being rolled-out in post-primary schools across Ireland through the Professional Development Service for Teachers (PDST), and the Junior Cycle for Teachers (JCT).

The PSDT is a support service for schools funded by the teacher education section of the DES, providing training to educational practitioners and providing Continued Professional Development (CPD) to schools across the country (PDST, 2017). For PE teachers in Ireland, online resources give support to teachers, in addition to workshops provided around the country. The JCT is a support service providing CPD for teachers, exclusively concerning the implementation of the new Framework for Junior Cycle throughout post-primary schools in Ireland (Department of Education and Skills, 2015).

To ensure the highest standards of regulation amongst the teaching professionals, all teachers wishing to teach in Ireland are required to be registered with the Teaching Council. The Teaching Council ensure teachers comply with a code of professional conduct, and are adequately qualified to meet the Council's registration requirements (Teaching Council, 2006). The Teaching Council plays an integral role in ensuring the highest standards are being met across the teaching profession in Ireland and ensure PE teachers are meeting regulating standards.

2.4.2. Junior Cycle PE in Irish post-primary schools

The existing PE syllabus (JCPE) for Junior Cycle students is organised into seven strand areas, namely adventure activities, aquatics, athletics, dance, gymnastics and HRA, which are to be completed over the three-year Junior Cycle programme (NCCA, 2003). This syllabus was developed, based on a recommendation that students participate in PE lessons for two hours per week (NCCA, 2003). However, despite these recommendations, it is alarming to note that the CSPPA study in 2010 found that only 10% of post-primary schools reached the Department of Education and Skills recommended weekly time allocation for PE (Woods et al., 2010).

While this PE syllabus is still relevant in the new Junior Cycle, attention must now be given to the new guidelines for PE at Junior Cycle, and the implication that the new changes will have for the subject (Department of Education and Skills, 2015). In a positive light, PE is coming under the new learning area of 'Wellbeing', as discussed earlier, thus affording it the opportunity to be accredited for the first time and to be given compulsory time allocation of a minimum of 80 minutes per week across each of the three years of Junior Cycle (Department of Education and Skills, 2015; NCCA, 2017).

Short course programmes, which require 100 hours of student engagement over 1st, 2nd and 3rd year, may be offered in schools within the new Junior Cycle (Department of Education and Skills, 2015). The purpose of short courses is to provide flexibility in the delivery of the Junior Cycle in schools around Ireland, addressing student interests and needs. Short courses may be developed by a school for their specific context, or schools may avail of NCCA developed courses. A short course syllabus for PE has been developed by the NCCA and can be rolled out by PE teachers in schools during the allocated PE time for students within Wellbeing, given that it meets the indicators of Wellbeing, or in addition to the compulsory Wellbeing PE (NCCA, 2016).

2.4.3. Wellbeing guidelines in Junior Cycle

As previously mentioned, Wellbeing is a new area of learning, with direct implications for the teaching and status of PE within the new Junior Cycle (Department of Education and Skills, 2015; NCCA, 2017). Schools have a pivotal role to play in promoting and supporting students' Wellbeing, where they learn to realise their abilities, care for their physical wellbeing, cope with stress and have a sense of purpose and belonging (NCCA, 2017).

Wellbeing follows the guidelines of the new Junior Cycle framework, while being specifically guided by six indicators of Wellbeing, which must be met across the programme (NCCA, 2017). These indicators describe what is central to student wellbeing (NCCA, 2017). The six indicators are 'active, responsible, connected, resilient, respected and aware', and can be seen in Figure 2.1. below (NCCA, 2017).

Figure 2.1. Indicators of Wellbeing (NCCA, 2017)

Wellbeing aims support the physical, mental, emotional and social wellbeing of students in 1st, 2nd and 3rd year (NCCA, 2017). Introduced in schools from September 2017, with a compulsory 300 hours of study for all students at Junior Cycle, the time

allocation is set to increase to 400 hours of learning across the three-year Junior Cycle programme by 2020 (NCCA, 2017). Subjects comprising the area of Wellbeing include Civic, Social and Political Education (CSPE), Social, Personal and Health Education (SPHE), guidance and PE (NCCA, 2017). Physical wellbeing is strongly advocated for in the Wellbeing Guidelines, linking closely with the Government's National Physical Activity Plan, which aims to get at least 500,000 people more physically active by 2026 (Department of Health, 2016; NCCA, 2017). While these guidelines advocate for compulsory PE in Irish post-primary schools for the first time and the necessity for the programme to be taught by a fully qualified PE teacher (NCCA, 2017), the recommended time of 135 hours across three years (NCCA, 2017), approximately 45 hours per year, is still far behind European standards, with countries such as France and Austria allocating 102-108 hours of PE annually (European Commission/EACEA/Eurydice, 2013).

2.5. Quality physical education and increasing physical activity in schools

QPE encourages '*movement competence to structure thinking, express feelings and enrich understanding'* (UNESCO, 2015: 14). QPE must feature an enjoyable learning environment, and cater to the needs of all students (Lee et al., 2006; NASPE, 2012), which can lead to a student becoming physically literate (Woods et al., 2010). In order to develop PL, Edwards et al., (2017) argue the importance of being physically active. Thus, the secure and controlled environs of the PE class provide the perfect opportunity for young people to develop PL, creating a '*springboard*' for lifelong PA (Hardman, 2007; Mandigo et al., 2009; O'Brien et al., 2013; Woods et al., 2010).

QPE acts as a '*foundation for lifelong engagement in PA and sport'* (Association for Physical Education, 2015; UNESCO, 2015: 9), and it is central to ensuring that all students achieve PL, as the development of the motivation, confidence, physical competencies, knowledge and values toward PA are fostered (Association for Physical Education, 2015). This, in turn, will help to build confidence and motivation towards participation in PA into adulthood (Association for Physical Education, 2015; European Commission/EACEA/Eurydice, 2013; Hardman, 2007). Furthermore, as young people spend a large portion of their time in schools, which historically have been central to promoting wellbeing and lifelong learning, it is often thought that this setting is key in promoting and endorsing PA (Institute of Medicine of the National Academies, 2013).

Unfortunately, evidence suggests that PE is not always providing students with the tools to develop PL (Whitehead, 2007). PE lessons are a crucial opportunity for weekly PA, and developing skills for becoming physically literate, as for many students (especially those from disadvantaged backgrounds) (Woods et al., 2010), PE is their only regular time of PA in any given week (Association for Physical Education, 2008; UNESCO, 2015; Woods et al., 2010).

2.5.1. Examples of quality physical education

In order to increase PA levels among the adolescent population, leading to better health and quality of life, the opportunity for intervention arising from curriculum change at Junior Cycle should not be bypassed. As described in the CSPPA study (2010), PE is '*about generating the right frame of mind and requisite skill set for children and youth to pursue active, healthy lives in their out of school time*' (Woods et al., 2010: 39). Below are some international examples of successful, research-driven PE programmes from which practitioners and researchers can learn and apply to post-primary school in Ireland.

2.5.1.1. Move it, Groove it

In Australia, a project entitled 'Move it, Groove it' (MIGI) took place between 1998 and 2001, involving a one-year intervention to increase PA levels of children in primary schools, through mastery of FMS. The goal of this project was '*to develop a model aimed at enhancing knowledge, understanding, and practices in order to increase PA levels in primary school children that may be applied in other schools'* (Beard et al., 2001: 12). Classroom teachers were trained in the area, in order to be able to teach FMS through PE. Online resources were developed, to assist participants with necessary materials. Mastery of FMS was increased by between 11% and 60% in comparison to control schools, depending on type of skill measured, demonstrating the significant impact a one-year intervention can have (Beard et al., 2001).

Another evaluation of MIGI assessed a whole-school implementation of the intervention with 1,045 children (aged 7 to 10 years). The intervention produced substantial improvements in each of the eight FMS assessed for both genders, ranging from 7.2% to 25.7% and an increase in MVPA was also observed. This indicated that modifying PE lessons can significantly improve FMS while having no adverse effect on MVPA levels (van Beurden et al., 2003).

2.5.1.2. Sports Play and Active Recreation for Kids

One of the most comprehensively investigated PE programmes in the world is 'Sports Play and Active Recreation for Kids' (SPARK), which is based in the USA. SPARK began as a research-based PE programme at primary school level in 1989, and was developed in response to public health needs, with lessons developed to focus both on health and motor skills (McKenzie et al., 2009). The programme consists of annual plans for practitioners, divided into 4-week units. Typical lessons contain two sections; 1) health-focused activities and 2) activities focusing on motor and sport skill. The programme includes additional units focusing more prominently on motor skills such as basketball, soccer and volleyball (McKenzie et al., 2009). The intervention has expanded since its beginning and now caters for young people from three years right through to grade eight in middle school (14-15 years of age) and is disseminated through staff working in participating schools. Professional development is provided for teachers and staff who deliver the SPARK syllabus, ensuring its credibility and effective delivery to students (McKenzie et al., 2009). The research team have ensured that the implementation of the programme is suitable to all situations across a very diverse range of settings, to identify what does and does not work (Marcoux et al., 1999; McKenzie et al., 1994, 2009). SPARK should be considered a worthy example of best practice and success in the area of PE interventions with young people, as it is one of a few programmes which has been disseminated nationally in the USA, following much testing and evaluation (McKenzie et al., 2009).

2.5.1.3. Intervention Centred on Adolescents' Physical Activity and Sedentary Behaviour

The 'Intervention Centred on Adolescents' Physical activity and Sedentary behaviour' (ICAPS) programme, developed in France for young people between 11 and 16 years of age, is a four-year multi-level programme aiming to improve PA levels among adolescents (McMinn, 2012; Simon et al., 2006). The programme employs a multi-faceted approach, which includes encouraging positive attitudes and motivation towards PA, support from parents, staff and peers, providing opportunities for PA within and outside of school, while parents and teachers are encouraged to support young people to be physically active (McMinn, 2012). Positive results for the programme were recorded using questionnaires. Higher levels of leisure-time PA per

week were recorded for those who received the ICAPS programme (3.45 hours) in comparison with a control group who did not receive it (2.55 hours) (McMinn, 2012; Simon et al., 2006).

2.5.1.4. Physical activity intervention for children in Belgium

Haerens et al. (2007) evaluate the effects of a PA intervention for middle-school children (11-15 years) in Belgium (McMinn, 2012). The programme involved a workgroup being created in each of the participating school who met with the researchers at the beginning of each school year and every three months during the two-year intervention. During the programme, schools were to create opportunities for PA during the school day, to make equipment for PA available to students, to promote PA during class time, to complete student fitness testing, to promote healthy eating and 50% of the sample were to include a parent component (Haerens et al., 2007; McMinn, 2012). The sample who completed the intervention with parental support reported an increase in self-reported school-related PA (mean 6.4 minutes per day). School-related PA increased significantly by an average of 4 minutes per day in this group, while a decrease of almost 7 minutes per day was observed among the control group, advocating for the involvement of parents in multi-component PA interventions (Haerens et al., 2007).

2.5.1.5.Youth Physical Activity Towards Health

Taking note of the success of the above initiatives, there has been a scarcity in recent years of school-based PE interventions for adolescent PA promotion in Ireland, which suggested the timely development of a tailored PA and FMS programme for Irish post-primary school students (O'Brien et al., 2013; Woods et al., 2010). Research commenced in Ireland in 2010, specifically to develop an intervention to address the low levels of PA in Irish adolescent youth, entitled 'Youth Physical Activity Towards Health' (Y-PATH) (Belton et al., 2014; McGrane et al., 2017; O'Brien, 2013). Y-PATH is a three-year school-based PE programme for students in Junior Cycle post-primary schools, focusing on the development of PL (O'Brien et al., 2015b). The programme involves students participating in a six-week suite of lesson at the beginning of each year in the Junior Cycle, focussing on HRA only, followed by the simultaneous prescription and instruction of FMS and HRA within the existing Junior Cycle PE syllabus (NCCA, 2003). It is delivered through a multi-faceted approach involving

students, teachers, parents/guardians and online resources. Y-PATH focuses on the development of skills, knowledge and attitudes for students being physically active for life, aligned with Whitehead and Murdoch's conceptual map in attaining PL (O'Brien et al., 2015b; Whitehead and Murdoch, 2006). Figure 2.2. summarises the four components involved.

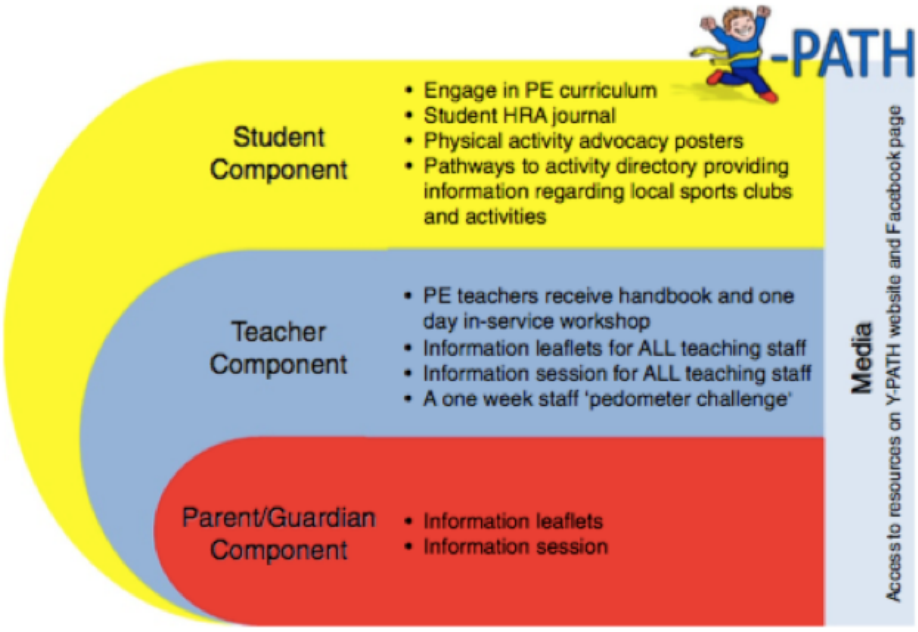

Figure 2.2. Overview of the structure of the Y-PATH programme (Belton et al., 2014).

The programme focuses on developing FMS, increasing knowledge of HRA and creating positive attitudes toward PA in a motivational environment (Mandigo et al., 2009; Whitehead, 2007). Y-PATH has been developed based on consistent research, paving the way forward for encouraging lifelong PA (Canadian Sport for Life, 2014; Mandigo et al., 2009; Whitehead, 2007). PL and the promotion of 'learning to be active' amongst Irish adolescents are at the very heart of the Y-PATH programme (O'Brien et al., 2015b; Whitehead, 2007).

Y-PATH has been in the process of development and refinement since the beginning of the project. Following the MRC model of intervention development (Figure 2.3.), Y-PATH has followed the four stages of (1) development, (2) feasibility, (3) evaluation and is now entering (4) implementation (Medical Research Council, 2008; O'Brien et al., 2015a).

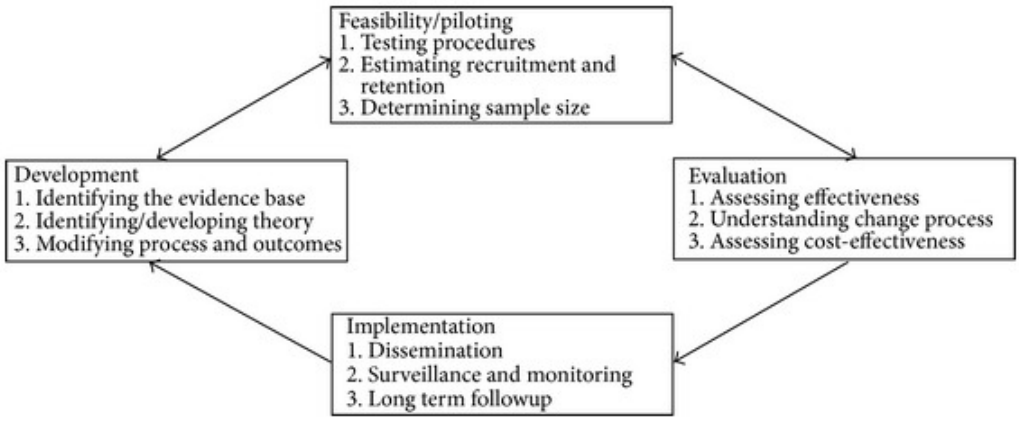

Figure 2.3. MRC model of intervention development (Medical Research Council, 2008).

Following initial development, the programme was piloted with students in a non-randomised controlled trial (n = 174, 12-14 years) in 2011/12, with results showing the intervention to be effective in increasing PA and FMS levels of participants (O'Brien et al., 2013). More recently, FMS proficiency was investigated in an RCT (n = 482, 12-13 years). Ten schools in this trial participated in Y-PATH for one academic year, while ten schools received their regular PE lessons. Fifteen FMS were tested at the beginning, post-intervention and three months later. The study concluded that Y-PATH has the potential to increase FMS proficiency regardless of student gender, weight and activity levels (McGrane et al., 2017). The process of piloting and evaluating the programme is being used to ensure the development of a research-driven intervention catering to the needs of students and teachers in Irish post-primary schools.

2.6. Summary

This literature review has explored the characteristics of PA among adolescents in relation to the global recommendations and has considered this situation within the Irish context. Research advocates for the development of PL amongst children, and the necessity for PL in promoting PA for life.

It is evident that PE programmes in schools, available to all young people in the Irish Education System are ideally placed to ensure the development of PL among participants, leading to increased levels of PA into adulthood. Given the changing academic landscape in Irish post-primary schools, the introduction of the new Irish Junior Cycle is providing an opportunity to influence practice of PE teachers. Y-PATH is a research-based PA intervention for PE in Irish post-primary schools, seeking to develop all aspects of PL through a multi-faceted approach.

Chapter 3

Considering the student voice in the development and refinement of the Y-PATH programme in Junior Cycle Physical Education

Considering the student voice in the development and refinement of the Y-PATH programme in Junior Cycle Physical Education

3.1. Abstract

Background: Physical inactivity is recognised as a significant contributor to overweight, obesity and chronic disease. With a large proportion of adolescents not meeting PA guidelines for health, concerns are being raised about the present and future health and wellbeing of young people in Ireland. Y-PATH is a PL programme which began in 2010 for students in Junior Cycle PE in Irish post-primary schools, focusing on the development of HRA knowledge and FMS through a motivational climate. The programme involves the students, parents and guardians and is delivered by the PE teacher. It is acknowledged that the student voice is important in understanding the effect of a programme delivered to students.

Methods: Cross-sectional data on student perceptions of the Y-PATH programme, following a 12-week trial of the programme in post-primary schools (N=9), were collected from all students who had submitted consent for the study (N=317, 54.6% male, 14.09 ± 0.66 years). Piloted questionnaires were used to collect student data. IBM Statistical Package for the Social Science (SPSS) Statistics version 24, with alpha set at $p < 0.05$, was used to analyse data.

Results: An independent t-test revealed significant difference between males and females meeting the 60-minute PA guidelines; $t(299) = 2.8$, $p = 0.005$ (two-tailed). Three two-way repeated measures analysis of variance (ANOVA) were used to analyse student physical self-worth, enjoyment of PE and experiences of PE based on gender and PA level (low: active 0-3 days, moderate: active 4-5 days, high: active 6-7 days) comparing all participants who have completed all conditions of the Y-PATH 12-week trial. Students with higher levels of PA per week had higher self-worth, greater enjoyment of PE and more positive experiences in PE class in comparison to those students with lower levels of PA per week. A number of emergent themes were identified in relation to four open-ended questions.

Discussion: Data confirm that students enjoyed their participation in the Y-PATH programme, however PA levels remain relatively low. Data from this study are in-line with international findings, exhibiting the need for increasing levels of PA across society, advocating for the need for effective interventions at this age-group. Y-PATH

is ideally placed to meet the needs identified in this study, with a focus on FMS and HRA.

Key words

Physical activity, physical education, student voice, adolescent, intervention

3.2. Introduction

PA levels for adolescents worldwide are reportedly below the recommended levels of 60 minutes of MVPA per day (Woods et al., 2010; World Health Organization, 2017). According to extensive research, physical inactivity in childhood is contributor to chronic disease in adulthood (British Heart Foundation, 2013; National Center for Chronic Disease Prevention and Health Promotion, 2011), in addition to overweight and obesity (Janssen et al., 2004; World Health Organization, 2017). Low MVPA levels throughout adolescence are posing a significant risk to future activity levels, as PA levels during adolescence are likely to be an indicator of activity in adulthood (Dishman and Dunn, 1988; Hallal et al., 2006; Institute of Medicine of the National Academies, 2013; Kuh and Cooper, 1992).

Research has found that PE class increases students' minutes of MVPA per day (Mooses et al., 2017), and has been referred to as a "springboard" for involvement in PA for life (Woods et al., 2010). It has been suggested that PE should offer a range of activities and sports, to cater for all participants (Department of Education and Science, 1999; Trudeau and Shephard, 2008). In Ireland, PE is now taught under a new programme of study titled 'Wellbeing' (NCCA, 2017) for the first three years of post-primary education. According to guidelines for the Wellbeing programme, PE must be taught for a minimum of 80 minutes over the three-year Junior Cycle period (NCCA, 2017).

Y-PATH is a school-based PE programme for students at Junior Cycle in Irish post-primary schools, involving students, teacher, parents and guardians (Belton et al., 2014; McGrane et al., 2017; O'Brien, 2013). It focuses on equipping adolescents to be physically active for life, which has been extensively evaluated and refined since 2011 (Belton et al., 2014; McGrane et al., 2017; O'Brien, 2013; O'Brien et al., 2013, 2015b). A focus on HRA and the development of FMS to increase PL is central to Y-PATH. This is accomplished through a wide range of activities in PE classes which focus on fostering a motivational climate for the students (Mandigo et al., 2009;

Whitehead, 2007). Being physically literate will enable young people to maintain their health and wellbeing throughout their lives, through participation in regular PA and understanding the contribution to their health (Hardman, 2007: 30; Woods et al., 2010). Wallhead (2007) suggests that in order for young people to be motivated to develop a lifestyle of PA, it is important that they are enabled to participate in PA with the necessary skills and knowledge to do so.

While previous research on the Y-PATH programme has considered the thoughts and opinions of the teacher (Belton et al., 2014; O'Brien, 2013), this study was concerned with the students participating in the Y-PATH PE lessons. The student voice is central to providing educators and researchers with insight into how a programme is received (Robertson, 2015). Students being given choice and having their input into syllabus design has been directly linked to their participation in PE and to developing a more student-centred, dynamic PE programme (El-Sherif, 2014). It is recommended to identify what would either encourage or prevent student participation, through their inclusion in programme development (Belton et al., 2014; Currie et al., 2012). The objective of this study was to understand the thoughts and opinions of the students in 1st and 2nd year post-primary school on their participation in the Y-PATH programme for their year group, in order to inform the design and refinement of the Y-PATH materials and resources.

3.3. Methods

3.3.1. Participants & recruitment

This study presents student participants' information gathered as part of a larger research study. Recruitment for the larger study took place in November 2016, with all post-primary schools in a region in the south of Ireland invited to participate in a cross-sectional study. Sixty-one schools were invited to participate by letter to the principal and PE department, followed by an email. Of all schools invited to participate, 16 consented to being involved. Of these 16 schools, 6 consented to participation in the student element of the research which is presented in this paper; 317 students in total meeting consent and inclusion criteria (54.6% male, 14.09 ± 0.66 years). Prior to data collection, consent was given from participating teachers and principals (n=15) (see appendix A), and parental consent and student assent was given for all participants (1st and 2nd year students) (see appendix B). All participants were free to withdraw from the study at any stage. Ethical approval for this study was

granted by the Research Ethics Committee (REC) at Dublin City University (DCU REC 2016_220).

3.3.2. Data collection

Questionnaires were used to collect data from all participating students, in order to retrieve a representative standardised sample from a large number of students over a short period of time (Frechtling, 2002). A pilot questionnaire was trialled with one group of 1st year students (n=29) from a school not involved in the sample in order to determine if there was any ambiguity in the questions, or if any clarification was needed (see appendix G). No ambiguity was found in the questionnaire or the procedures. All names on questionnaires were replaced with codes to ensure student anonymity.

The closed questions used in the self-reporting questionnaire were adopted from a combination of validated and reliable sources used in previous research (Prochaska et al., 2001; Woods et al., 2010). Student gender, year group, and PA levels were reported using closed questions (Prochaska et al., 2001; Woods et al., 2010). In addition, self-reported physical self-worth, enjoyment of PE and experiences of PE were assessed on validated scales (Medical Research Council; Woods et al., 2010). Four open-ended questions were created, following a vigorous literature review in the field, to gather information pertaining to the students' learning following their participation in the 12-week Y-PATH intervention. Those questions allowed participants to express their opinion about what they feel is important to learn in PE class. They provided an opportunity to give their opinion of the future of PE in schools. Validated sources were not used for the development of these open-ended questions, as these questions were specific to the Y-PATH programme and the context of Irish post-primary school students.

PE teachers were trained as data collectors to administer the questionnaire, following detailed protocol and guidelines (appendix H). It was essential each data collector would administer the questionnaire following identical procedures with their students and be confident in how to handle questions from students. The training for this took place following teacher data collection (directly after the 12-week trial of the Y-PATH programme) and ensured no ambiguity existed between data sets. Once questionnaires were administered in each school, during a two-week period, they were collected by the researcher for manual data input and analysis.

3.3.3. Questionnaire evaluation

Participants' PA levels were measured using two questions, to assess the number of days during the past week and the number of days in a typical week that each participant was meeting the recommended guidelines of 60 minutes MVPA (Prochaska et al., 2001). Scores ranged from 0 days to 7 days for both PA levels in the past week and in a typical week.

Participants' physical self-worth was assessed using six questions, to determine their opinions of their own physical self, with statements ranging from 'very true' to 'not at all true'. The most positive score to this question resulted in a total of six points, while the most negative score self-worth score is 24. Results between 1 and 12 were classified as participants having high physical self-worth and participant results ranging between 13 and 24 having low physical self-worth.

Results from a scale on participants' enjoyment of PE were combined to assess overall enjoyment of PE (Woods et al., 2010). Answers ranging from negative ('dislike a lot') to positive ('enjoy a lot') were used on a scale from 1-5 (negative to positive), to gauge the level of participants' enjoyment of PE. Following 12 questions submitted by each participant, the lowest cumulative result is 12, up to the maximum accumulation of 60 points, resulting from the most positive response to every question on the scale. Similar to the physical self-worth scale, it was agreed among the research team, that half-way on this scale between 12 and 60, at 36 points (mid-point on the scale), would determine if a participant did not enjoy (under 36 points) or did enjoy PE (above 36 points).

In addition to evaluating the level of enjoyment participants experienced in PE, their individual experiences were weighed up, with responses ranging from 1-5 (negative to positive). Similar to assessing enjoyment of PE, experiences of PE were evaluated using the same means. 12 questions were given, resulting in the least positive responses resulting in a total of 12 points and the most positive possible score being 60 points. A cut-off of 36 points distinguished negative and positive experiences of PE. Experiences of PE being assessed included participants feeling successful performing activities in PE and having close relationships with others in the class.

Researcher-developed open-ended questions were given to participants, assessing what they learned following their participation in the Y-PATH programme, to enquire about what they enjoyed or did not enjoy about it, and what they would like

to learn in Junior Cycle PE. Students were given space to write their answers following each question. The following questions were used:

1. What do you understand by the term 'PA'?
2. What does being 'healthy' mean to you?
3. Explain why you like or dislike being taught HRA in PE class.
4. What do you think is important to learn in PE class?

3.3.4. Data processing and analysis

A questionnaire using both closed and open questions was used to assess student perceptions about PA and PE. Closed questions provide set, standardized questions for statistical analysis (McLeod, 2018), while the open-ended questions provided insight into the students' feelings and ideas (Harlen and Qualter, 2004). Quantitative methods were used to analyse questions that assessed student PA levels, physical self-worth, enjoyment and experiences of PE. The open-ended questions in this study, assessing student understanding and providing an opportunity for participants to express their opinions, were analysed using qualitative methods.

IBM SPSS Statistics version 24, with alpha set at $p < 0.05$, was used to analyse quantitative data. Where participants did not respond to a question, they were excluded from that particular variable in the analysis. Student average weekly PA levels were calculated based on the mean results for self-reported days meeting MVPA levels over the past seven days, and over a typical week. An independent-samples t-test was then conducted to compare PA levels between male and female participants, based on the number of days per week students self-reported to be meeting the MVPA guidelines (World Health Organization, 2010). Male and female participants were divided into three groups according to PA level as per the strategy employed in Belton et al., (2014); low: active 0-3 days, moderate: active 4-5 days, high: active 6-7 days). A two-way between-groups ANOVA was used to investigate the differences arising between male and female participants of varying PA levels (low, moderate and high), on their physical self-worth, enjoyment of PE & experiences of PE. Post Hoc comparisons were carried out in all cases using the Tukey Honest Significant Difference (HSD) test.

The open-ended questions were analysed qualitatively, using the constant-comparative method (Merriam, 1998). This method of analysis is recognised as a research method in Creswell (2003), was also employed by Belton et al. (2010) and

Dunning et al. (2011). Following transcription and formatting of data, patterns were identified among the responses (Krueger, 1988). Written results were coded according to emergent themes from questions about participants' understanding of PA and being healthy, their opinions of HRA and what they should be learning in PE class.

3.4. Results

Descriptive statistics for PA levels, physical self-worth, enjoyment of PE, and experiences of PE are shown in Table 3.1. (based on student gender), in Table 3.2. (based on student PA level) and in Table 3.3. (based on student gender and PA level).

3.4.1. Descriptive and anthropometric characteristics

Of the 317 participants involved in this study, 54.6% were male and 45.4% were female, with a mean age of 14.09 ± 0.66 years. Just under half (48.3%) of participants were in 1st year, and 51.7% were in their 2nd year of post-primary school in Ireland.

Table 3.1. PA levels, physical self-worth, enjoyment of PE and experiences of PE based on student gender

		Physical Activity Levels	Physical Self-Worth	Enjoyment of PE	Experiences of PE
Male	*n*	163	173	125	160
	Mean	4.86	1.42	46.41	44.24
	SD	1.46	0.49	6.70	9.10
Female	*n*	138	144	100	137
	Mean	4.39	1.58	45.35	40.18
	SD	1.42	0.50	8.30	9.26
Total	*N*	301	317	225	297
	Mean	4.64	1.49	45.94	42.37
	SD	1.46	0.50	7.45	9.38

3.4.2. Physical activity levels

An independent samples t-test revealed a significant difference in self-reported days meeting the 60-minute PA guidelines between males and females; t (299) = 2.8, p= 0.005 (two-tailed).

When looking at the proportion of participants meeting the guidelines, it appears that 25.45% of participants are meeting the 60-minute PA guideline on 1-3 days per week (low active), 43.15% are meeting the guideline on 4-5 days per week (moderate active), and the remaining 31.4% are meeting the guideline on 6-7 days per week (high active). Only 14.8% of participants report to be meeting the guidelines on all 7 days, as per the PA guideline for health.

Table 3.2. Physical self-worth, enjoyment of PE and experiences of PE based on student PA levels (low, moderate and high)

		Physical Self-Worth	**Enjoyment of PE**	**Experiences of PE**
Low PA	*n*	48	32	50
	Mean	14.33	42.78	39.34
	Std. Deviation	4.00	6.60	9.31
Moderate PA	*n*	130	102	131
	Mean	12.85	45.99	41.27
	Std. Deviation	3.54	6.65	8.59
High PA	*n*	103	75	100
	Mean	10.80	48.65	46.43
	Std. Deviation	3.76	6.19	8.49
Total PA	*n*	281	209	281
	Mean	12.35	46.45	42.77
	Std. Deviation	3.91	6.75	9.10

3.4.3. Physical self-worth

Results from the two-way ANOVA showed that when examining participant self-worth, the interaction between gender and PA level was not statistically significant (F (2, 275) = .53, p = .59). There was a statistically significant main effect for gender (F (2, 275) = 6.7, p= .010); with a small effect size (partial eta squared = .024). There was also a statistically significant main effect for participants grouped by PA level (F (2, 275) = 13.0, p= .00) with a medium effect size (partial eta squared= .086). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the low

PA group (*M*=14.33, *SD*= 4.00) was significantly worse from the moderate group (*M*=12.85, *SD*= 3.54) and the high PA group (*M*= 10.80, *SD*= 3.76).

3.4.4. Enjoyment of PE

Of the total sample 89.8% responded that they did enjoy PE. When differentiated by gender, 92% of all males and 87% of females reported to enjoy PE, while 94% of 1st year participants and 87.3% of 2nd year participants reported to enjoy PE.

The interaction between gender and PA level on participants' enjoyment of PE was not statistically significant, *F* (2, 203) = .14, *p*= .87. No significance was noted in the main effect between male and female participants. There was a statistically significant main effect for participants grouped by PA level, *F* (2, 203) = 9.26, *p*= .000, with a medium effect size (partial eta squared= .084). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the low PA group (*M*=42.78, *SD*= 6.59) was significantly lower from the moderate group (*M*=45.99, *SD*= 6.65) and the high PA group (*M*= 48.65, *SD*= 6.19).

3.4.5. Experiences of PE

Boys (82.5%) had more positive responses than girls (63.5%), and a higher percentage of 1st year students (80.4%) had more positive experiences of PE in comparison to 2nd year students (67.5%).

In relation to participants' experiences of PE, the interaction between gender and PA level was not statistically significant (F (2, 275) = 1.44, p= .29). There was a statistically significant main effect for gender (F (2, 275) = 3.96, p= .048) with a small effect size (partial eta squared = .014). There was also a statistically significant main effect for participants grouped by PA level (F (2, 275) = 12.4, p= .000), with a medium effect size (partial eta squared= .082). Post-hoc comparisons using the Tukey HSD test indicated that the high PA group (M= 46.43, SD= 8.49) had significantly higher experiences of PE than those in the low (M= 39.34, SD= 9.31) and moderately (M=41.27, SD= 8.59) active groups.

Table 3.3. Physical self-worth, enjoyment of PE and experiences of PE based on student gender and PA levels (low, moderate and high)

		Physical Self-Worth			Enjoyment of PE			Experiences of PE		
Gender	**PA level**	*n*	*mean*	*SD*	*n*	*mean*	*SD*	*n*	*mean*	*SD*
Male	**low**	24	14.00	4.03	18	42.50	6.56	24	39.88	9.29
	moderate	62	12.24	3.69	46	46.15	6.07	58	43.86	8.17
	high	69	10.16	3.56	51	48.43	6.30	68	46.78	8.99
	total	155	11.59	3.93	115	46.59	6.53	150	44.55	9.00
Female	**low**	24	14.67	4.03	14	43.14	6.87	26	38.85	9.54
	moderate	68	13.41	3.33	56	45.86	7.14	73	39.22	8.40
	high	34	12.09	3.86	24	49.13	6.05	32	45.69	7.37
	total	126	13.29	3.69	94	46.29	7.04	131	40.73	8.81

3.4.6. Qualitative responses

A number of themes emerged in response to the following open-ended questions: (1) What do you understand by the term 'Physical Activity'? (2) What does being 'healthy' mean to you? (3) Explain why you like or dislike being taught HRA in PE class. (4) What do you think is important to learn in PE class?

(1) What do you understand by the term 'Physical Activity'?

Four themes emerged from participants' responses to the meaning of PA. These were i) movement, ii) sports and getting outside, iii) working out and being strong, and iv) effects on the body such as increased heart rate (HR) and sweating.

The most common responses from participants involved references to movement in their understanding of PA, with participants saying PA is 'when you get out or exercise and have fun' (PB107) or you are 'doing any form of exercise and being active' (PB115).The next most common responses referred to students being outside and playing sports together, with responses referring to getting 'out of the house' (BL214), 'playing sports' (BL181) and 'going for a jog' (BL245).

A lower number of participants spoke about fitness, working out and being strong. Responses on PA being 'exercise where you push yourself physically' (PB215) and 'working on your physical build' (PB211), were recorded.

The effects of PA on the body was also a prominent theme, with participants speaking about 'breaking a sweat' (PB202), when you 'increase your HR' (BL178) or and do something 'makes your heart beat faster' (SM219).

(2) What does being 'healthy' mean to you?

Five themes were evident in responses to what being healthy meant to them; i) being fit and strong, ii) diet, iii) body image, iv) being happy, and v) not being sick.

The vast majority of participants spoke about being fit and strong when describing their understanding of being healthy. Comments made by participants about being healthy include 'having a good level of fitness' (BL142), being 'active daily' (SP105) 'not restricted by your fitness' (PB223) and 'being strong' (SP104).

Diet was also very commonly spoken about by participants. Understanding of a balanced diet and healthy approach to food intake was evident among responses, with references made to adhering to the food pyramid, 'eating good healthy nutrients' (BL162), having a 'balanced diet' (SM214) and 'not eating junk' (PB209).

A minority of responses referred to body image, being happy and not being sick. 'Not being skinny or fat' (BC229) and having 'a healthy weight' (SM102) were common phrases used in relation to a healthy body image. 'Being happy with yourself' (SM213) and having a 'good state of mind' (SM212) were encompassed in participants' understanding of being healthy. A small percentage of participants referred to 'not being sick' (BL117) and having a 'strong immune system' (SP107) in their responses.

The majority of participants encompassed a number of themes in their response, while some students had a one-dimension understanding of what 'health' means.

(3) Explain why you like, or dislike being taught HRA in PE class.

Participant responses revealed three key themes surrounding why they either liked or disliked HRA being taught in PE class. Two of these themes emerged through students' positive experiences of being taught HRA, which include students who like; i) learning how to care for your body, and ii) finding it enjoyable, while students who did not enjoy HRA spoke about the third significant them which was iii) finding it boring.

The importance of HRA in teaching participants how to care for their bodies was the most frequently addressed. Following participation in the 12-week Y-PATH PE programme, students stated that after learning about HRA, they 'realised how much activities do for your body' (PB106) and how it is 'important to learn about your body' (BL228).

Another set of responses were in relation to HRA being enjoyable and helping with sports. Some students recognised the importance of HRA, stating 'I think we will need to know it for the future, if we continue to play sport' (BL163) and others spoke about how they 'enjoy learning about it because if (they) get injured, (they) will have a better understanding' of how the body works (BL112).

Students who had a negative experience with HRA spoke about it being 'boring sometimes' (BL182) and a strong association was made between HRA and the writing tasks involved, as students 'don't like to sit down and write' (BL130) in PE class.

(4) What do you think is important to learn in PE class?

Results referring to three main themes of what participants think is important to learn were the following: i) how to exercise, ii) new ways to exercise and iii) why we exercise.

'How to stay fit and healthy' (PB101) and 'how to do the exercise properly' (PB104) were among the most prevalent comments from participants, who spoke about the importance of how to exercise.

A lower prevalence felt it was important to learn 'a new sport' (PB103) or 'learn to do many different activities so you can find the one you like' (SM219) in PE class.

Finally, a minority of participants thought they should learn about 'why you have to exercise' (BL157) and 'how the body works' (BC203).

3.5. Discussion

This study was conducted in order to better understand the opinions of 1st and 2nd year students towards Junior Cycle PE and the Y-PATH programme, following participation in a 12-week Y-PATH programme.

As previous research has outlined the effectiveness of Y-PATH (Belton et al., 2014; McGrane et al., 2017; O'Brien, 2013; O'Brien et al., 2013, 2015b), results from

this study give insight into the characteristics, thoughts and opinions of the student population taking part in programme. Self-reported data revealed just 14.8% achieving the recommended 60 minutes MVPA on 7 days/week in this study, as seen in previous studies (Belton et al., 2014; Kelly et al., 2014; Woods et al., 2010; World Health Organization, 2017) with the majority of adolescents not meeting recommended levels of MVPA. Interestingly, 83.7% of participants in this study were aware of the MVPA guidelines, despite only a small portion actually achieving them. This high percentage of participants aware of these guidelines reflects positively on the effect of the Y-PATH intervention which focuses on HRA knowledge in students and which is higher than the same awareness in adults and university students (Abula et al., 2016; Knox et al., 2013). Furthermore, awareness of such knowledge and PA guidelines is linked to people exhibiting higher PA levels (Abula et al., 2016).

Male participants reported to have higher levels of PA then females, in line with previous results at post-primary level (Woods et al., 2010). Following assessment of PA levels, three correlates of PA were examined, namely physical self-worth, enjoyment of PE and experiences of PE. Physical self-worth is a component of one's physical self-perception (Gill and Williams, 2008) and has been found to be enhanced through participation in PA (Burgess et al., 2006). A fun programme in PE is critical to the enjoyment students remember from PE class, and is directly linked to one's experiences (Belton et al., 2014; Dismore and Bailey, 2011). The experiences of a young person in PE are of pivotal importance for maintaining PA later in life, as adults who have negative memories of their experiences in PE during childhood may have a lower desire to remain physically active for life (Cardinal et al., 2013).

Following examination of students' physical self-worth, enjoyment of PE and experiences of PE in this study, male participants had consistently more positive results than females, consistent with findings in previous research, suggesting a correlation between student PA levels and attitudes toward participation in PA (Belton et al., 2014; Riddoch et al., 2004; Sisson and Katzmarzyk, 2008; Woods et al., 2010).

Whilst examining PA levels of both male and female adolescents at post-primary level and proposing interventions to make to increase these, it is important to take the interests of participants into consideration, with variety of content leading to increased participation and enjoyment (Reeder et al., 2016). Male students were frequently interested in 'more games' (BL213), 'soccer' (BL227) and hurling (BL231), whilst 'more dancing' (BL229) and 'swimming' (BL235) were recurrent interests for

female students, as seen in previous studies investigating PA preferences among male and female adolescents (D.K. et al., 2005; Kren et al., 2012).

It is important to understand adolescents' knowledge of health, as it should assist the development of interventions and effective promotion of healthy, active lifestyles among young people (Abula et al., 2016; Harris et al., 2006). Students revealed their opinions about what they either liked or disliked about being taught HRA during the 12-week Y-PATH PE intervention. Two themes emerged from students who enjoyed the topic. Many students spoke about how they liked learning how to care for their bodies and others found it enjoyable. Csikszentmihalyi speaks about experiences being enjoyable when a person's personal goals and abilities are catered for and the boundary between boredom and anxiety is met (Csikszentmihalyi, 1975). The Y-PATH programme is designed to cater for these requirements, as it allows to participants create and achieve goals in a motivational and engaging environment. Students who did not enjoy HRA in Y-PATH PE spoke about being bored, perhaps requiring further engagement and differentiation to be included in the lessons through increased challenges for some students (Csikszentmihalyi, 1975; Shannon and Bylsma, 2006). In addition to activities provided and classroom differentiation, interaction with teachers and peers are central to student engagement in the school environment (Shannon and Bylsma, 2006; Smith, 1991).

Participants expressed a desire to develop a greater understanding of how the body works, to understand how to exercise with correct technique, and to be exposed to a variety of new sports and activities in their PE class. While international interventions, such as MIGI in Australia and SPARK in the USA are available to students abroad to meet these needs (Beard et al., 2001; McKenzie et al., 2009), Irish students are now being catered for through the Y-PATH intervention. Y-PATH is ideally placed to meet these identified needs, with a focus on FMS and HRA. This is done through a broad, balanced, research-founded programme where teachers are provided with the training, and all materials for these needs.

Student recommendations are of pivotal importance to the refinement and further development of the Y-PATH programme, with the following implications for the research team:

- Given the importance to be cognisant of HRA guidelines and the knowledge the majority of students displayed, the application of this must be considered. While 83.7% of students are aware of PA

recommendations, the percentage of students actually reaching these guidelines (14.8%) were far behind. The Y-PATH programme should consider addressing this issue.

- Male students were more active than their female peers and consistently demonstrated higher levels of physical SW, enjoyment of PA and experiences of PA, thus identifying the need for female students to be considered strongly in the development of Y-PATH and the content of the programme. Both male and female preferences and interests should be catered for.
- The HRA element of the Y-PATH programme should be refined and developed further following feedback from students. Given the centrality of the topic, it should be interesting and engaging for all students.
- Students expressed a strong interest to learn more about how the body works. The Y-PATH programme is ideally placed to address this topic and has the capacity to do so in an engaging, motivational and practical way. This should be considered in the further development of the programme.

3.6. Study limitations

Following the 12-week programme, difficulties were experienced in recruiting students to take part in data collection, primarily due time pressure, as this part of the study coincided with the end of the academic year, resulting in 317 students providing consent and participating in data collection. Due to these constraints, many schools had limited opportunities to allow their students complete the questionnaire. Future research should carefully consider the timing of implementing programmes and carrying out research in schools, in relation to the academic calendar.

Data were collected from students using a self-reporting method of feedback. Under-reporting or exaggeration may have occurred in some questionnaires and further questioning was not possible in cases where the researcher would have required more information from a student questionnaire for complete understanding. In addition to questionnaires, focus group interviews with students would provide more robust feedback and assist the validation of results.

3.7. Conclusion

In line with previous research, participants exhibited similarly low levels of PA to that of the general population of their age-group, advocating for the need for effective intervention with this cohort of society. Consistent with widespread support of the Y-PATH programme, the vast majority of student participants reported to having positive experiences of PE following their participation in the Y-PATH intervention in their school. The student voice has been acknowledged and used to inform the continuing development of the Y-PATH programme, through modifications to the programme to ensure variety and flexibility within activities, providing activities suitable to all students.

3.8. Acknowledgements

This Y-PATH research study was conducted at Dublin City University in collaboration with University College Cork and was supported by Sport Ireland through Dormant Account Funding under Grant number 2016_220. We would like to recognise the contribution and support of all participants in this research study, including school management, teachers, students and parents.

3.9. Link section between Chapter 3 and Chapter 4

3.9.1. Purpose of Chapter 3

Chapter 3 explores the profile of student participants (PA levels, physical self-worth, enjoyment of and experiences of PE) through accessing their thoughts and perspectives of PA participation and the Y-PATH PE programme, following their successive participation in the 12-week intervention. As previously outlined in chapter 2, Y-PATH is a multi-component PL intervention, involving students, teachers, parents and guardians. In chapter 3, the data aligns with effective school-based PA intervention implementation, as participating students have an input into their learning through critical reflection and discussion. Furthermore, in chapter 3, the student's voice is central to providing researchers and educators with an insight into how the Y-PATH programme is being received. Student participants in this study were given anonymous questionnaires with both closed and open-ended questions, providing the researchers with rich data to help with the future of Y-PATH programme design.

3.9.2. Purpose of Chapter 4

Chapter 4 provides the reader with an insight into the thoughts and opinions of the PE teacher, following their successful implementation of the Y-PATH programme with their respective classroom students. Focus group and semi-structured interviews were used as a means of hearing the thoughts and opinions of these teachers. The teacher voice is of vital importance to this study, as it provides an insight into the practicalities of teaching the Y-PATH programme in the Junior Cycle PE class of Ireland, from those who are most directly impacted by the implementation of the programme. It is of critical importance to ensure that the PE teachers are consulted through their practice, and rollout of the Y-PATH programme. The use of focus group and semi-structured interviews allowed the research team to fully understand the experiences of the participating PE teachers, providing vital direction to the refinement and continued development of the Y-PATH programme.

3.9.3. Implications of Chapter 3 and Chapter 4

The findings from both students and teachers in chapters 3 and 4 have directly impacted the refinement of year 1 and year 2 of the Y-PATH programme and have

ultimately provided guidance for the development and extension of Y-PATH to a continuing year 3 programme. These findings are brought together in chapter 5, by drawing conclusions from the data, and critically discussing the future directions of the Y-PATH programme.

Chapter 4

Refinement of the Y-PATH programme considering the practices of Physical Education teachers

Refinement of the Y-PATH programme considering the practices of Physical Education teachers

4.1. Abstract

Background: Many studies suggest a strong link between low levels of PA with increased levels of overweight and obesity, which is a widespread trend in Irish youth. The Y-PATH programme, which was developed for Junior Cycle students and teachers in post-primary schools across Ireland, specifically focuses on the acquisition of FMS, increasing knowledge of HRA and developing positive attitudes towards PA through a motivational environment. The programme involves the students, parents and guardians and is delivered by the PE teacher. The thoughts and opinions of the PE teacher about the programme provide valuable insight to the development of a school-based programme.

Methods: Qualitative data were collected from PE teachers (N=15) (40% male, 60% female) in post-primary schools (N=9), through focus groups and semi-structured interviews delivered by the researcher, following a 12-week trial of the Y-PATH intervention in a southern region in Ireland. Data were analysed using thematic analysis, guided by Braun and Clarke (2013, 2006).

Results: Findings revealed four main themes: 1) material and resource suitability, 2) content suitability, 3) implementation considerations, and 4) current PE curricular context. Findings identified positive and supportive feedback from teachers. A number of recommendations for the Y-PATH programme were conveyed, particularly in relation to time and organisation, and year 2 of the programme content. No differences were identified across schools from different educational backgrounds and gender,

Conclusions: Data revealed primarily positive feedback towards the Y-PATH materials and resources for year one and year two post-primary school students in Ireland. Alterations were made to the programme in line with the needs and recommendations of the PE teacher and the recently introduced Wellbeing framework at Irish Junior Cycle. Resources for lessons were reduced to enable teachers in all school settings complete lessons. Lesson content was modified based on teacher recommendations, indicators of Wellbeing were reconsidered and teacher training was restructured, to ensure teachers were confident in all areas of the programme.

Keywords

Physical education, physical activity, adolescent, intervention, Junior Cycle Wellbeing

4.2. Introduction

According to the 2017 Obesity Update published by the 'Organisation for Economic Co-operation and Development' (OECD), over half of adults are obese in OECD countries, and Irish young people are following an upward trend in this regard, with increasing levels of overweight and obesity being reported (Hamann, 2017). Physical inactivity has been identified as a significant factor in the rising obesity epidemic, and consistently research suggests that increasing a person's level of PA participation has a positive contribution to weight control (Janssen et al., 2004; World Health Organization, 2017).

It is advised that children and adolescents should accumulate at least 60 minutes of MVPA per day (World Health Organization, 2010), however, research has found that only 12% of students in Irish post-primary schools are meeting these guidelines (Woods et al., 2010). These low levels of MVPA participation highlight the necessity for a change in behaviour and practice among adolescents. PE teachers at post-primary level are ideally placed to implement PA interventions with the view to positively impact the existing low levels of PA participation (Casey et al., 2014; Janssen et al., 2013).

Y-PATH is a school-based PE programme (Belton, et al., 2014; McGrane et al., 2017; O'Brien et al., 2013), focusing on the development of PL in adolescents. This programme has been developed for teachers and students of PE at Junior Cycle (12-15 years old in 1st, 2nd and 3rd year) in Irish post-primary schools. In line with Whitehead's concept of PL (Whitehead, 2001), encompassing the development of skills, knowledge and attitudes needed for a physically active lifestyle, Y-PATH focuses on improving PA levels of young people, by developing FMS, knowledge of HRA and positive attitudes to PA through a motivational climate (Mandigo et al., 2009; Whitehead, 2007).

Research has found a positive correlation between the acquisition of FMS, which are the building blocks forming the basis of more specific and specialised movements (Gallahue et al., 2012) and increased levels of PA participation among youth (Barnett et al., 2015; Fisher et al., 2005; Hardy et al., 2013; Lai et al., 2014;

McGrane et al., 2017). FMS proficiency is required for participation in sport and PA (Foweather, 2010a). Several studies have now demonstrated low proficiency of FMS and low levels of PA amongst adolescents in Irish post-primary schools (McGrane et al., 2017; McGrane et al., 2016; O'Brien et al., 2016). Given the evident relationship between PA levels and FMS proficiency, students at Junior Cycle in Irish post-primary schools are an ideal target group for promoting PA through the development of FMS.

The Y-PATH programme development followed the four stages of the MRC framework for the development of complex interventions, (1) development, (2) feasibility, (3) evaluation and (4) implementation (figure 2.3.) (Belton et al., 2014; McGrane et al., 2017; MRC, 2008; O'Brien et al., 2013). While careful attention was paid to the teacher voice in phase one, the wide scale implementation at stage four needs to ensure that the resources and materials supporting the programme meet the changing and varied needs of teachers in schools, thus warranting evaluation and improvement of materials and resources where recommended (Sutherland et al., 2016).

The development of Y-PATH coincides very closely with the introduction of the new Junior Cycle curriculum in Ireland for students in 1st, 2nd and 3rd year of post-primary school (Department of Education and Skills, 2015). Within the framework for Junior Cycle, a new area of learning called Wellbeing was introduced in 2017 (National Council for Curriculum and Assessment, 2017). Wellbeing consists of 400 hours contact over three years of timetabled lessons for students in 1st, 2nd and 3rd year. Within this area of learning, students complete classes in PE, SPHE, CSPE and guidance. This development is significant for the status of PE in Ireland, as the guidelines state that all students at Junior Cycle should have 80 mins of PE per week over each of the three years (NCCA, 2017). Guiding the implementation of the Wellbeing programme are six indicators, which include being active, responsible, connected, resilient, responsible and aware (NCCA, 2017). PE teachers are required to teach these indicators. The Y-PATH programme has been developed to foster and promote each of these indicators of Wellbeing, in line with National Council for Curriculum and Assessment (NCCA) guidelines (NCCA, 2017).

In addition to Wellbeing, new programmes known as short courses, which require 100 hours of teaching over the course of the three-year Junior Cycle, have been introduced (Department of Education and Skills, 2015). Schools can choose to

develop a short course programme or implement the NCCA developed courses. The short course may then be taught in schools during the allocated PE time for students within Wellbeing, or in addition to the compulsory Wellbeing PE hours (NCCA, 2016).

The objective of this qualitative study was to understand the thoughts and opinions of PE teachers implementing the Y-PATH PE programme, in order to improve the quality and usability of the resources and materials supporting the programme (Wong et al., 2008). Such information will subsequently guide the authors to refine the Y-PATH programme to maximise its effectiveness and practicality.

4.3. Methods

4.3.1. Sample

In November 2016, recruitment took place for participating PE teachers for piloting the Y-PATH programme. A letter (appendix C) was sent to 61 post-primary schools located in the south of Ireland, inviting PE teachers to take part in the study. A follow-up email was sent seven days later. Twenty-nine teachers from 16 schools agreed to participate in the study, by initially attending a two-hour Y-PATH teacher workshop. The aim of the workshop was to equip participating PE teachers to successfully implement year one and year two of the Y-PATH programme in their school, and to provide them with all the resources needed to achieve this.

Inclusion criteria for participation was that all PE teachers who completed the 12-week Y-PATH programme had to be accredited by the Irish Teaching Council. Prior to data collection, written informed consent was obtained from all teachers (see appendix A), and they were required to read a plain language statement (see appendix D) explaining the contents and purpose of the study. Ethical approval for this study was granted by the REC at Dublin City University (DCU REC 2016_220).

4.3.2. Data collection

The Junior Cycle syllabus for PE in Ireland consists of seven strands, including adventure activities, aquatics, athletics, dance, games, gymnastics and HRA (NCCA, 2003). The structure of the Y-PATH intervention instructs teachers to implement a 6-week block of HRA lessons at the beginning of year 1, year 2 and year 3 in the Junior Cycle. Following this 6-week unit, the structure and organisation of the remaining strands of the syllabus are implemented at the teachers' discretion. However, it is

advocated that teachers would use Y-PATH programme integration cards, which have been designed to enable teachers to incorporate FMS in their lessons, throughout all strands of the syllabus. Teachers were required to conduct the six-week Y-PATH HRA lesson plans for year one and / or year two, followed by six weeks of a strand area of their choice from the Junior Cycle syllabus for PE (NCCA, 2003), using the Y-PATH FMS integration cards (appendix P) for that strand area. The integration cards enabled teachers to incorporate the development of FMS, knowledge of HRA and high levels of MVPA into their lessons (see Belton et al., 2014 for a full description of the programme), with an equal emphasis placed on the cognitive, affective and psychomotor domains of learning (Bloom, 1956).

Subsequent to the 12-week implementation of the Y-PATH programme, teachers were invited to attend focus group interviews. If they could not attend a focus group, they were invited to participate in a semi-structured interview via phone call. Focus groups and interviews are the most common forms of data collection in qualitative research, ahead of observations, textual or visual analysis (Gill et al., 2008) and were the most suitable form of data collection for this study. The researchers acknowledge the methodological differences between focus group and semi-structured interview. Focus groups are characterised by a non-directive style of interviewing, a variety of viewpoints are gathered and there is collective interaction amongst participants (Kvale, 2007). Semi-structured interviews tend to lack these merits. However, in order to maximise teacher participation in this research, it was decided to invite those who could not attend a focus groups to participate in an interview. Doing this not only gave voice to these teachers but it allowed the researchers to obtain valuable information on their opinions and experiences of implementing the Y-PATH programme.

Focus groups and interviews were conducted in a region in the south of Ireland. All focus groups and interviews were maximum one-hour duration and were recorded by the researcher using a Dictaphone. Prior to commencing the focus groups and interviews, all participants read a plain language statement (see appendix D) detailing the research and signed an informed consent form (see appendix A).

Following the implementation of Y-PATH, 11 teachers from nine of the schools involved participated in focus group interviews over a three-week period. Individual semi-structured interviews were conducted to collect data from four

participating teachers. Table 4.1. displays the numbers of participants for each category.

A pilot focus group was conducted in advance of data collection in a rural mixed-gender school, to determine if there was any ambiguity in the questions. The same questions were employed for both focus groups and semi-structured interviews. Questions for the focus groups were devised by the Y-PATH research team in order to determine teachers' perceptions of the programme (see appendix F). All questions were open-ended to allow participants to answer freely and prompts, written as sub-questions (appendix F) were used to further delve into areas of interest.

Focus groups were stratified based on educational disadvantage, or advantage (DEIS or non-DEIS) and gender (mixed or single gender). Schools under the Developing Equality of Opportunity in Schools (DEIS) programme in Ireland are government designated disadvantaged schools (Department of Education and Science, 2005). The Department of Education and Skills evaluates post-primary schools for classification in the DEIS category, based on a number of criteria, including medical card data for Junior Certificate candidates, Junior Certificate retention rates, exam results at Junior Certificate level and Leaving Certificate retention rates (Department of Education and Science, 2005).

Table 4.1. School types and number of teacher participants

School type	**DEIS mixed**	**DEIS single gender**	**Non-DEIS mixed**	**Non-DEIS single gender**
Focus group number of participants	$N = 2$	$N = 2$	$N = 5$	$N = 2$
Semi-structured interviews	$N = 1$	$N = 1$	$N = 1$	$N = 1$
Total teacher participants	$N = \mathbf{3}$	$N = \mathbf{3}$	$N = \mathbf{6}$	$N = \mathbf{3}$

4.3.3. Data analysis

Data analysis procedures were guided by Braun and Clarke (2013, 2006) thematic analysis framework. Within phase 1, thematic analysis requires the researcher to immerse themselves in the data set to allow for familiarity with its contents, allowing

the researcher to notice things that are relevant to the research questions (Clarke and Braun, 2013). To this end, the focus group and semi-structured interview data were read several times to enhance familiarisation of the breadth of its contents. Phase 2 involved generating initial codes from the data that indicated the content and nature of comments made during the focus groups and interviews. Phase 3 involved searching for themes by sorting the codes into potential themes and collating all coded data extracts into these potential themes. Phases 4 and 5 involved reviewing and defining the themes (including the codes that formed the themes) with the complete data set to ensure they were accurately representing the data.

4.4. Results

Four main themes (and a number of sub-themes) were identified during data analysis: (1) material and resource usability, (2) content suitability, (3) implementation considerations, and (4) current PE curricular context (Figure 4.1).

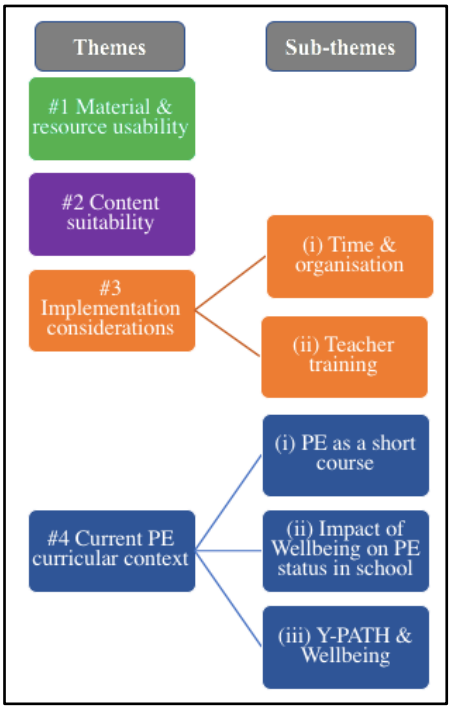

Figure 4.1. Themes and sub-themes identified during data analysis

4.4.1. Material and resource usability

Very positive feedback was received from teachers in relation to the materials and resources in the Y-PATH programme who spoke of how they found the visual lesson

plans the most useful for understanding the layout and content of what they were required to teach.

'I found the material and the resources excellent. They were very, very helpful' (Teacher 15)

'It was really convenient...it was great there was visuals on the back' (Teacher 4)

'I´d rather look over the page and know straight away what I had to do' (Teacher 3)

In relation to resource usability, it was noted that too many resources were required for some lessons. This included large amounts of equipment, skill cards and student PA journals for assessment tasks. The written assessment tasks in particular were unsuitable for teachers who have to teach their lessons outdoor.

'I was using the dug-outs and they had to run into the dug-outs to get [PA journals] ...it was difficult' (Teacher 11).

4.4.2. Content suitability

The research team posed questions to the teachers in relation to whether the content of the lessons was appropriate for the students in year one and year two. It was confirmed that the content was extremely informative and appropriate for teachers and students, particularly in year one programme.

'They [students] were able to tell me about the levels of physical activity, their HR, what it's good for like, the benefits like, they actually did learn a lot' (Teacher 3).

Issues with the content arose in relation to the vocabulary being difficult for some students to comprehend, with one teacher commenting that the vocabulary was 'high-order for their literacy skills' (Teacher 1). Other teachers commented on Y-PATH having 'too much content' (Teacher 2) for their students, so that the lesson couldn't be taught in full during one PE class.

The issue of content suitability and appropriateness was raised by teachers of the year 2 programme, particularly in relation to sensitive issues such as body size, shape and nutrition.

'The healthy body and body composition and nutrition, I think that was slightly too in-depth' (Teacher 1).

'I'm not sure we should be doing calorie counting with teenagers' (Teacher 5).

4.4.3. Implementation considerations

When discussing teachers' confidence in effectively delivering the Y-PATH programme to their students, some areas for consideration arose. Two sub-themes (below) include discussion around the time and organisation needed for successfully implementing each lesson and the outcome of the teacher training workshop completed by each teacher prior to participating in this pilot study.

(i) Sub-theme: Time and organisation

A reoccurring challenge mentioned by participating teachers was the need of time to prepare resources prior to the lesson.

'I just felt like it was an awful lot of time put into getting the resources ready, and for an exercise that might only take 15 or 20 minutes of a class' (Teacher 13).

This problem was coupled with time pressure for teachers at the beginning of lessons, as they often had other lessons immediately before their PE class with one school having to travel to a local activity centre for their lessons.

'The only big problem that we would have had was say like that if there was…a lot of setting up' (Teacher 4).

On the other hand, the equipment required in the lesson plans was widely available. Not having access to pedometers was the only limiting factor in relation to equipment that was identified. One teacher overcame this issue by using a step counter on a smart phone.

'We didn't have any pedometers...so I got one or two of the girls, they agreed to download it on their phone' (Teacher 15).

(ii) Sub-theme: Teacher training

In general, teachers had no major difficulties in implementing the Y-PATH programme following the teacher training workshop. The concept of a very strong focus on HRA for the first six weeks and embedding HRA and FMS through all strands of PE was new concept for many teachers and was well received.

'I felt a little bit challenged by it, it certainly made me think about my classes differently' (Teacher 5).

No problems or issues were noted by teachers in relation to their training of the prescribed HRA lessons, as they were well explained in the materials and resources provided.

‘I had a good look through the folder afterwards…that workshop we went to, we didn't have time to go through every single paragraph of every, of every leaflet... I found it, it worked well’ (Teacher 15).

Teachers were less confident in weeks seven to twelve, where they had to integrate FMS in a strand of their choice. When discussing the teacher training workshop, teachers expressed the workshop was more useful for learning how to implement the initial six weeks, but they felt ill-equipped for the remainder of the programme.

The teacher training ‘was (sufficient) for the HRA, but I'd say for the other strands not so much’ (Teacher 16).

‘I definitely found it more challenging and more difficult, there's no question’ (Teacher 12).

4.4.4. Current PE curricular context

A range of thoughts and opinions emerged when discussing the new Junior Cycle, which has been introduced gradually from 2014 across all Irish post-primary schools. Teachers are becoming more aware of its impact on their subject area. At the time of the study, teachers had varied ranges of knowledge and understanding. The new Junior Cycle brings change to PE through the learning area of Wellbeing and short courses. Data were collected in May 2017, prior to the introduction of the Junior Cycle short courses.

(i) Sub-theme: PE as a short course

Teacher opinion on short courses for Junior Cycle varied widely, with some teachers expecting to implement the new NCCA PE short course beginning in September 2017, during the Wellbeing hours for PE.

‘I’m going to try and start that now next year’ (Teacher 14).

The short course will ‘be the main PE’ (Teacher 16).

A number of teachers appeared to be sceptical about the proposition of a short course for their subject and have had no indication of this from school management.

‘We have not been asked to consider or to implement a short course’ (Teacher 5).

Furthermore, others remained optimistic that it would be an option when the discussion arises.

‘I would say that it would be one that would be discussed like, they would be willing to do that… I do think that it would suit a lot of our kids’ (Teacher 2).

(ii) Sub-theme: Impact of Wellbeing on PE status in school

The introduction of Wellbeing has brought benefits to PE on the timetable and its status in school. One teacher spoke of the increase of hours at Junior Cycle, as in the past only 1st and 2nd year students would have PE. This positive impact on PE as a subject is illustrated with one teacher stating:

‘We are actually going to bring in 3rd year PE now from next year’ (Teacher 13).

Many teachers expressed the support they felt for their subject from management in their school.

‘They would be very supportive in PE and they are very supportive in PE’ (Teacher 2).

(iii) Sub-theme: Y-PATH and Wellbeing

Schools are required to implement Wellbeing programme from September 2017, meeting the six indicators of Wellbeing as outlined by the NCCA: active, responsible, connected, resilient, respected and aware (NCCA , 2017). Many teachers were confident the Y-PATH lessons met these six indicators.

‘Yeah, I, like I would see it, definitely, be used to tick all the indicators’ (Teacher 2).

Teachers identified that through Y-PATH, the students are ‘respecting themselves and their peers’, they are ‘definitely aware about…the choices they are making’, they are ‘responsible…there is a lot of control given back to the students’ and they are ‘connected…they are doing a lot of these things in groups’ (Teacher 12).

When asked about how to improve Y-PATH to meet these indicators more clearly, the following recommendations were made.

‘If you did have to pick one where you’d say like probably say is left out, well like resilient, like that’s a hard one’ (Teacher 13).

‘Now the big thing I think we are not possibly doing a lot of the time is, you know the, is the awareness. We’re not, maybe always finding out how they are feeling...The affective domain is, I think, our biggest challenge’ (Teacher 5).

4.4.5. Conclusion

The four main themes identified following data collection, as described in these results provide the researcher with an abundance of in-depth feedback to inform the refinement and further development of the Y-PATH programme. The implication of these findings is outlined below.

4.5. Discussion

This study was conducted with a view to understanding the thoughts and opinions of PE teachers implementing the Y-PATH programme with a view to refine the materials and resources to cater for their professional teaching needs (Wong et al., 2008). No differences were identified between schools of educational disadvantage (DEIS schools) and non-DEIS schools, or between schools of single gender or mixed gender, indicating suitability for the programme across all school settings. Despite widespread positive feedback from participating teachers in relation to the materials providing support to their teaching, it was agreed that i) too many resources (such as equipment and worksheets) and ii) the time required to prepare and implement resources needed for each lesson caused issues for teachers. Similar to findings in international studies, too many resources and a lack of time in PE lessons may have impeded the implementation of the programme, with a likelihood of this affecting the overall desired outcomes for the students (Casey et al., 2014; Gallo et al., 2006).

The purpose of the 2-hour teacher workshop, prior to the implementation of the 12-week pilot intervention, was to educate PE teachers on the Y-PATH programme, and to inform them on the requirements for successfully implementing the intervention with their students. Findings identified that following the workshop, teachers were more comfortable with implementing the initial six-week HRA lessons, which were guided by prescribed lesson plans and resources, but less confident to teach a specific strand of PE while using the guidance of the FMS integration cards, which were to be used from weeks seven to twelve. Identifying this concern is useful to the research team and this lack of confidence in teaching FMS in PE has similarly been observed in a previous 'Move It Groove It' study in Australia, where all teachers agreed that an FMS workshop would be useful to their teaching of children at primary level (Beard et al., 2001; Morgan et al., 2013).

It is evident from previous research that the content of the Y-PATH lessons is effective in improving the acquisition of FMS proficiency of students who participate

in the programme (McGrane et al., 2017; O'Brien et al., 2015; O'Brien et al., 2013). Whilst the programme has positive effects, teachers expressed concern in relation to literacy levels of students, particularly those from non-English speaking backgrounds. Whilst on a global scale, Ireland is reported to be doing particularly well in relation to literacy levels of young people, placing 4th highest of 50 countries assessed in the 2016 PIRLS study (IEA TIMSS & PIRLS International Study Centre, 2017), ensuring the language of the Y-PATH programme is accessible to all levels warrants attention. In addition, teachers agreed the content involving body weight and calorie counting was a too sensitive a topic and too in-depth for students. A modified version of this lesson was advised, as interventions in regard to body image may be sensitive but have merit and can be impactful for adolescent students (Diedrichs et al., 2015).

This Y-PATH programme is designed to meet all of the requirements of Wellbeing, which includes a double class period of PE per week for students in 1st, 2nd and 3rd year of post-primary school. Six indicators of Wellbeing are being used to guide the teaching and learning in this area of learning. These include being active, responsible, connected, resilient, responsible and aware (NCCA, 2017). Focus group and interview participants widely agreed upon the suitability of the Y-PATH programme to meeting these indicators of Wellbeing. Being resilient and aware were identified as lacking by some teachers. The school environment has been identified as a major contributor to the development of resilience in children (Stewart et al., 2004), thus advocating its position as an indicator of Wellbeing in the new Junior Cycle, with greater attention given to its position in the Y-PATH programme.

4.6. Limitations

Some difficulties arose in recruiting participants for this research, specifically following the 12-week intervention. Initially 35 PE teachers from 21 schools expressed interest, and attended the teacher workshop, however, only 15 teachers from nine of these schools successfully carried out the pilot intervention and were involved in data collection. The time of the study may have resulted in low participation in data collection, as this took place in the final term of the school year, with many teachers reporting to be unable to attend focus group meetings due to time pressure and commitments with school. Future research should carefully consider the timing of implementing programmes and carrying out research in schools in relation to the academic calendar. Focus groups were stratified by school type and not by

teacher gender or age. Teacher demographics could provide further insight into the opinions of teachers based on these factors. Furthermore, this study focused exclusively on the teacher voice, with no consideration made for the opinions and reactions of students to the intervention. This warrants further examination, to ensure the programme is effectively catering towards the learning needs of post-primary school students.

4.7. Conclusion

The thoughts and opinions of PE teachers who implemented the Y-PATH materials and resources for year one and year two were explored. Feedback and recommendations from PE teachers were then used to inform the refinement of the lessons and resources in year one and year two, in line with the recent Wellbeing framework at Junior Cycle. The findings were also used to guide the development of the year three Y-PATH programme and streamline it entirely, to ensure learning is built upon in each year of the programme.

4.8. Acknowledgements

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Chapter 5
Conclusions and Recommendations

5.1. Background to this research study

PE is about enabling young people to pursue healthy and active lives, through the development of the physical competencies and motivation required for PA (Woods et al., 2010). Participation in QPE creates a foundation for young people to achieve this lifelong active lifestyle (Association for Physical Education, 2015; UNESCO, 2015). Prior to this research study, the Y-PATH PE programme had proven to be effective in addressing low levels of PA and FMS in Irish adolescents (Belton et al., 2013; McGrane et al., 2017; O'Brien et al., 2013, 2015b). The aim of this study is to trial, refine and extend the PE element of the Y-PATH programme in line with national curricular developments, based on the thoughts and opinions of practicing students and specialist PE teachers in Irish post-primary schools.

5.2. Implications of this research

5.2.1. Study one (chapter three)

The objectives of this study were to investigate student PA levels, physical SW, enjoyment of and experiences of Y-PATH PE. Students expressed overwhelmingly positive attitudes toward participation in Y-PATH PE in this study, with 89.8% of all students enjoying their classes (92% males, 87% females).

Predicted results in line with low international PA levels for young people were confirmed in this study, with just 14.8% of students self-reporting to meet recommended PA guidelines (Woods et al., 2010; World Health Organization, 2017) and male participants being more active than their female peers of the same age (Woods et al., 2010). Despite low levels of PA recorded among participants, it was positive to observe the majority of students were aware of PA guidelines (World Health Organization, 2017). These guidelines are taught through the Y-PATH PE programme, and there is a link between individuals who are aware of these guidelines and those who exhibit higher levels of PA (Abula et al., 2016).

Students physical SW, enjoyment and experiences of PE were all analysed through the student questionnaire. Interestingly, males consistently demonstrated higher levels in all questions in comparison to females, suggesting a link between participation in PA and positive attitudes toward PA in line with what has been reported in previous studies, suggesting the need for further research and provision for females in PA (Belton et al., 2014; Riddoch et al., 2004; Sisson and Katzmarzyk, 2008; Woods et al., 2010).

Finally, students had an opportunity to express their interests for learning in PE class, revealing a desire to learn correct technique for exercises, learn more sports and activities and to understand more about how the body works. The Y-PATH programme is very well positioned to fulfil these interests of the student participants, through a broad and balanced programme, focused on HRA and developing FMS.

5.2.2. Study two (chapter four)

The objective of this study was to evaluate teachers' thoughts and opinions of the Y-PATH PE programme following the implementation of the programme for a 12-week period with 1st and 2nd year students, in order to improve the quality and usability of the resources and materials supporting the programme. This information guided the refinement of the Y-PATH programme to maximise its effectiveness and practicality. Qualitative analysis was used to understand and interpret the experiences of the participating teachers (Marshall and Rossman, 2016). These findings guided the refinement of year one and year two of the Y-PATH PE programme and the development of year three (appendix I-N). Participating teachers discussed the usability of Y-PATH materials and resources, the suitability of the content and implementing the programme in a PE setting.

Feedback on the use of materials and resources for the Y-PATH PE programme was widely positive from teachers, with widespread appreciation for the layout and ideas evident, particularly the inclusion of visual lesson plans, in addition to the written explanations. Ensuring resources are of the highest standard is of upmost importance to this research study, as they can have a positive contribution to the quality and standard of PE being taught (Lee et al., 2006).

While studies have shown teachers to make requests for more resources to be available to aid their teaching (INTO, 2015), the number of resources required for each lesson appeared to be a consistent issue for teachers in their Y-PATH PE. Participating teachers discussed the time commitments involved in preparation prior to teaching Y-PATH PE lessons and the associated resources needed for each class. Whilst the majority of equipment was available in schools, the amount of resources required were inhibitive to effectively conducting lessons, as they took a huge amount of time and organisation for teachers prior to their lessons. It is necessary to consider the outcomes for the students while designing a programme, while ensuring all elements of implementing the programme are practical for the teacher (Independent

Teacher Workload Review Group, 2016). The use of the PA journal also posed some issues for teachers. Research has found the time commitment to too many resources is a problematic issue for teachers working in a busy schedule (Renzulli et al., 2008), and was very evident in this area of teacher feedback in relation to the resources and the use of the PA journal.

A high level of vocabulary in the year two Y-PATH PE plans and too much content in some instances were considered occasionally prohibitive to effective teaching. This was particularly apparent among teachers from schools with a higher number of students with English as a second language (Gandara et al., 2005). This has been addressed and lessons have been refined to be more student and teacher-friendly, given the increase in the number of students whose primary language at home is neither English nor Irish at both primary and post-primary level (NCCA, 2006).

During focus groups, teachers portrayed their concerns regarding lesson content addressing body size, shape and nutrition. With 43% of young people (10-21 years) dissatisfied with their body image (O'Connell and Martin, 2012), this topic cannot be ignored. Lessons for 2nd year students containing these topics have been carefully considered and refined, with some old activities omitted and new activities and resources used, due to the sensitivity of the topic.

Another objective of this study was to evaluate the extent to which the indicators of Wellbeing (NCCA, 2017) were being fulfilled in the Y-PATH lessons. The Y-PATH PE lessons are designed to meet the indicators of Wellbeing and must be considered carefully in programme design (NCCA, 2017). Teachers felt two of the six indicators, namely being resilient and aware, were lacking in the lessons. The lessons have been refined with a focus on developing activities to foster and place an emphasis on developing both resilience and awareness, to ensure these indicators are more explicit for teachers.

5.3. Recommendations for the Y-PATH intervention

Following results obtained from this Y-PATH study, and progress made in relation to the refinement and further development of the programme, the following recommendations are made:

- The Y-PATH PE programme should be expanded to deliver lesson plans and resources for FMS integration across all strands areas of Junior Cycle PE. As teachers were largely satisfied with the HRA lesson plans for year one and

year two, consideration should be given to providing this resource for all strands of the PE syllabus, incorporating the Y-PATH philosophy and catering for all indicators of Wellbeing (NCCA, 2003, 2017).

- A Y-PATH PE short course programme should be developed, in line with the Y-PATH PE programme, giving teachers opportunities to roll out both, or either programme, based on individual school preferences (Department of Education and Skills, 2015). This short course should also meet all indicators of Wellbeing, to cater for schools completing the PE short course during the PE time allocated for Wellbeing (NCCA, 2017).
- A greater focus should be placed on the parent component of the Y-PATH programme, in order to encourage children to become more physically active (Moore et al., 1991). Additionally, the digital aspect of the programme, including the Y-PATH website and digital resources for teachers, should be considered.
- The Y-PATH programme should be disseminated to PE teachers across Irish post-primary schools, in line with the implementation of the new Junior Cycle, ensuring PE teachers are equipped to meet the new requirements for their subject under Wellbeing and the Framework for Junior Cycle (Department of Education and Skills, 2015; NCCA, 2017). Teacher training workshops should take place across the country to adequately inform and equip all teachers.
- In line with the recent introduction of PE as an examination subject for the Leaving Certificate (Department of Education and Skills and NCCA, 2017), it should be considered if the Y-PATH programme for Junior Cycle (Department of Education and Skills, 2015) could be further developed to prepare students for this subject in Senior Cycle and bridge both subjects to ultimately complement each other.
- With the introduction of year three of the Y-PATH PE programme for the first time, a longitudinal study is warranted, to assess impact of the entire three-year Y-PATH programme on students. The evidence-base for the positive impact of the programme on student wellbeing, in line with indicators of wellbeing, should be investigated.
- In light of the cultural relevance and curriculum focus for Y-PATH in Irish post-primary schools, it should be investigated if the programme could move towards international models of best practice, drawing on effective and

research-focused pedagogical approaches from around the world, for PE delivery to early adolescent youth.

5.4. Limitations

- Student and teacher recruitment for this study was problematic, due to the timing of data collection, which coincided with the end of the academic year in Irish post-primary schools. This warrants consideration in future studies.
- Student feedback was collected through written questionnaires. Focus group interviews would provide the research team with more in-depth and robust findings, which should be considered.
- Student and teacher data were collected post-intervention, with no pre-intervention or control group used with which to compare findings. This should be strongly considered in future studies in order to increase the strength of findings and enable more critical analysis of data.

5.5. Conclusion

The aim of this study was to trial, refine and extend the PE element of the Y-PATH programme for students and teachers in Junior Cycle in Irish post-primary schools. It took place in conjunction with curricular changes in the Junior Cycle and the research focused on ensuring the programme could provide for the requirements and recommendations of the new curriculum (Department of Education and Skills, 2015; NCCA, 2017). Data gathered from participating students and PE teachers, following a 12-week trial implementing the Y-PATH PE programme, provided the insight needed, to ensure the programme is developed with the needs of the teacher and student in mind. This thesis provides the reader with an introduction, followed by a review of literature studies and programmes from around the world. Chapter three provides details of the research carried out involving the students in the study, followed by chapter four involving data collected from the PE teacher. Chapter 5 concludes this project with implications of the research and recommendations for continued development of the Y-PATH programme.

Chapter 6
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Appendix A

Informed Consent: Teachers

Teacher Informed Consent

Date

Dear PE teacher,

Please find overleaf an informed consent form for your participation in the 2017 Cork pilot programme of 'Youth Physical Activity Towards Health' (Y-PATH). This study is being carried out by Dublin City University (DCU), in schools throughout Cork city and county. The Y-PATH programme is aiming to increase physical activity levels of Junior Cycle students, through the education of physical activity for health, improving levels of motivation, developing fundamental movement skills and generating a supportive environment for physical activity.

As a participant in the Y-PATH pilot programme, you will be required to complete a 12-week intervention with your students in 1st and / or 2nd year, during their weekly PE lesson. These lessons will take place between 9th January and 7th April. The first 6 lessons will be prescribed lessons focusing on Health Related Activity. These lessons will be followed by 6 lessons of your choice, with the principals of Y-PATH integrated. Resources and lesson plans will be provided for you before you begin these lessons. If for some reason you cannot complete a lesson during the 12-week intervention (due to school events, matches, etc.), you should record this for feedback following the intervention and continue the programme for subsequent lessons.

Data collection will take place once the 12-week intervention has concluded in April 2017. PE teachers will be asked to participate in a focus-group discussion and they may be asked to complete a questionnaire. You will be asked to distribute and collect student/parent consent forms to your students are taking part. Following the intervention, you will be responsible for your students completing the student questionnaire, and returning completed questionnaires to the research team. A small group of students may be asked to participate in a focus group discussion. This will not take place unless permission has been granted from the schools involved. No students should participate in any form of data collection unless the student and a parent/ guardian have granted consent. The PE teacher is responsible for ensuring that a student does not take part in any form of data collection if consent has not been obtained.

Information gathered on you or your students will not be shown individually to anyone. It will be combined with information from a large cohort of students and as such, no one will have access to an individual child's information. Once a report has been completed and submitted to Sport Ireland, information gathered will be made available to the school at a later date in the study.

In order for you to participate in this study, please read the attached form. If you consent for your involvement, then please sign the form and return it to he Y-PATH research team.

Thank you for your time.

Yours sincerely,

Sarahjane Belton. Ph.D.
Dr. Sarahjane Belton

Principal investigator

Note: "Confidentiality of information provided is subject to legal limitations. It is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions"

PE Teacher Informed Consent Form

Project Title: Youth Physical Activity Towards Health (Y-PATH)

Principal Investigators: Dr. Sarahjane Belton, Dr. Johann Issartel and Dr. Wesley O'Brien

Introduction to the study:
The Y-PATH programme is a Physical Education based intervention that aims to increase physical activity levels of Junior Cycle students, through the education of physical activity for health, improving levels of motivation, developing fundamental movement skills and generating a supportive environment for physical activity. The research team want to trial the existing intervention in secondary schools in Cork city and county before completing the next phase of the project.

During the research project:

- You will attend a Y-PATH teacher-training workshop.
- You will complete a 12-week Y-PATH intervention with your 1st and/ or 2nd year students.
- You will distribute student consent forms for completion by the student and a parent/ guardian. These must be collected and retained in the school until collection by a member of the Y-PATH research team.
- You will participate in a focus group discussion, once the 12-week intervention has concluded. You are advised to keep a record of your thoughts following each lesson.
- Your students will complete a physical activity questionnaire. This questionnaire will be filled out in class with the help of the class teacher and returned to the research team.
- A small number of students may be asked to join a focus group discussion. A member of the research team would visit your school at a time convenient to you and your students. This discussion will be recorded using a Dictaphone.

All information gathered will be treated in the strictest of confidence. To ensure this, your name will be removed from all data and replaced with an ID number. Only the research team will know your ID number, and only the researchers will have access to the information.

Please complete the form below as appropriate, in order to be included in the study

I have read and understood the information in this form. The researchers have answered my questions and concerns, and I have a copy of this consent form.

ACTION: To advise the research team of your decision please sign and return this form to the research team.

School name: _____

Number of 1st year participants _____

Number of 2nd year participants _____

Teacher Signature: _____

Name in Block Capitals: _____

Date _____

Appendix B

Informed Consent: Students & Parents/Guardians

Student/ parent informed consent

Date

Dear Parent / Guardian,

Please find overleaf an informed consent form for your child's participation in a physical activity study titled 'Youth Physical Activity Towards Health' (Y-PATH). This study is being carried out by Dublin City University (DCU) in your child's school and in other schools throughout Cork city and county. The Y-PATH programme is a Physical Education based intervention that aims to increase physical activity levels of Junior Cycle students, through the education of physical activity for health, improving levels of motivation, developing fundamental movement skills and generating a supportive environment for physical activity.

Your child's Physical Education teacher has agreed to complete the 12-week Y-PATH pilot intervention, which focuses on your child being taught Physical Education with a focus on teaching them about health benefits of physical activity and correct movement patterns, in a motivational environment.

Information gathered on your son/ daughter will not be shown individually to anyone. It will be combined with information from lots of other students and as such no one will have access to an individual child's information. Information gathered on the group of students involved in the study will be made available to the school at a later date in the study.

In order for your son/ daughter to participate in this study, please read the attached form. If you consent for your son/ daughter to be involved, then please sign the form and return it to your child's PE teacher as soon as possible.

Thank you for your time.

Yours sincerely,

Sarahjane Belton. Ph.D.
Dr. Sarahjane Belton

Principal investigator

Note: "Confidentiality of information provided is subject to legal limitations. It is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions"

Informed Consent Form Under 16's

Project Title: Youth Physical Activity Towards Health (Y-PATH)
Principal Investigators: Dr. Sarahjane Belton, Dr. Johann Issartel and Dr. Wesley O'Brien
Introduction to the study:
The Y-PATH programme is a Physical Education based intervention that aims to increase physical activity levels of Junior Cycle students, through the education of physical activity for health, improving levels of motivation, developing fundamental movement skills and generating a supportive environment for physical activity. The research team want to trial the existing intervention in secondary schools in Cork city and county before completing the next phase of the project.

This is what will happen during the research project:

- Your child will complete a physical activity questionnaire. This questionnaire will be filled out in class with the help of the class teacher.
- Your son/ daughter may be asked to take part in a group discussion. These discussions will take place in school with a small number of students together and one of the researchers from DCU. This discussion will be recorded using a Dictaphone.

All information gathered will be treated in the strictest of confidence. To ensure this, your child's name will be removed from all data and replaced with an ID number. Only the research team will know your child's ID number, and only the researchers will have access to the information.

Please read Option 1 and Option 2 below and complete as appropriate.

Option 1: Child to be included in the study

I have read and understood the information in this form. I have read and explained the information in the form to my son/ daughter. The researchers have answered my questions and concerns, and I have a copy of this consent form. I understand that all students, including my child, are included in this study.

ACTION: To advise the research team of your decision please sign and return this form to your child's PE teacher for attention of Dr. Sarahjane Belton.

Parent/Guardian Signature: _____

Name in Block Capitals: _____

Childs Name in Block Capitals: _____

Witness: _____ Date: _____

Option 2: Child to be removed from the study

I have read and understood the information in this form. I have read and explained the information in the form to my child. The researchers have answered my questions and concerns, and I have a copy of this consent form. I request that my child is not included in the study. I understand that my child will not be penalised in any way for doing this.

ACTION: To advise the research team of your decision please sign and return this form to your child's PE teacher for attention of Dr. Sarahjane Belton.

Parent/Guardian Signature: _____

Name in Block Capitals: _____

Childs Name in Block Capitals: _____

Witness: _____ Date: _____

Consent Form For Student Participants

Study Title: Youth Physical Activity Towards Health (Y-PATH)

1. My parents/guardian have talked to me about being part of a research study.
2. It has been explained to me that the study will involve me:
    a. Completing a physical activity questionnaire.
    b. I may be asked to take part in a group discussion on physical activity.
3. I know that I am free to decide not to take part in this study if I wish.
4. I can change my mind and not take part if I wish.

SIGNED: _____ DATE: _____

(Participant's name)

SIGNED: _____ DATE: _____

(Witness' name)

Appendix C

School Invitation to Participate and Expression of Interest Form

School address

Date

Sender address

Dear (principal),

By way of introduction, I am a Physical Education and French teacher in Cork city and a member of the Youth Physical Activity Towards Health (Y-PATH) research team. This is a research group working out of DCU and UCC, led by Dr. Sarahjane Belton (DCU), Dr. Johann Issartel (DCU) and Dr. Wesley O' Brien (UCC).

The Y-PATH programme is an existing Physical Education based intervention that aims to increase physical activity levels of Junior Cycle students, through education about the importance of physical activity for health, improving levels of motivation, developing fundamental movement skills and generating a supportive environment for physical activity. Through Y-PATH, it has been proven that students become more physically active and skilled, which in turn enables them to be more physically literate throughout their lives.

The Y-PATH programme has been extensively evaluated in two separate controlled trials (≈900 students) in Leinster over a five-year period, and findings show it to be very successful. In collaboration with Sport Ireland, we are piloting the existing Y-PATH programme (which spans 1st and 2nd year of Junior Cycle) in schools throughout Cork city and county in early 2017, in order to inform the development of year 3 of the programme. I am writing to offer your school the opportunity to participate in this pilot.

Participating Physical Education teachers will receive Y-PATH in-service training (held on December 14th, time TBC), associated resources, and have the opportunity to deliver our prescribed 6-week Health Related Activity scheme of work to their students in 1st and/or 2nd year class groups, between Monday 9th January and Friday 17th February 2017. Following this they will implement a further 6 weeks of the programme in one specific strand area (e.g. Games, Gymnastics etc.) between Monday 27th February and Friday 7th April 2017. Following the intervention, we gather feedback from students and teachers through questionnaires and focus group interviews. This will provide pivotal information to the research team to inform the final phase of developing Y-PATH.

Please note that thanks to funding from Sport Ireland, there will be no cost associated with involvement in this phase of Y-PATH, something which generally costs €200 per school. I would appreciate if you could inform the Physical Education teachers in your school of this project and consider your school's involvement. Please complete the form attached and return it via email or post by Friday 25th November to secure your school's place. Expressions of interest after that time will be considered depending on availability within the project. If you or any members of the PE department have any queries, please do not hesitate to contact me via phone or email.

Sincerely,

_____

Holly Clarke

Phone: 0851589870
Email: hollyclarke47@gmail.com

Expression of interest form, Y-PATH 2017

I, _____ am writing to confirm my school's interest in participating in the 2017 Y-PATH pilot programme.

School name	
School address	
PE teacher name(s)	1. 2. 3.
PE teacher email address	1. 2. 3.
PE teacher phone number	1. 2. 3.
Class group(s) participating	

Name (printed): _____

Signature: _____

Please return this form via post or email to Holly Clarke by Friday 25th November 2016.

Phone: 0851589870
Email: hollyclarke47@gmail.com

Post: Dr. Wesley O'Brien,
Western Road,
University College Cork,
Cork

Appendix D

Plain Language Statement: Teachers

Plain Language Statement for PE teacher participants

Title: Y-PATH

Principal Investigators: Dr. Sarahjane Belton, Dr. Johann Issartel, Dr. Wesley O' Brien, Ms. Holly Clarke

University Department: School of Health and Human Performance, DCU, in collaboration with University College Cork

- ✓ Youth Physical Activity Towards Health (Y-PATH) is a physical activity intervention designed to improve physical activity levels of Junior Cycle students through the education of being physically active for health, the development of Fundamental Movement Skills (FMS), the creation of a motivational environment for students, and a focus on Health Related Activity (HRA).
- ✓ I will complete the 6 individually prescribed Y-PATH PE lessons between January 9th and February 17th 2017 (Christmas holiday – February mid-term break), and another 6 individual PE lessons of my choice (using FMS integration cards), between February 27th and April 7th 2017 (February mid-term break – Easter holiday).
- ✓ I will complete one in-service training workshop in December 2016 before I implement this programme with my students.
- ✓ I will collect all signed consent forms from participating students and have them available for collection by the Dublin City University (DCU) research team.
- ✓ I will keep an informal diary on a weekly basis to inform my feedback at the end of both 6-week blocks.
- ✓ I will complete a questionnaire and participate in a focus group at the end of the study. The discussion will be recorded using a Dictaphone.
- ✓ All information (focus group and questionnaire data) will be seen by the research team, but will be kept completely confidential and no one will be able to access it except the research team.
- ✓ All participants will be given an ID number, which will correspond to the data collected.
- ✓ All data will be stored in DCU. It will be stored in DCU for 5 years following the completion of the study, in line with University regulations for examinations. The data will be destroyed by the principal investigator at the end of this time period.
- ✓ I understand that I can stop being part of this study at any stage if I want to. I will let the research team know immediately and my students and I will not have to take part. I will inform students and parents if the decision is made to withdraw from the study.
- ✓ A summary report will be provided to the school, once all the data has been analysed and the report has been submitted to Sport Ireland, the project funding body. I will then be able to circulate the findings to my students.
- ✓ If I have any questions about the research that I do not understand, I will contact the researchers.

Primary Investigators and Contact Details					
TITLE	**SURNAME**	**FIRST NAME**	**PHONE**	**INSITUTION**	**EMAIL**
Dr	Belton	Sarahjane	01-7007393	DCU	sarahjane.belton@dcu.ie
Dr	Johann	Issartel	01-7007461	DCU	johann.issartel@dcu.ie
Dr	Wesley	O' Brien	021-4902319	UCC	wesley.obrien@ucc.ie

If you have any queries regarding the conduct of this project you can contact:
The Secretary, Research Ethics Committee, Office of the Vice-President for Research, Dublin City University,
Tel: 01-7008000, Fax: 01-7008002
Note: "Confidentiality of information provided is subject to legal limitations. It is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions"

Appendix E

Plain Language Statement: Students & Parents/Guardians

Plain Language Statement for student participants

Title: Youth Physical Activity Towards Health (Y-PATH)
Principal Investigators: Dr. Sarahjane Belton, Dr. Johann Issartel, Dr. Wesley O'Brien, Ms. Holly Clarke
Other Investigators: Dr. Sarah Meegan
University Department: School of Health and Human Performance, DCU, in collaboration with University College Cork.

- ✓ Youth Physical Activity Towards Health (Y-PATH) is a project to increase adolescents becoming more physically active in a supportive and motivational environment.
- ✓ If I take part in this study, I will complete 6 individual Y-PATH PE lessons between January and February 2017, and another 6 individual Y-PATH PE lessons between February and April 2017.
- ✓ My parents have spoken to me about being part of this research study.
- ✓ I will complete a questionnaire at the end of the study about my physical activity and participation in physical education class.
- ✓ My questionnaire will be anonymous and the information I give will be confidential (secret).
- ✓ I may be asked to further take part in a group discussion. This discussion will take place in school with one of the researchers from DCU and other students. The discussion will be recorded using a Dictaphone.
- ✓ I understand that all information will be seen by the researcher but no one will be able to access it except the members of the research team named above.
- ✓ All data will be stored in DCU for 5 years following the completion of the study, in line with University regulations. The data will be destroyed by the principal investigator at the end of this time period.
- ✓ I understand that I can stop being part of this study at any stage if I want to. I will let my parent / guardian, teacher or researcher know and I will not have to take part.
- ✓ My school will be contacted with results from the study at a later stage.
- ✓ If I have any questions about the research that I do not understand, I will ask a parent / guardian, my PE teacher or the researchers.

Primary Investigators and Contact Details					
TITLE	**SURNAME**	**FIRST NAME**	**PHONE**	**INSITUTION**	**EMAIL**
Dr	Belton	Sarahjane	01-7007393	DCU	sarahjane.belton@dcu.ie
Dr	Johann	Issartel	01-7007461	DCU	johann.issartel@dcu.ie
Dr	Wesley	O' Brien	021-4902319	UCC	wesley.obrien@ucc.ie

If you have any queries regarding the conduct of this project you can contact:
The Secretary, Research Ethics Committee, Office of the Vice-President for Research, Dublin City University,
Tel: 01-7008000, Fax: 01-7008002

Note: "Confidentiality of information provided is subject to legal limitations. It is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions"

Appendix F

Teacher Focus Group Questions

Teacher Focus Group

Y-PATH material and resources

1. What did you think about the Y-PATH material and resources?
   Prompts:
   (i) Do you feel the Y-PATH material and resources are appropriate to the level of your students?
   (ii) Did you find the Y-PATH HRA lesson plans and resources useable?
   (iii) Did you feel the Y-PATH material and resources catered for all learners in your teaching groups?

2. What can be done to improve the Y-PATH material and resources?
   Prompts:
   (i) Lesson plan structure or content?
   (ii) Lesson resources?

Barriers limiting the implementation of Y-PATH

3. Do you think there are any barriers that limit your implementation of Y-PATH?
   Prompts:
   (i) Were you adequately equipped to implement the Y-PATH programme?
   (ii) Do you feel you were lacking knowledge on its content?
   (iii) Do you think the content was suitable to use in <u>all strands</u> of PE?

4. What can be done to overcome these barriers?
   Prompts:
   (i) What changes should be made to the delivery of Y-PATH in your PE lessons?
   (ii) What changes should be made to the Y-PATH teacher training?

Wellbeing

Teachers will be given information about the new Wellbeing programme prior to the focus group.
Reminder: The final draft Wellbeing Guidelines for consultation identifies six indicators that are central to Wellbeing- active, responsible, connected, resilient, respected and aware. These should inform all planning (p.37 & p.40)

5. Do you think Y-PATH is an appropriate and suitable tool to deliver PE, within the proposed Wellbeing programme?
   Prompts:
   (i) Does Y-PATH meet your needs in delivering the PE element of the Wellbeing programme?
   (ii) Is there any indicator of Wellbeing that you feel is not being met?

Short Course

6. Do you think your school will want to do a PE Short Course?
   Prompts:
   (i) Will this be within the PE allocation for Wellbeing?
   (ii) Will this be in addition to Wellbeing?

(iii) Not at all?

Closing questions

7. If you were to implement this programme again, what changes would you make as a PE teacher?

8. Is there anything else you would like to add or say?

Appendix G

Student Questionnaire

Name: _____

In this questionnaire, we want to know about you. Your answer is very important to us, so don't worry about what anyone else is writing There are no 'right' or 'wrong' answers!

Section 1

Participant details		
1.1	Are you male or female?	
1.2	Are you in 1st year or 2nd year?	
1.3	What is your date of birth?	

Section 2

Physical activity is any body movement.

- Physical activity includes:
  - **Exercise**- Weight training, aerobics, jogging, dancing, etc.
  - **Sports**- Hurling, football, athletics, swimming, etc.
  - **General**- Brisk walking, washing the car, walking or cycling to school, etc.

Physical activity can be done at different levels of effort:

- **Moderate Effort** makes your heart rate and breathing rate faster than normal. You may also sweat a little. Brisk walking and jogging are good examples.
- **Vigorous Effort** makes your heart rate much faster and you have to breathe deeper and faster than normal. You will probably sweat. Playing football or tennis are good examples.

Please try to think carefully and be as accurate as possible with your answers.
For these next two questions, add up all the time you spend in physical activity each day.
Only include activities of either MODERATE or VIGOROUS effort.

ID code: _____
[Office use only]

Physical activity levels	
2.1	**Over the <u>past 7 days</u>, on how many days were you physically active for a total of at least <u>60 minutes</u> per day? Please circle one number.** 0 days 1 2 3 4 5 6 7 days
2.2	**Over a <u>typical or usual week</u>, on how many days are you physically active for a to at least <u>60 minutes</u> per day? Please circle one number.** 0 days 1 2 3 4 5 6 7 days

Section 3

Physical Self Worth

Below are some statements about how you see yourself physically.
Think about what is true for you most of the time.
Please tick (✓) ONE box for each statement to show how true it is for you.

3.1

	Very true	Quite true	Not very true	Not at all true
I am happy with how I am and what I can do physically	○	○	○	○
I feel confident about myself physically	○	○	○	○
I don't have much to be proud of physically	○	○	○	○
I feel positive about myself physically	○	○	○	○
I wish I could feel better about myself physically	○	○	○	○
I am very satisfied with myself physically	○	○	○	○

Please wait here until instructed to continue.

Ensure you have fully completed sections 1-3 before you continue.

You cannot return to sections 1-3 after this point.

Section 4

Enjoyment of Physical Education

4.1 **Factors Influencing Enjoyment of Physical Education,** Please tick (✓) ONE box only

When I am in PE class...	(1) Dislike a lot				Enjoy a lot (5)
1. Learning new skills is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
2. Changing clothes is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
3. Working out with other students is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
4. Doing different types of physical activities is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
5. Getting warmed up and breaking a sweat is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
6. Being with the other students in the class is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
7. Getting a break from the other classes is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
8. Being in the gym or on the playing field is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
9. Showering after class is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
10. Learning about physical fitness and health is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
11. Being with the PE teacher is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
12. Getting some exercise is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5

Section 5

Experiences of Physical Education

5.1

- The following sentences refer to your overall experiences in your PE class as opposed to any particular situation.
- Using the 1-5 scale below, please indicate the extent to which you agree with these statements by choosing one number for each statement.
- Please tick (✓) one box only.

	I don't agree at all	I agree a little bit	I somewhat agree	I agree a lot	I completely agree
1) I feel I have made a lot of progress in my PE class in relation to the goal I want to achieve	○	○	○	○	○
2) The way I exercise in my PE class is in agreement with my choices and interests	○	○	○	○	○
3) I feel I perform successfully the activities of my PE class	○	○	○	○	○
4) My relationships with the people I exercise with in my PE class are very friendly	○	○	○	○	○
5) I feel that the way I exercise in my PE class is the way I want to	○	○	○	○	○
6) I feel the activity I do in my PE class I do very well	○	○	○	○	○
7) I feel I have excellent communication with the people I exercise with in my PE class	○	○	○	○	○
8) I feel that the way I exercise in my PE class reflects who I am	○	○	○	○	○
9) I am able to meet the requirements of my PE class	○	○	○	○	○
10) My relationships with the people I exercise with are close	○	○	○	○	○
11) I feel that I have the opportunity to make choices with regard to the way I exercise in my PE class	○	○	○	○	○
12) I feel very much at ease with the other participants in my PE class	○	○	○	○	○

Please wait here until instructed to continue.

Ensure you have fully completed sections 1-5 before you continue.

You cannot return to sections 1-5 after this point.

Section 6

Experiences of Physical Education class since Christmas			
6.1	What activities did you do in PE since Christmas? _____ _____ _____ _____ _____ _____		
6.2	Generally, would you say you have you enjoyed PE since Christmas? (Circle **one** option only)	Yes	No
6.3	What did you enjoy? _____ _____ _____ _____ _____ _____		
6.4	What did you **not** enjoy? _____ _____ _____ _____ _____ _____		

Section 7

Health Related Activity		
7.1	What do you understand by the term 'physical activity'? _____ _____ _____ _____ _____ _____	
7.2	What does being 'healthy' mean to you? _____ _____ _____ _____ _____ _____	
7.3	How many minutes of physical activity should a student your age get **every day**?	_____ minutes

In the PE syllabus, there is an area called 'Health Related Activity'.

Has your teacher covered any of the following topics that you remember?

Please tick (✓) YES for the topics **you** remember have been covered in your PE lessons and NO for those you don't remember.

		Yes	No
7.3	The effect of physical activity on heart rate		
7.4	The effect of physical activity on body temperature		
7.5	The effect of physical activity on your breathing		
7.6	Why physical activity is good for your body		
7.7	How we stretch		
7.8	Why we stretch		
7.9	How to warm-up before exercise		
7.10	Why we warm-up before exercise		

7.11	How to cool-down after exercise		
7.12	Why we cool-down after exercise		

7.13	Do you enjoy when this type of 'Health Related Activity' content is taught in your PE class? (Circle **one** option only)	Yes	No
7.14	Please explain your answer _____ _____ _____ _____ _____ _____		

Please wait here until instructed to continue.

Ensure you have fully completed sections 1-7 before you continue.

You cannot return to sections 1-7 after this point.

Section 8

Physical Education for you	
PE is important, it is like every other subject you study in school. The purpose of PE is to help everyone to be physically active for life. We want to make it enjoyable and useful for you.	
8.1	(i) What do you think is important to learn in PE class? _____ _____ _____ _____ _____ _____ (ii) Why do you think this is important? _____ _____ _____ _____ _____ _____
8.2	Are there any other activities that you would prefer to do? (keep it realistic!) _____ _____ _____ _____ _____ _____
8.3	Have you got any other suggestions or comments you would like to make?

	_____ _____ _____ _____ _____ _____

Thank you for completing this questionnaire!

Appendix H

Student Questionnaire: Teacher Protocol

Name: _____

In this questionnaire, we want to know about you. Your answer is very important to us, so don't worry about what anyone else is writing There are no 'right' or 'wrong' answers!

TEACHER PROTOCOL:

- READ THE ABOVE COMMENT ALOUD BEFORE STUDENTS BEGIN
- DO NOT INFLUENCE STUDENT RESPONSES IN ANY WAY
- DO NOT OFFER ANY INFORMATION ABOUT WHAT HAS BEEN COVERED IN PE CLASS
- PLEASE ENSURE STUDENTS ARE SILENT DURING COMPLETION OF QUESTIONNAIRE
- PLEASE ENSURE NO STUDENT COPIES AN ANSWER FROM THEIR PEER
- WE WANT TO KNOW WHAT STUDENTS HAVE PICKED UP DURING PE CLASS. THIS IS TO EVALUATE THE Y-PATH RESOURCE. THIS WILL ALLOW US TO SEE IF ASPECTS OF THE PROGRAMME ARE EFFECTIVELY CONVEYED OR IF CHANGES NEED TO BE MADE, IN ORDER FOR STUDENTS TO LEARN EFFECTIVELY. THIS IS NOT TO EVALUATE INDIVIDUAL TEACHERS IN ANY WAY.
- SECTION 2, PAGE 2: STUDENTS JUST NEED TO READ THIS INFORMATION

Section 1

Participant details		
1.1	Are you male or female?	
1.2	Are you in 1st year, 2nd year or 3rd year?	
1.3	What is your date of birth?	

Section 2

Physical activity is any body movement.

- Physical activity includes:
  - **Exercise**- Weight training, aerobics, jogging, dancing, etc.
  - **Sports**- Hurling, football, athletics, swimming, etc.
  - **General**- Brisk walking, washing the car, walking or cycling to school, etc.

Physical activity can be done at different levels of effort:

- **Moderate Effort** makes your heart rate and breathing rate faster than normal. You may also sweat a little. Brisk walking and jogging are good examples.
- **Vigorous Effort** makes your heart rate much faster and you have to breathe deeper and faster than normal. You will probably sweat. Playing football or tennis are good examples.

Please try to think carefully and be as accurate as possible with your answers.
For these next two questions, add up all the time you spend in physical activity each day.
Only include activities of either MODERATE or VIGOROUS effort.

ID code: _____
[Office use only]

Physical activity levels	
2.1	**Over the <u>past 7 days</u>, on how many days were you physically active for a total of at least <u>60 minutes</u> per day? Please circle one number.** 0 days 1 2 3 4 5 6 7 days
2.2	**Over a <u>typical or usual week</u>, on how many days are you physically active for a to at least <u>60 minutes</u> per day? Please circle one number.** 0 days 1 2 3 4 5 6 7 days

Section 3

Physical Self Worth	
Below are some statements about how you see yourself physically. Think about what is true for you most of the time. Please tick (✓) ONE box for each statement to show how true it is for you.	
3.1	

	Very true	Quite true	Not very true	Not at all true
I am happy with how I am and what I can do physically	○	○	○	○
I feel confident about myself physically	○	○	○	○
I don't have much to be proud of physically	○	○	○	○
I feel positive about myself physically	○	○	○	○
I wish I could feel better about myself physically	○	○	○	○
I am very satisfied with myself physically	○	○	○	○

Please wait here until instructed to continue.

Ensure you have fully completed sections 1-3 before you continue.

You cannot return to sections 1-3 after this point.

TEACHER PROTOCOL:

- THE OPTIONS IN **SECTION 3** GO FROM 'VERY TRUE' TO 'NOT TRUE AT ALL' (POSITIVE RESPONSE TO NEGATIVE RESPONSE)
- THE OPTIONS IN **SECTION 4** GO FROM 'DISLIKE A LOT' TO 'ENJOY A LOT' (NEGATIVE RESPONSE TO POSITIVE RESPONSE)
- THE OPTIONS IN **SECTION 5** GO FROM 'I DON'T AGREE AT ALL' TO 'I COMPLETELY AGREE' (NEGATIVE RESPONSE TO POSITIVE RESPONSE)
- PLEASE HIGHLIGHT THIS CLEARLY TO THE STUDENTS.

Section 4

Enjoyment of Physical Education

4.1 **Factors Influencing Enjoyment of Physical Education,** Please tick (✓) ONE box only

When I am in PE class...	(1) Dislike a lot				Enjoy a lot (5)
1. Learning new skills is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
2. Changing clothes is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
3. Working out with other students is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
4. Doing different types of physical activities is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
5. Getting warmed up and breaking a sweat is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
6. Being with the other students in the class is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
7. Getting a break from the other classes is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
8. Being in the gym or on the playing field is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
9. Showering after class is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
10. Learning about physical fitness and health is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
11. Being with the PE teacher is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5
12. Getting some exercise is something that I	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5

Section 5

Experiences of Physical Education

5.1

- The following sentences refer to your overall experiences in your PE class as opposed to any particular situation.
- Using the 1-5 scale below, please indicate the extent to which you agree with these statements by choosing one number for each statement.
- Please tick (✓) one box only.

	I don't agree at all	I agree a little bit	I somewhat agree	I agree a lot	I completely agree
1) I feel I have made a lot of progress in my PE class in relation to the goal I want to achieve	○	○	○	○	○
2) The way I exercise in my PE class is in agreement with my choices and interests	○	○	○	○	○
3) I feel I perform successfully the activities of my PE class	○	○	○	○	○
4) My relationships with the people I exercise with in my PE class are very friendly	○	○	○	○	○
5) I feel that the way I exercise in my PE class is the way I want to	○	○	○	○	○
6) I feel the activity I do in my PE class I do very well	○	○	○	○	○
7) I feel I have excellent communication with the people I exercise with in my PE class	○	○	○	○	○
8) I feel that the way I exercise in my PE class reflects who I am	○	○	○	○	○
9) I am able to meet the requirements of my PE class	○	○	○	○	○
10) My relationships with the people I exercise with are close	○	○	○	○	○
11) I feel that I have the opportunity to make choices with regard to the way I exercise in my PE class	○	○	○	○	○
12) I feel very much at ease with the other participants in my PE class	○	○	○	○	○

Please wait here until instructed to continue.

Ensure you have fully completed sections 1-5 before you continue.

You cannot return to sections 1-5 after this point.

TEACHER PROTOCOL:

- PLEASE REMIND ALL STUDENTS TO WAIT BEFORE TURNING THE PAGE.
- STUDENTS CANNOT GO BACK TO SECTIONS 1-5 ONCE THEY HAVE PROCEEDED TO SECTION 6.

TEACHER PROTOCOL:

- EXPLAIN TO THE STUDENTS THAT THIS SECTION REFERS SPECIFICALLY TO PE SINCE CHRISTMAS (Y-PATH LESSONS)
- DO NOT REMIND STUDENTS ABOUT THESE LESSONS OR WHAT YOU HAVE DONE. WE WANT TO EXAMINE THE PROGRAMME FROM THEIR PERSPECTIVE.

Section 6

Experiences of Physical Education class since Christmas			
6.1	What activities did you do in PE since Christmas? _____ _____ _____ _____ _____ _____		
6.2	Generally, would you say you have you enjoyed PE since Christmas? (Circle **one** option only)	Yes	No
6.3	What did you enjoy? _____ _____ _____ _____ _____ _____		
6.4	What did you **not** enjoy? _____ _____ _____		

	_____ _____ _____

Section 7

Health Related Activity		
7.1	What do you understand by the term 'physical activity'? _____ _____ _____ _____ _____ _____	
7.2	What does being 'healthy' mean to you? _____ _____ _____ _____ _____ _____	
7.3	How many minutes of physical activity should a student your age get **every day**?	_____ minutes

In the PE syllabus, there is an area called 'Health Related Activity'. Has your teacher covered any of the following topics that you remember? Please tick (✓) YES for the topics **you** remember have been covered in your PE lessons and NO for those you don't remember.			
		Yes	No
7.3	The effect of physical activity on heart rate		
7.4	The effect of physical activity on body temperature		
7.5	The effect of physical activity on your breathing		
7.6	Why physical activity is good for your body		
7.7	How we stretch		
7.8	Why we stretch		
7.9	How to warm-up before exercise		
7.10	Why we warm-up before exercise		
7.11	How to cool-down after exercise		
7.12	Why we cool-down after exercise		

7.13	Do you enjoy when this type of 'Health Related Activity' content is taught in your PE class? (Circle **one** option only)	Yes	No
7.14	Please explain your answer _____ _____ _____ _____ _____ _____		

Please wait here until instructed to continue.

Ensure you have fully completed sections 1-7 before you continue.

You cannot return to sections 1-7 after this point.

TEACHER PROTOCOL:

- AGAIN, PLEASE REMIND ALL STUDENTS TO WAIT BEFORE TURNING THE PAGE.
- STUDENTS CANNOT GO BACK TO SECTIONS 1-7 ONCE THEY HAVE PROCEEDED TO SECTION 8.

Section 8

TEACHER PROTOCOL:

- READ THE COMMENT BELOW BEFORE STUDENTS BEGIN THIS QUESTION AND ENSURE THEY COMLETE THIS SECTION ALONE.
- THIS SECTION REFERS TO PE AS A SUBJECT IN GENERAL, NOT JUST THE Y-PATH PROGRAMME.

Physical Education for you	
PE is important, it is like every other subject you study in school. The purpose of PE is to help everyone to be physically active for life. We want to make it enjoyable and useful for you.	
8.1	(i) What do you think is important to learn in PE class? _____ _____ _____ _____ _____ _____ (ii) Why do you think this is important? _____ _____ _____ _____ _____ _____
8.2	Are there any other activities that you would prefer to do? (keep it realistic!) _____ _____ _____

	_____ _____ _____
8.3	Have you got any other suggestions or comments you would like to make? _____ _____ _____ _____ _____ _____

Thank you for completing this questionnaire!

TEACHER PROTOCOL:

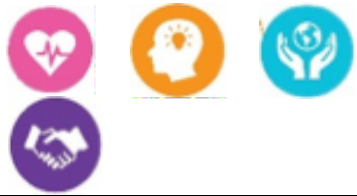
- ONCE STUDENTS ARE FINISHED, PLEASE COLLECT ALL COMPLETED QUESTIONNAIRES AND ENSURE STUDENT NAMES ARE ON THE COVER PAGE.
- THIS COVER PAGE WILL BE DESTROYED ONCE A STUDENT I.D. CODE HAS BEEN ALLOCATED TO EACH QUESTIONNAIRE, TO ENSURE ALL RESPONSES ARE ANONYMOUS.

Appendix I

Year 1 HRA Lessons 1-6

"Low active students must believe that they can succeed in physical activity situations" – Improve self - efficacy

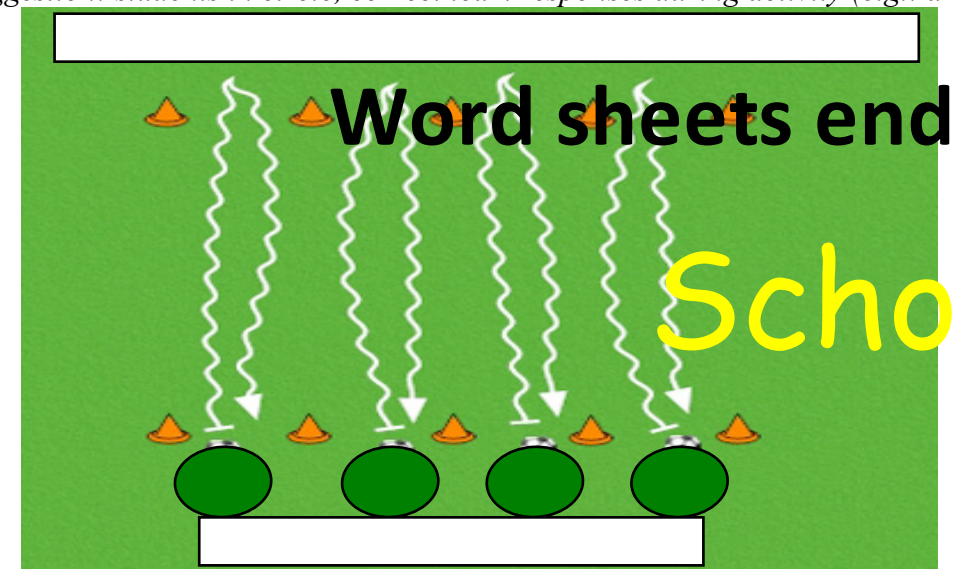
AIM: Teacher will introduce 1st year students to the general principles and guidelines associated with regular physical activity. It is important that the teacher creates a learning environment in which physical activity is attainable, fun and universal to each class member within her ability.

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor: Engage in a variety of physical activities specific to individual, pair and teamwork challenges. **Cognitive:** Explain the importance of meeting the physical activity (PA) daily guidelines. **Affective:** Participate in class discussions and show ability to problem solve collectively.	**Warm-Up (15 mins)** Team Challenge –Word Run. Students in teams, run to tick correct answer to each statement read out by the teacher. *Principles and Guidelines of PA taught – Progress Intensity.* **Development Stage 1 (10 mins)** Rats & Rabbits or alternative. Students in pairs standing on ½ way line, back-to-back. Inside are 'rats', other side are 'rabbits'. When either 'rats' or 'rabbits' are called by the teacher, that line must run to their end of the hall (team base). The objective is for the players opposite to turn and catch the runners before they reach their base. *PA is fun, enjoyable and helps student make friends.* **Development Stage 2 (20 mins)** Students exposed to 5 mins each of individual, pair & team activities of teacher's choice (e.g.: skipping, ball passing, team challenge). *Students explore different types of activities.* **Cool-Down (15 mins)** Thematic expression: students express the number "60" on the ground followed by PA Journal week 1. *Students lower heart rate (HR) through group reflection.*	**Warm-Up** Relay format. Teacher true / false statement sheet & word options sheets with 1 pen per team. **Development Stage 1** Cones or court markings for boundaries in rats & rabbits. **Development Stage 2** Cones to divide individual, pair and team areas. Specific equipment for activities pending teacher decision. **Cool-Down** No equipment needed: maximum use of hall and space for final activity.	 **Assessment** **Teacher Assessment:** Visually observe both child motor skill proficiency and activity engagement in lesson 1. **Self-Assessment:** Individual student must reflect upon content of lesson within the re-capitulation phases particularly during the cool – down activity. **Peer Assessment:** Students give feedback to each other during development stage 2 and the cool-down activity.

1. Team challenge: word run

Run out to sheet on the wall or ground, tick box and return back

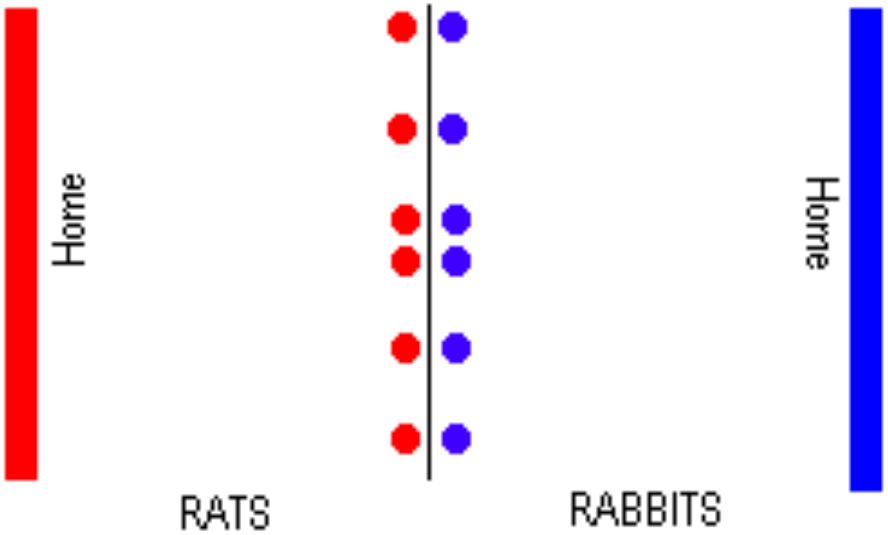
Suggestion: students in circle, correct team responses during activity (e.g.: arm circles)



2. Fun game: rats & rabbits

Teacher calls rats or rabbits; students then run to their zone

Modifications: students must jump, hop on one leg, skip, etc.



3. Individual, pair & team activities

Students exposed to 3 minute activities (individual, pair & group)

Activities can be done in groups at stations, or the whole class together

4. Thematic expression

Class challenge: represent number 60 on floor or alternative word if time allows

Recap key messages: recommended 60 minutes MVPA/ day, max 2 hours screen time

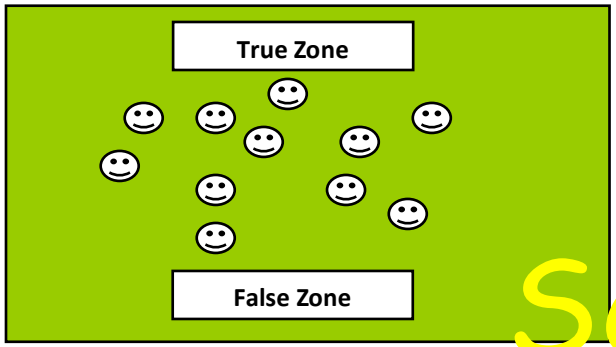
"Low active students must believe that they can succeed in physical activity situations" – *Improve self - efficacy*

AIM: Teacher will further enhance students' knowledge of the concept of physical activity. Teacher will strive to create a learning environment in which pupils can positively engage and adapt to the health-related education lesson.

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor: Participate in a selected variety of physical activities specific to general exercises (jogging, jumping) and sport (basketball, dancing). **Cognitive:** Recognise and appreciate that physical activity choice is specific to individual preference. **Affective:** Conceptualise the importance of comradeship and teamwork within physical education; Respect individual choice within the physical activity environment.	**Warm-Up (15 mins)** Quick revision: oral feedback on learning in PE so far (e.g.: 60 mins MVPA/day). Dance Warm-Up (true / false zones). Students dance to the music & when a question is asked, they move to the appropriate zone. **Development Stage 1 (10 mins)** Move your Body: Teacher calls body parts & students shake that body part. Continue until students are '*all shook up'*. Add a 'penalty' body part. If students make a mistake, they must do a 'full body shake!' **Development Stage 2 (20 mins)** 6 stations (MVPA activities). Individual choice at stations – autonomous decision making (exercises can be done in groups at stations, or the whole class). *PA individualised.* Teacher may choose time spent at each station & transition between stations (e.g.: 40 secs exercise, 20 secs transition/ rest) **Cool-Down (15 mins)** Group Interaction – students given task card to perform. *Focus on variety within PA.* Students can guess their classmates' scenarios.	**Warm-Up** Music player, 2 zones in the hall (true / false), true / false statement sheet (teacher resource). **Development Stage 1** Play upbeat music & call various body parts (arms, hands, shoulders, toes, belly). **Development Stage 2** Play upbeat music. Students divided into groups for 6 stations. Each station may need specific equipment (activity cards in teacher resource can be used or teacher can choose own activities). **Cool-Down** Make 4 groups. Teacher task card with specific group performance – assign one task per group (4 physical activity scenarios need to be set).	 **Assessment** Teacher Assessment: Teacher question students understanding of previously acquired knowledge during recap. Self-Assessment: Within this lesson, students are expected to make independent activity choices highlighting that physical activity is individualised: development stage 2. Peer Assessment: Observe classmates during cool-down activity.

1. Moderate dance warm-up

Dance to music - when question asked, run to true or false wall / zone

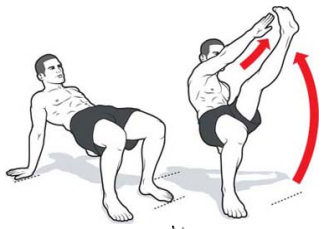


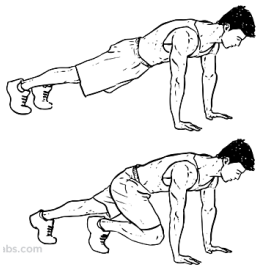
2. Move your B dy!

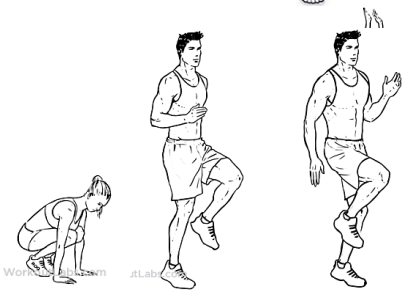
Students shake body part called by tea her ntil they are 'a shook up'
Students must do a 'full body shake' if they 'shake' the penalty body part

3. Six stations – choice in physical activity

Students have an option at each station e.g. type/speed of skipping

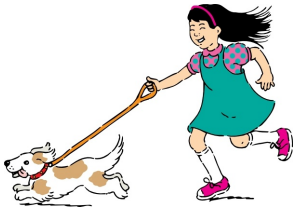






4. Group interaction

Groups given a physical activity scenario to rehearse and perform e.g. wash car



"Low active students need to develop positive physical activity perceptions and awareness" – Improve physical activity attitude

AIM: During lesson 3, the teacher shifts the learning towards the body's response during physical activity. The teacher within this lesson must emphasise that physical activity has a positive effect on the body; In particular, teacher will familiarise students with the concept of increase Heart Rate (HR).

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor: Record their HR using at least one pulse taking method (radial wrist and carotid neck regions). **Cognitive:** Identify that their HR increases as a result of activity intensity. **Affective:** Demonstrate an ability to work cooperatively with class mates through peer work activity tasks.	**Introduction (5 mins)** Speak about Rate of Perceived Exertion (RPE) in basic terms & students estimate where they are on the scale. **Warm-Up (15 mins)** **Moderate intensity** Warm-Up station choices: individual, peer & group tasks- students self-assess RPE (see suggested activities) *Is RPE higher or lower during warm-up? Discuss.* **Development Stage 1 (10 mins)** **HR check-** teach students to check HR (carotid and / or radial pulses). Each student to remember their HR at this point of the lesson. **Moderate activity** (e.g.: crab-soccer)- following intervals, students check HR & estimate their RPE. *Students understand link between rising HR and increasing effort.* **Development Stage 2 (10 mins)** **Vigorous activity** (e.g.: team / competitive game of tag) - students check HR & estimate their RPE *Students understand intensity and this effect on their body.* **Cool-Down (10 mins)** Slow walk modified game *Resting HR post-exercise.*	**Introduction** Use PowerPoint (PPT) slide (RPE Scale) to show student norms. **Warm-Up** 3 zones laid out: i.e.: skipping (individual), passing a Frisbee with partner (pair), game of cat & mouse (group) **Development Stage 1 & 2** Specific equipment may be needed for moderate & vigorous activities. Rate of Perceived Exertion (RPE) and HR posters/ PPT slides (try to reach above level 7 during vigorous activity) **Cool-Down** Equipment for modified game. Discuss HR results and RPE- did HR increase/ decrease after each activity & explain	 **Assessment** **Teacher Assessment:** Teacher visually observes pupils adaptation and application to the pulse taking methods during introduction **Self-Assessment:** Students ability to differentiate HR at varying activity levels within their engagement of light, moderate and vigorous activities: development stage 2

1. Introduction- pulse taking (radial & carotid)

Teacher introduces students to 2 X pulse taking methods at resting heart rate (HR)

2. Moderate Intensity Warm-up Choices

Students different types of moderate activity – [illegible] RPE

3 & 4. Moderate & vigorous activity engagement

Students recognise difference in HR intensity – record HR after both intensities

5. Cool-down – walking modified game

Slow walking pace activity – students HR back to normal (record on sheet)

"Low active students need to develop positive physical activity perceptions and awareness" – *Improve physical activity attitude*

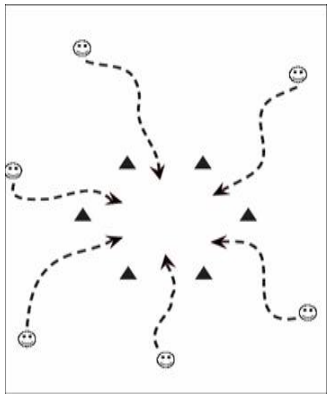
AIM: During lesson 4, the teacher will introduce and practically engage students within two components of health – related fitness. The lesson will aim to educate students on the importance of both flexibility and cardiovascular endurance within physical activity.

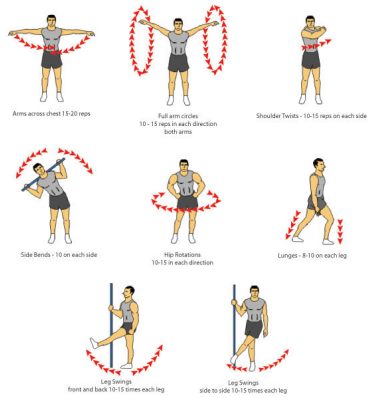
Learning Outcomes	Class Structure & Content	Organisation & Resources	Learning Outcomes
Psychomotor: Perform flexibility stretching exercises with an emphasis on the major muscle groups. **Cognitive:** Identify the principle of endurance within activity: sustained and continuous period of activity. **Affective:** Recognise individual differences associated with flexibility and cardiovascular endurance.	**Warm-Up (15 mins)** **Tagging game** (e.g.: Everybody's it/ Stuck in the mud) (increase RPE & HR). After 1 min ask students where they feel they are on RPE scale. After 2 mins, check HR. **Flexibility** – dynamic stretches. Discuss purpose of warm-up with students. **Development Stage 1 (15 mins)** Fun Game (e.g.: Dodge Ball/ Parachute) *Increase HR, teamwork & fun* **Development Stage 2 (20 mins)** Cardiovascular endurance – 4 activities X 3 minute duration (e.g.: running, obstacle course, jumping jacks) Record HR after each activity *Long periods continuous PA at 120-140 HR: fat burning* *Encourage RPE: 7-10* **Cool-Down (10 mins)** Walking game of **End-Zone Ball**. Each team has an end-zone. They must pass the ball to a teammate in the end-zone. Players cannot move when they have the ball. If the ball is intercepted, out-of-bounds or the opposing team score, there is a turn-over. **Flexibility** – teacher led (*HR & purpose of cool-down).* **Assessment (5 mins)** Student revision assessment: complete brainstorm activity for lesson 4 in PA journal	**Warm-Up** Court markings needed for the boundaries within everybody's it game/ stuck in the mud. Students record HR (recap). Teachers may use PPT slides from previous lesson for RPE & HR. **Development Stage 1** Fun game requires foam balls/ parachute **Development Stage 2** Stations may require skipping ropes, footballs, basketballs, music, benches & steps. Students identify if their HR is higher or lower after each activity & compare with resting HR **Cool-Down** End-zone ball activity requires cones as end-zones and a ball. **Assessment (5 mins)** Student PA journal & pens. Students complete short assessment for year 1 lesson 4 for teacher correction	 **Assessment** **Teacher Assessment:** Teacher will visually observe and monitor students control and technique of stretching during flexibility phases – Warm-up and Cool-down **Self-Assessment:** Students will have to self-evaluate their HR after each of the 4 CVE activities in development stage 2

1 & 2. Warm-Up- increase HR activity & flexibility

Tag game to increase HR; teacher led stretching exercise

Everybody's it- tag game/ stuck in the mud & teacher-led dynamic stretching

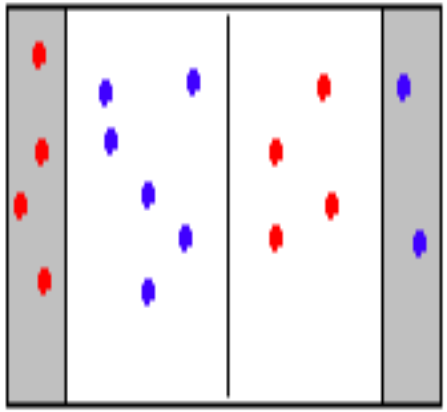




3. Fun gam

Students engage in fun, inclusive gam follo d by l sso s -4 reca

Dodge-ball: hit opposing team with sponge/ soft ball



4. Cardiovascular endurance activities

Students record HR after each of the 3 min CVE activities

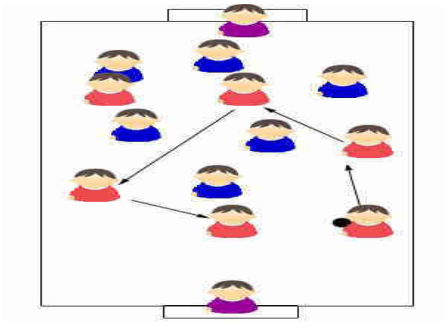
These can be any CVE activities such as running, obstacle course, jumping jacks

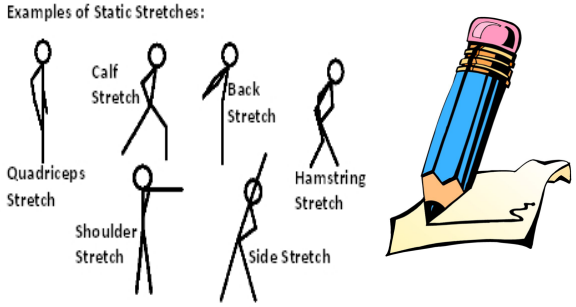
Dance aerobics 3 mins

Skipping with or without rope 3 mins

5, 6 & 7. Cool-down, flexibility & assessment

Slow walking pace activity followed by teacher led cool-down stretching





"Low active students must believe that they can succeed in physical activity situations" – Improve self - efficacy

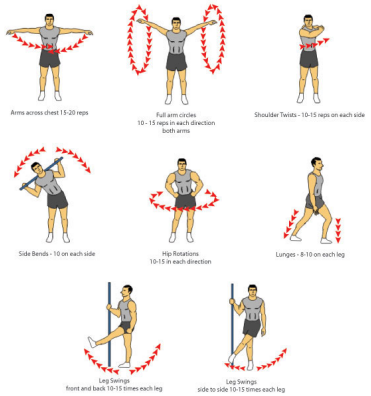
"Low active students need to develop positive physical activity perceptions and awareness" – Improve physical activity attitude

AIM: Lesson 5 will introduce students to the principles of pedometer step counts. The teacher will implement activities of intensity progression. Students are required to make independent decisions in order to meet the moderate intensity recommendation of "100 steps per minute".

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor: Engage in light and brisk walking movements; carry out the physical movements necessary to obtain the pre – determined goal of "100 steps per minute" **Cognitive:** Apply the mathematical formula needed to calculate the average step count per minute based on the pedometer output. **Affective:** Experience success based on the completion of the pedometer step challenge and achievement of the target step count.	**Introduction (5 mins)** Refer to lesson 4 assessment & revise answers orally. **Warm-Up (10 mins)** **Crab soccer-** Players in crab position (see image) and compete against opponents to score goals. Swap teams after 3 minutes. Peer led **dynamic stretching** *Raise pulse/ warm-up muscles/ reciprocal teaching* **Development Stage 1 (10 mins)** Pedometer intro; demonstration & explanation (see digital resource for PPT slide) Slow walk challenge 3 mins (ensure all are working) *Device introduction and arithmetic avg. step / min.* **Development Stage 2 (15 mins)** Brisk walk, jog & run challenge – 3 mins per activity. Take a 1-minute break between activities. Get students to think about their RPE for each and encourage increasing RPE for each activity. **Development Stage 3 (10 mins)** Modified game – create 4 end zones to catch the ball or Frisbee in. No moving when player holds the ball or Frisbee; players must pass to teammates & create space / get free, to pass effectively & score. Increase step-count by moving to get free / defend. Check RPE and step-count. **Cool-Down (10 mins)** Flexibility stretching in pairs. *Peer work – reciprocal method.*	**Warm-Up:** 2 separate courts for games, 4 teams, give bibs to differentiate between teams; cones and increase number of sponge balls as required **Development Stage 1:** Zone or grid layout for step challenge & 30 x pedometers. Calculate: 3 min step count ÷ 3 = 1 min step count (see digital resource) *Remember, if you don't have pedometers in your school, most smart phones can step-count!* **Development Stage 2:** 30 x pedometers & activity area. **Development Stage 3:** 4 teams, 2 playing areas. Change teams every 3-4 minutes. 4 end-zone areas created with cones. Pedometers for step-count. **Cool-Down:** No equipment required	 **Assessment** **Teacher Assessment:** Teacher will formally assess student ability to increase step count within the lesson (development stage 1 & 2). **Self-Assessment:** Students will calculate avg. step/min following completion of 3 min tasks. **Peer Assessment:** Peers observe and correct partner's stretching technique in warm-up and cool-down phases of lesson.

Warm-Up: crab soccer & flexibility

Moderate intensity crab soccer followed by peer led stretching



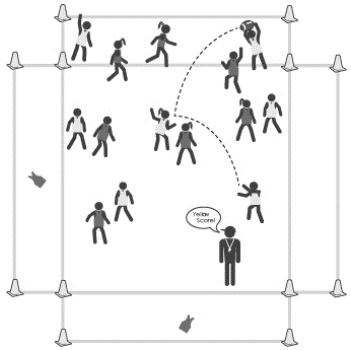
Dev Stage 1: Pedometer introduction followed by 3 mins light walking

Teacher introduces device: 3 minutes walking challenge – record steps & HR

Dev Stage 2 & 3: Brisk walk, jog, run and modified game

Students record step count and HR after each 3 minute activity

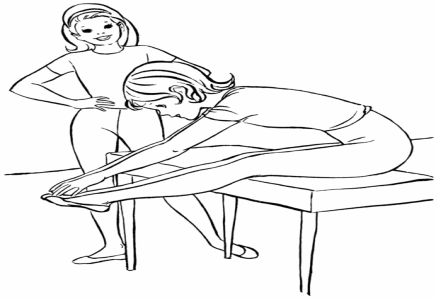
Moderate intensity = 100 steps per minute



7. Cool-down – flexibility stretching with partner

Peer assessment – observe and correct stretching technique

Discuss recommended 10,000 steps/ day



"Low active students must believe that they can succeed in physical activity situations" – *Improve self efficacy*

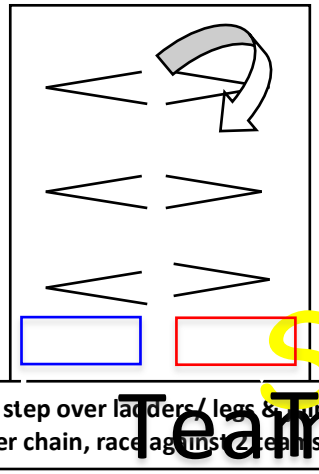
"Low active students need to develop positive physical activity perceptions and awareness" – *Improve physical activity attitude*

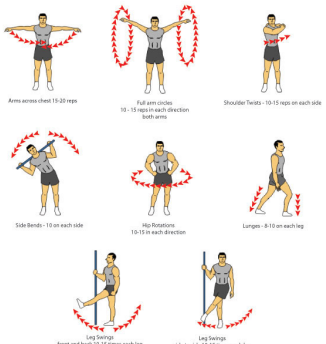
AIM: The final health related education lesson plan will incorporate the central learning criteria from the previous 5 weeks. The teacher has designed activities specific to the learning content within lessons 1 – 5 with a particular emphasis towards students' self-efficacy and physical activity attitudes.

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor: Participate in a variety of moderate to vigorous physical activities through individual and team based challenges. **Cognitive:** Identify and explain the health concepts associated with the body, the benefits of physical activity and the components of health related fitness. **Affective:** Demonstrate a positive attitude towards physical activity engagement, experiencing success and belonging within the learning environment.	**Warm-Up (15 mins)** Resting HR recorded **Pulse raiser**: ladders game (or other). Re-check HR following warm-up activity. Self-led **dynamic stretching** *Recap HR & warm-up.* **Development Stage 1 (15 mins)** **Individual challenge**: 500 steps within 5-minute duration. Students have 5 minutes of individual activity to get to 500 steps. *Goal: 10,000steps /day* **Team challenge**- Tank tracks: students must reach other end of the hall together, without touching ground (either using gym mats, or wooden blanks (if available). *HR, step count & PA benefits.* **Development Stage 2 (15 mins)** **Student choice** – Fun, inclusive game; student decide (e.g.: cannon ball, dodge ball, dance aerobics). *Well-being, self-esteem, heart.* **Cool-Down (5 mins)** Peer-led stretching: teacher observes. Pupils brainstorm. **Assessment (10 mins)** Final lesson assessment to be completed individually.	**Warm-Up:** Cones for ladders game (optional); pending teacher decision for pulse raiser equipment may vary. **Development Stage 1:** Pedometers X30 for individual challenge Team challenge: teams of of 5-6, gymnastic mats X2 per team (or wooden planks). Increase equipment to carry/ use blindfolds to add to challenge. *Remember, if you don't have pedometers in your school, most smart phones can track step-count!* **Development Stage 2:** Based on student enjoyment, desired activity chosen. 2 playing areas for fun activity choices. **Cool-Down:** No equipment needed **Assessment:** Student physical activity journals & pens.	 **Assessment** **Teacher Assessment:** Teacher will assess students through a written assessment at the end of the lesson **Self-Assessment:** Individual challenge stage 1. Identification of individual activity preference stage 2. **Peer Assessment:** Peer stretching during cool-down.

1, 2 & 3. Resting HR, pulse raiser & flexibility

Students record resting HR, engage in pulse raiser & self-led stretching





Resting HR recorded *Ladders Mini Game* *Self led stretching*

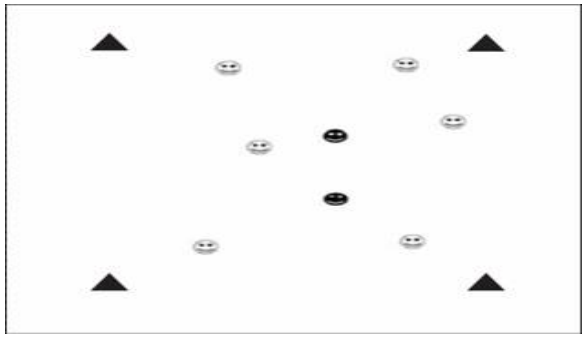
4 & 5. Individual challenge & team challenge

Individual challenge: 500 steps in 5 minutes / team challenge e.g. task tracks

> 500 steps in 5 min timeframe *Team building activity – fun & inclusive*

6. Student choice – record step count post activity

Culminating HRA activity – student enjoyment; step count & HR recorded



Teacher decision based on student enjoyment e.g. cannon ball, dodge ball, dance aerobics

7. Cool-down – flexibility with partner & summative assessment

Peer assessment – observe and correct stretching technique

Class recap: student assessmen

Appendix J

Year 1 Lesson Resources

Lesson 1 Activity 1: Word Run
Teacher Physical Activity Statement Sheet

1. Physical Activity is when the body is:
   a) Relaxed b) Moving

2. Which of these is not physical activity:
   a) Cycling b) Talking on the phone

3. Physical activity is good for your:
   a) Heart b) Voice

4. Participating in regular physical activity can lead to:
   a) Obesity b) Healthy body weight

5. All children and young people should be physically active:
   a) 3–5 days p/wk b) 7 days p/wk

6. On a given day, a child should be active for at least:
   a) 30 minutes b) 60 minutes

7. It is recommended that children and young people have a maximum of how much screen time per day:
   a) 2 hours b) 5 hours

8. It is recommended that children and young people meet the physical activity guidelines per day:
   a) All at once b) In smaller parts throughout the day

9. Which of these is active transport:
   a) Bus to school b) Walking to school

10. Physical activity gives you:
    a) More energy b) Less energy

11. Physical activity is:
    a) Sport & exercise b) Just sport

12. Participating in daily periods of physical activity is for:
    a) Fit people only b) Everyone

Lesson 1 Activity 1: Word Run
Student Task (*Tick the correct answer*)

RELAXED	**MOVING**
CYCLING	**TALKING PHONE**
HEART	**VOICE**
OBESITY	**HEALTHY BODY WEIGHT**
3 – 5 DAYS PER WEEK	**7 DAYS PER WEEK**
30 MINUTES	**60 MINUTES**
2 HOURS	**5 HOURS**
LIFESTYLE CHANGES	**LITTLE OR NO CHANGES**
BUS TO SCHOOL	**WALK TO SCHOOL**
MORE ENERGY	**LESS ENERGY**
SPORT & EXERCISE	**SPORT ONLY**
FIT PEOPLE ONLY	**EVERYBODY**

Lesson 2 Activity 1: Dance Warm-Up
Teacher True / False Statements

1. Physical activity is just for young people:
   True False

2. Physical activity is any body movement:
   True False

3. Physical activity is just for people who like sports:
   True False

4. Physical activity is not enjoyable:
   True False

5. Physical activity is very difficult to do:
   True False

6. Physical activity increases our body weight:
   True False

7. Vigorous activity is when the heart is beating slowly:
   True False

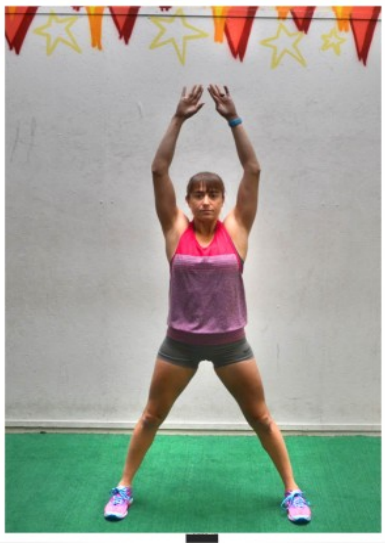
8. Moderate activity is easier and less tiring than vigorous activity:
   True False

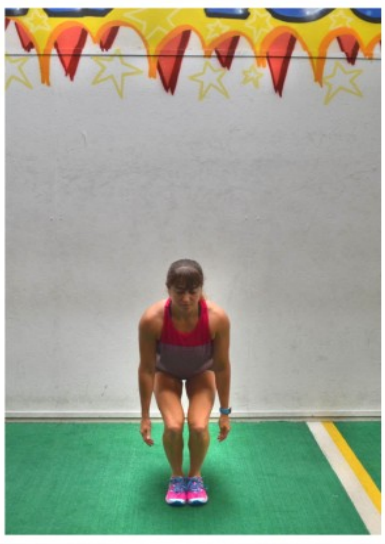
9. I should be active for 30 minutes or less everyday:
   True False

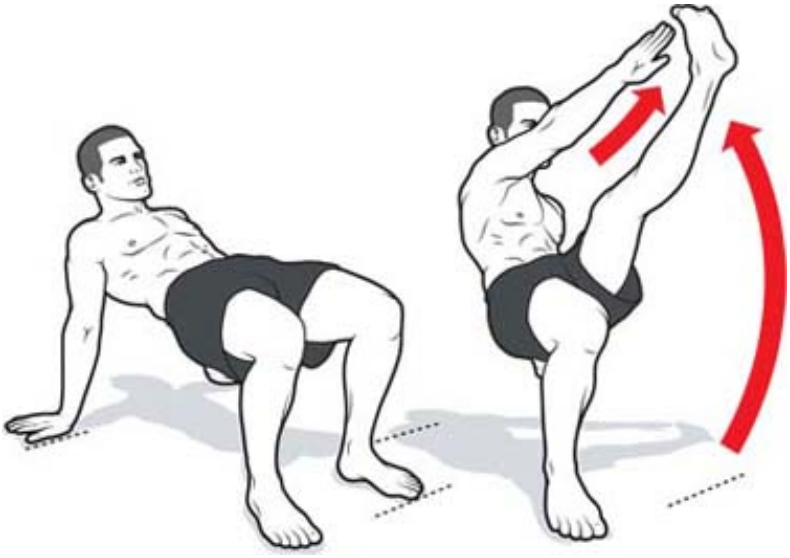
10. Watching television is very good for my health and heart:
    True False

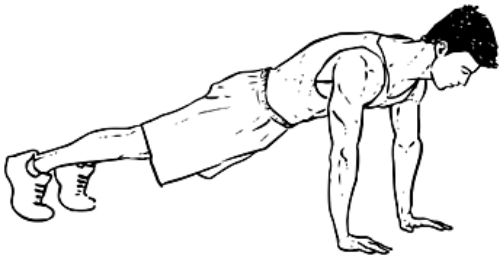
11. I can meet my 60 minutes at different periods within the day:
    True False

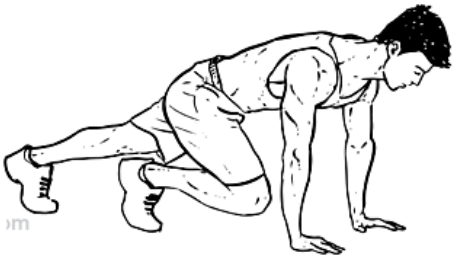
Lesson 2 Activity 2: MVPA Stations









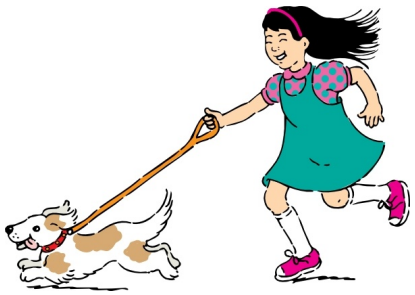


PLANK

PARTNER PLANK

Lesson 2: Cool-Down
Teacher Task Card
IN GROUPS, ACT OUT THE FOLLOWING SCENARIOS OF PHYSICAL ACTIVTY:

(Don't let students know the task of the other groups & have students guess their classmates' scenarios)

Task 1: You are playing volleyball in Hawaii and one team gets the match winning point! 
Task 2: You have entered the Australian world surfing competition. All group members must ride the waves and surf on their boards 
Task 3: You are walking the dog but your dog breaks away from the lead… 
Task 4: You're washing the car and suddenly it starts to pour rain and you must take shelter 

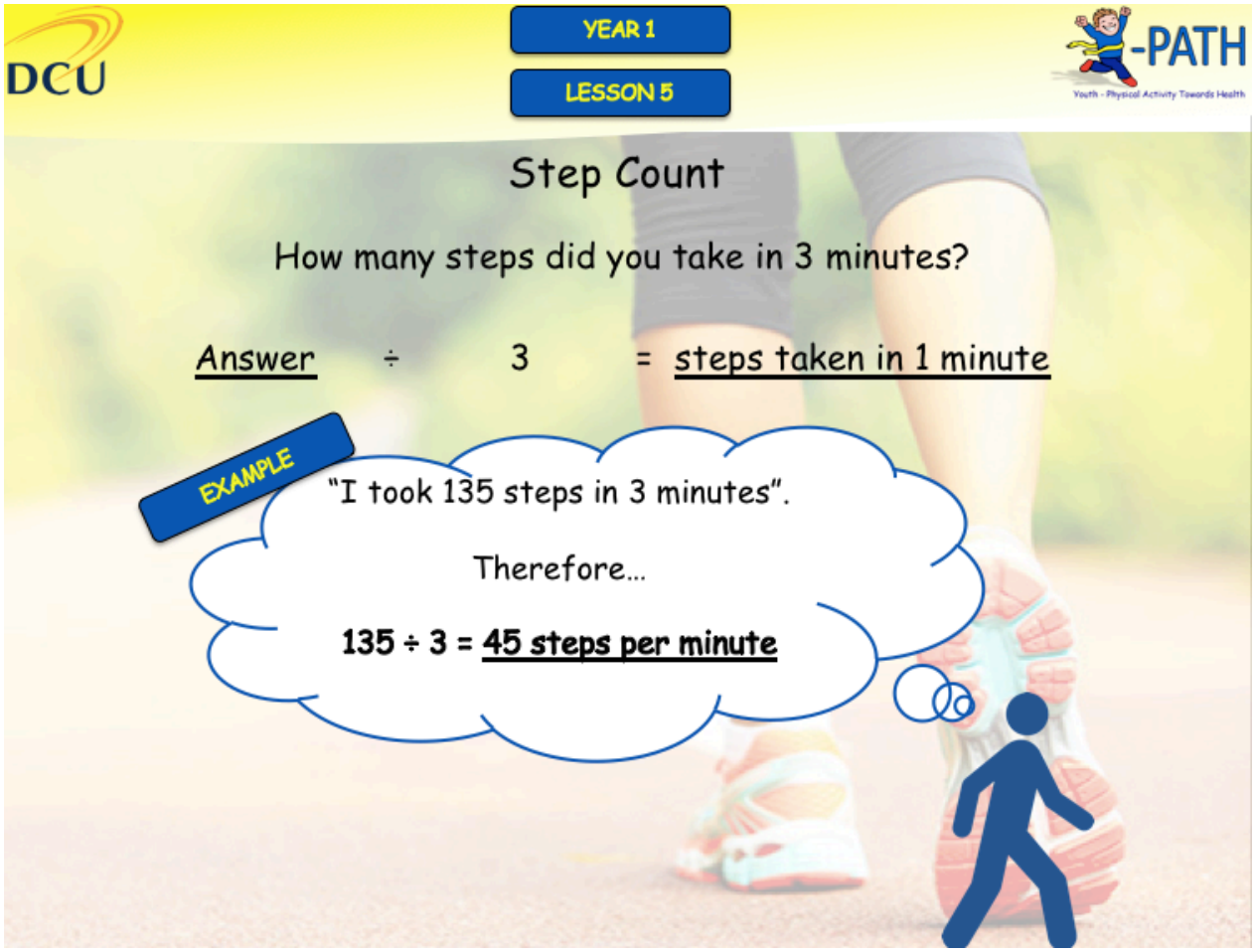
Lesson 3 Activity 1
Heart Rate Standards

Heart rate (BPM)	Activity
>150 BPM	Vigorous activity (100m sprint over a short period of time)
120-150 BPM	Moderate activity (brisk walking at a moderate pace)
90-120 BPM	Light activity (very slow walking at an easy pace)
<90 BPM	Resting Heart Rate Little or no activity
(BPM= Beats Per Minute) *Note: These standards vary from person to person**	

Lesson 3 Activity 3
Rate of Perceived Exertion

	10	I'm exhausted!
	9	I'm about to crash!
	8	I can't keep going for much longer
	7	I'm seriously sweaty and don't want to talk!
	6	I'm sweating, breathless but can still talk
	5	I'm not comfortable but I can keep talking
	4	I'm feeling good but I'm starting to sweat
	3	I'm starting to breath a little harder now
	2	I can keep going like this all day!
	1	This is easy, I feel like I could still be in bed!

Lesson 5 Activity 2
Step Count



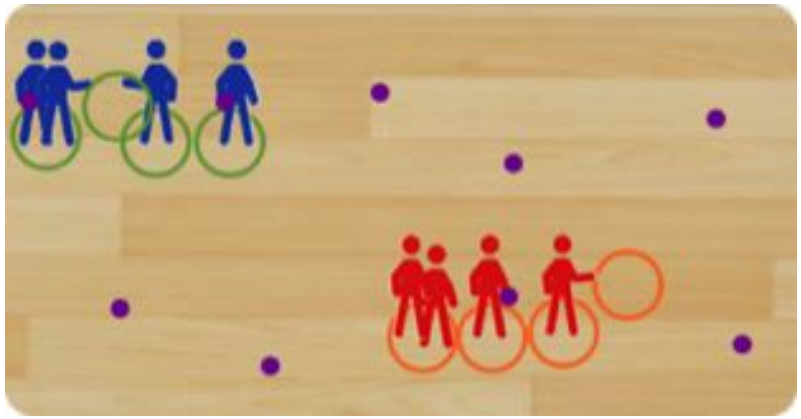
Appendix K

Year 2 HRA Lessons 1-6

AIM: To introduce students to the major muscle groups, and their role in generating movement through a variety of exercises and stretches.

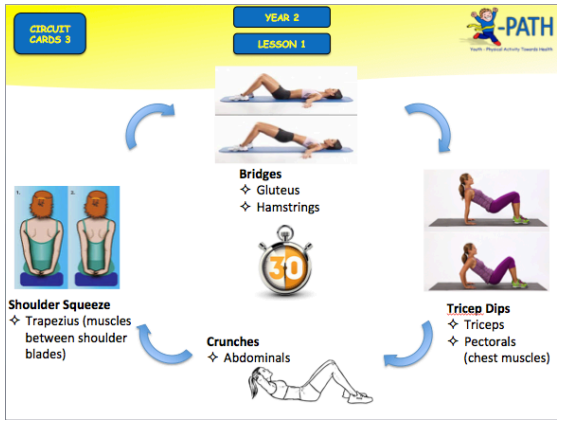
Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor: Execute and perform a variety of skills, movements and stretches specific to the major muscle groups of the body. **Cognitive** Identify the major muscle groups, and explain their role in everyday movements (e.g. tying shoes). Identify different ways to be physically active- focus on specific muscles and 'keep them working' - *use it or lose it* **Affective** Work as part of a team, creating movement solutions to challenges and agreed team responses to Qs.	**Introduction (5 minutes)** Brief discussion on the role of the major muscle groups (*digital resource/ PPT*) in the body. Focus on 'Use it or lose it' message. Quick test: students squat, 2 feet flat on the floor & stand back up unaided. Who can do this? (*As babies all students could do this-lost it: lack of practice*). Solution: physical activity (PA) **Warm-Up (10 minutes)** **Caterpillar, Caterpillar:** Use different body parts to move from one end of the hall to the next. Teacher calls out body part students must use to cross the hall & students cannot step outside of the hoops as they proceed towards the end of the hall. Progression: collect objects/ reduce number of hoops. **Development Stage 1 (20 minutes)** **Modified Circuits for major muscle groups:** Students identify the functions of muscles in the body through targeted circuit stations (30 sec on, 15 sec off, etc.)- see digital circuit cards (PPT) **Development Stage 2 (15 minutes)** **Muscle Group Obstacle Course:** Set specific tasks relating to the major muscles of the body which students must accomplish (e.g. crawling along the floor using the gluteus, quadriceps and biceps etc.) **Cool-Down/Debrief (10 minutes)** ***Simon Says Stretch Game:*** Teacher says: *"Simon says stretch your..."* Students indirectly reflect on their content knowledge. Non-participants correct muscle location and postures.	**Introduction** Q & A on muscles, PPT digital resource. Look at specific movements (e.g.: muscles used in the legs when crouching, etc.) Promote moving more and sitting less as solution to improving muscle function. **Warm-Up** Groups of 4-5 (stay in group for lesson). 4 hula hoops per group. Use full length of sports hall. Following activity Q students on muscles located in body part. Q students; which movement was most difficult; do you use this muscle in everyday life/sport etc.? NB: training muscles through PA. **Development Stage 1** Students in groups, proceed to circuit activities during intervals. No equipment needed for activities. Stopwatch for teacher required. **Development Stage 2** Use the length of the sports hall/ pitch for this activity. Students in 4 groups. Hoops, cones and hurdles may be required (specific activities to be decided by the teacher) **Cool-down** Students work individually. Take home message - movement is key to muscle function; move well and move often or muscle function declines.	 **Assessment** **Teacher assessment** Questioning: previous knowledge of muscles Observation and feedback on circuit technique **Self-assessment** In cool-down activity: knowledge of muscles **Peer assessment** Observation of technique and stretches in development 2 and cool down

1. ***Warm-up:*** **Caterpillar Caterpillar**

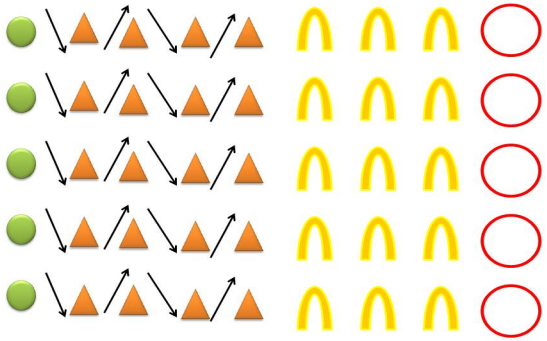


2. ***Development Stage 1*****: Modified Circuits**

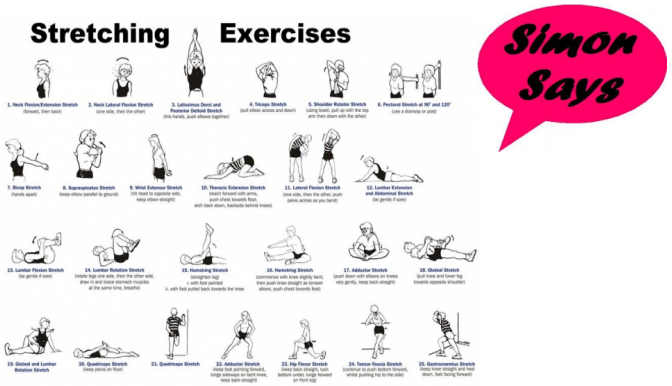
Students standing facing PowerPoint screen with individual gym mats



3. ***Development Stage 2:*** **Muscle Groups Obstacle Course**



4. ***Cool-down:*** **Simon Says**



AIM: To explore the principles of muscular strength and endurance using a variety of activities to guide students' knowledge and understanding.

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor Perform a variety of skills & movements which demonstrate MS & ME. **Cognitive** Explain the difference between MS & ME. Identify examples of when MS & ME are needed in everyday life activities. **Affective** Work collaboratively in groups, encourage & support peers. Show consideration for peers & be gracious in both success and defeat (pair competitions). Appreciate different ideas amongst peers.	**Introduction (5 minutes)** Recap lesson 1. Class brainstorm (PPT): discuss current MSE knowledge & benefits of improved MSE- explain link (**strength** to initiate movements - **endurance** needed for multiple efforts). **Warm-Up (10 minutes)** **Primal movement:** students line up across hall & move to opposite end using a variety of primal movements. Repetitive use of muscle builds ME & can be achieved through fun activities. **Development Stage 1 (15 minutes)** **Beanbag battle:** Pairs in push up position, beanbag in middle & try to grab it. *If student touches floor with any body part they lose a point.* Option: lunge position (alter rules accordingly). **Seesaw squats:** Pairs stand a few feet apart. Teacher starts music; students take turns performing squat (correct technique). Aim: not to get caught in a squat when the music stops (≈ every 30 secs). Students identify MS or ME activities. **Development Stage 2 (20 minutes)** **MSE bingo:** (PPT) teams 4/5. Roll 2 dice. Complete corresponding exercise to numbers rolled. 1st team to perform all exercises wins. **Cool-down/Debrief (10 minutes)** **Student led stretch:** in teams, student led stretch focusing on muscles worked during lesson; name, identify and stretch them. Return to brainstorm from start of lesson: recap/ what was learnt about MSE?	**Introduction** PPT for class brainstorm (teacher version available). **Warm-Up** Students line up across sports hall & move to the other side on teacher's command. **Development Stage 1** **Beanbag battle:** beanbag between two. Both in push up position, beanbag in middle. **Seesaw squats:** pairs face each other, music playing. Teacher stops the music regularly. **Development Stage 2** See PPT. Teams of 4-5 students. 2 dice needed per team. **Cool-down** Students stay in their groups in an area of the sports hall. Revise how ME & MS are independent concepts that complement each other & the importance in everyday activities. Use PPT from introduction if desired.	 **Assessment** **Teacher assessment** Diagnostic assessment of previous knowledge of muscular strength and muscular endurance. Assessment in group brainstorm activities ('What I knew at the start of the lesson...what I now know at the end') **Optional student self-assessment** Try the activity-does it get your heart rate up above 140 beats per minute-note your heart rate after the activity. Feeling 'burn' during exercise.

1. Warm-up: Primal Movement

Examples: *students move across the hall using movements such as beast reach, crab reach, bear crawl*

2. Development Stage 1: Fun Muscular Endurance Games

3. Development Stage 2: MSE Bingo

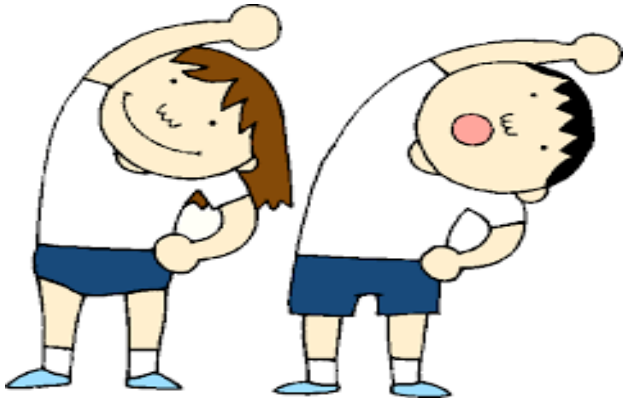
YEAR 2

LESSON 2

1- Bicep Curl Sets: 2 Reps: 6	**2- Squat** Sets: 2 Reps: 8	**3- Lunge** Sets: 2 Reps: 4 on each leg
4- Push-Ups Sets: 2 Reps: 6	**5- Crunches** Sets: 2 Reps: 12	**6- Pelvic Twists** Sets: 2 Reps: 12
7- Tricep Dips Sets: 2 Reps: 8	**8- Twisting Curl-Ups** Sets: 2 Reps: 10	**9- Calf Raises** Sets: 2 Reps: 6
10- Back Extensions Sets: 2 Reps: 8	**11- Wall Sit** Sets: 2 Reps: 15 seconds	**12- Bridge** Sets: 2 Reps: 15 seconds

*You must complete each of the following. If you roll the same number again you **have** to complete another set of reps before getting another roll of the dice. Once you have completed all exercises call **BINGO**!*

4. Cool-down: Student-Led Stretch

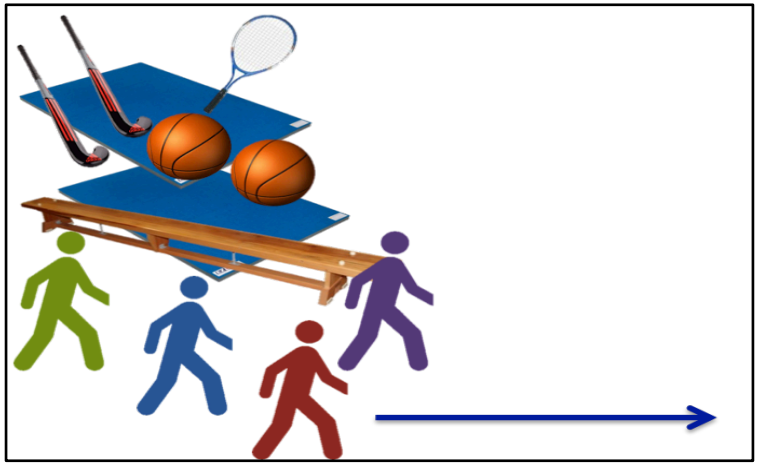


Aim: To identify healthy and unhealthy food choices, and the relationship of food fuelling exercise, through various engaging activities.

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor Perform a range of exercises with correct form and move in a variety of ways to develop FMS during development 2. **Cognitive** Identify the purpose of food for our bodies & the differences in food types- healthy and unhealthy choices as better fuel. **Affective** Work with teammates in competitive warm-up activity to have whole group successfully 'Cross the Swamp'.	**Introduction (5 minutes)** Recap lesson 2 (muscles). Class brainstorm (PPT): discuss the purpose of food for our bodies. **Warm-Up (10 minutes)** **Cross the Swamp: explain input & output.** 1: each team must cross the hall using just the mats & cannot touch the floor. 2: each team must cross with mats & equipment (e.g.: tennis rackets, balls, hockey sticks, etc.). First team across wins. Link the challenge of transporting equipment to carrying extra body weight. **Development Stage 1 (30 minutes)** **Energy in, Energy out:** Students pick some activities listed and carry them out for 10 minute blocks. Groups to remember 3 activities completed. After 30 mins, calculate total calorie burn (see '*calories used*' column). Raise student awareness of the effect of consuming excess calories in 'junk food'. **Development Stage 2 (10 minutes)** **Traffic Lights:** Give examples of healthy & unhealthy foods and have students decide whether they are in the green, yellow or red category (run to zone). Students explain their decision. Variation: change activity to develop FMS (running, hopping, skipping to each zone) or make it competitive. **Cool-down/Debrief (5 minutes)** **Student led stretch:** student led stretch focusing on muscles use during lesson. Discuss purpose of food & type of food during cool-down.	**Introduction** Discuss the purpose of food for our bodies and why it is necessary to live (*gives energy, delays fatigue, improves concentration, fuels activities, builds bones and muscles, provides nutrients to prevent illness, needed for nerve function, human requirements*). **Warm-Up** Teams of 4/5 students. 2 gymnastics mats per team. Additional equipment may be required for round 2. **Development Stage 1** Students in pairs/ groups of 3. Display PPT digital resource to show students how energy is used in the body during physical activity. Decide what activities to set up in areas of the hall & organise all equipment required for each zone. Inform students when each 10 minute period has passed. **Development Stage 2** Teams of 4/5 students. Use PPT digital resource. Identify 3 zones in the PE hall- red, yellow & green (red- eat occasionally, yellow- sometimes, green- eat plenty of these!). **Cool-down** Students in their teams, identify muscles and stretches.	 **Assessment** **Teacher assessment** Assessment in group brainstorm activity at the beginning of the lesson (The purpose of food for our bodies). Oral assessment during cool-down to examine student learning during the lesson. **Student self-assessment** Traffic Lights activity: understanding of food groups and healthy/ unhealthy foods

1. Warm-up: Cross the Swamp

Teams of 4-5 students must cross the hall with all of their equipment without touching the ground



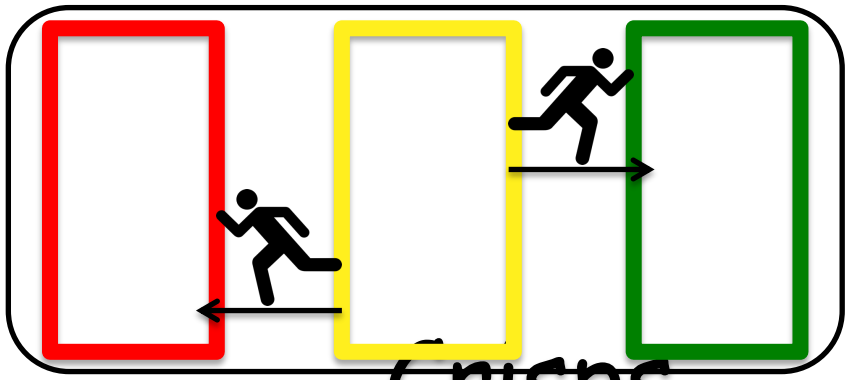
2. Development Stage 1: Energy in, Energy out

ENERGY IN, ENERGY OUT

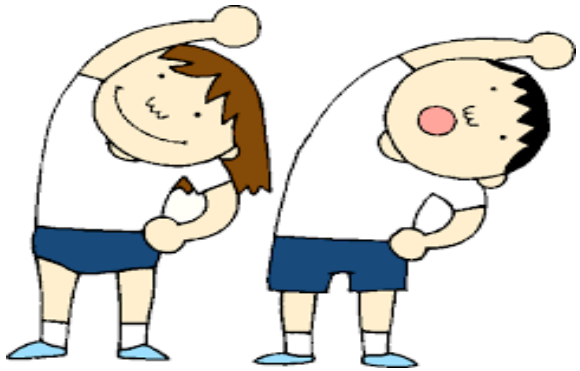
	Calories burned in 10 minutes	Minutes of activity	How many calories I burned
Light activities			
Slow walk around hall	23		
Throw & catch a ball	16		
Moderate-vigorous activities			
Moderate walk around hall	29		
Badminton rally medium effort	36		
Fast walk around hall	37		
Aerobics light effort	40		
Skipping jump rope	49		
Step aerobics medium effort (low step)	50		
Basketball shooting hoops	57		
Step aerobics hard effort (high step)	68		
Total calories used in 30 minutes=			

3. Development Stage 2: Traffic Lights

Students must run to the appropriate zone when a food is called by the teacher (last one or incorrect zone= eliminated)



4. Cool-down: Student-Led Stretch



Rolls

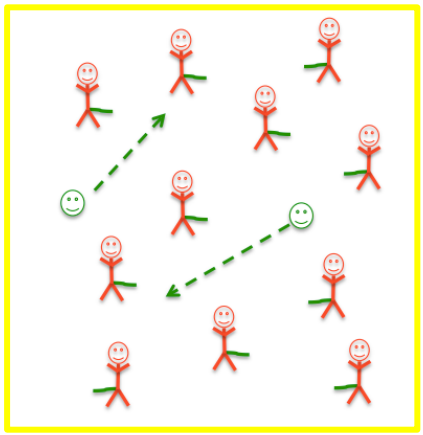
Fruit

Aim: To recognise the positive effect of physical activity on mood & energy levels, following MVPA in a motivational climate.

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor Take part in vigorous activity through running & dodging. Utilise & improve hand-eye co-ordination in throwing & catching under pressure. **Cognitive** Identify the effect of exercise on mood & feelings. Recognise the importance of warm-up and cool-down. **Affective** Work collaboratively with teammates in main activity, to successfully capture opponents' flags & in cool-down activity.	**Introduction (5 minutes)** Recap lesson 3 (food & energy for exercise). Students complete pre-activity questionnaire in PA Journal. **Warm-Up (10 minutes)** **Cat & Mouse (emphasize principles of warm-up):** 2 students are cats. Mice wear a tag rugby belt with 1 tag, or a bib in the band of their trousers. Cats catch mice by grabbing their tag & collect as many tags as possible in 30 secs. Cat with most tags is the winner. **Development Stage 1 (25 minutes)** **Capture the Flag:** Aim: to collect all the bibs. When you cross into opponent's ½ of the court, you can be tagged & sent to jail. Teammates can free their fellow players by getting to opponent's jail and tagging their teammates. Students coordinate speed, decision-making and teamwork to successfully capture flags from their opponents and defend their area. See www.physedgames.com for more. **Development Stage 2 (10 minutes)** **The Exercise Effect (post-activity column):** complete column 2 & reflect on / discuss results. **Cool-down/Debrief (10 minutes)** **Speed Ball:** Each team forms a circle & pass a ball to one another- you cannot pass to the person either side of you & each student can only be passed to once. Once sequence is established, introduce a 2nd, then 3rd and 4th ball, following the sequence. Teams race. **Teacher led stretch:** discuss student feelings & mood following exercise & link positive mood with PA.	**Introduction** Student PA journals and pens required. Individual task. **Warm-Up** 2 students are 'cats', all other students require tag rugby belts or bibs. Change the chasers/cats every 30 seconds. Principles of warm-up: raise HR, body temp. Prepare muscles and joints for MVPA. **Development Stage 1** 2 teams, using ½ court each with 2 jail areas & 1 flag area, to store team flags/bibs (see diagram). Minimise jail-time for students by calling '*jail break*' to release all students from jail. **Development Stage 2** Students complete column 2 on the questionnaire in their PA Journal. Journals and pens needed. Discuss differing answers & about mental health benefits/ anxiety & stress reduction. **Cool-down** 2 teams, 4 tennis balls per team. Students focus on hand-eye co-ordination through warp-speed challenge. Stretch major muscle groups and reflect on learning. Principles of cool-down: reduce risk of injury, increase flexibility, increase mobility, safely lower body temperature & HR.	 **Assessment** **Teacher assessment** Through observing student engagement in questionnaire activity, participation in various challenges & execution of FMS. **Peer assessment** During activities, students will observe their peers' participation both as teammates and opponents. **Student self-assessment** Individual student questionnaire pre and post activity.

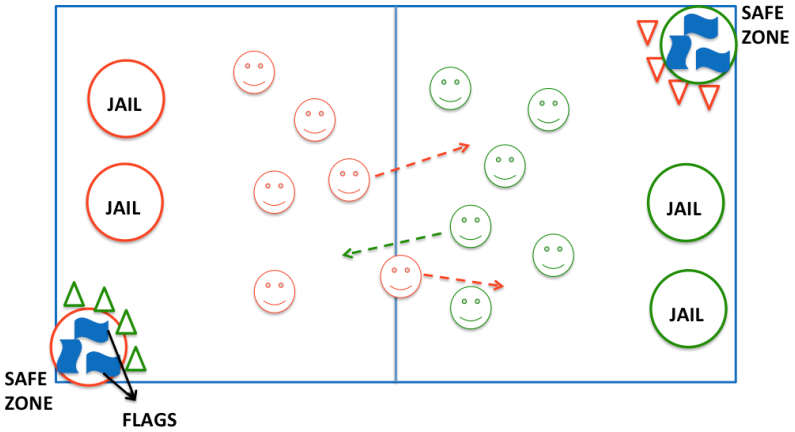
1. Warm-up: Cat & Mouse

Cats have 60 seconds to catch as many tags from mice as possible. larger diagram in digital resources)



2. Development Stage 1: Capture the Flag

Students work in 2 teams to collect flags from opponents without being caught (see



3. Development Stage 2: Exercise Effect Questionnaire

To be completed before and after exercise & compare results side of you & every student being passed to once

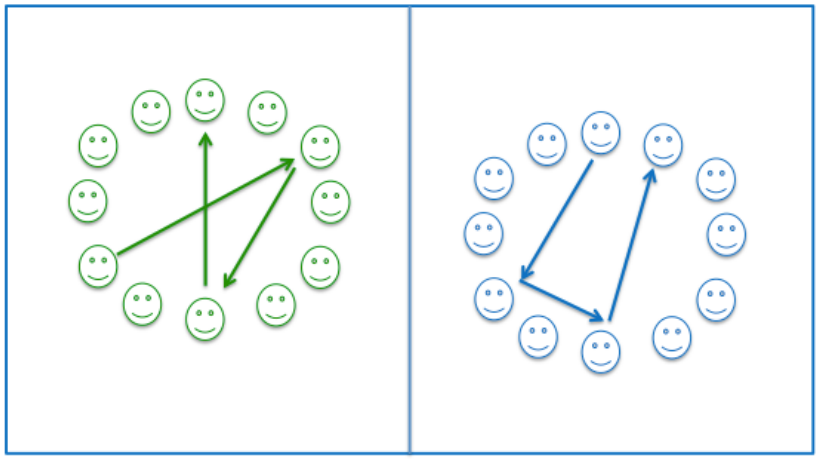
The Exercise Effect

Fill out the questionnaire below before and after the period of exercise
Put a tick in the appropriate box that **best describes** how you are feeling at that moment

		Not at all		A little		Moderately		Quite a lot		Extremely	
	Feelings	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	Panicky										
2	Lively										
3	Confused										
4	Worn Out										
5	Dispirited										
6	Downhearted										
7	Annoyed										
8	Exhausted										
9	Mixed-Up										
10	Sleepy										
11	Bitter										
12	Unhappy										
13	Anxious										
14	Worried										
15	Energetic										
16	Miserable										
17	Muddled										
18	Nervous										
19	Angry										
20	Active										
21	Tired										
22	Bad Tempered										
23	Alert										
24	Uncertain										

4. Cool-down: Speed Ball

Create a sequence of passing to teammates without passing to person either

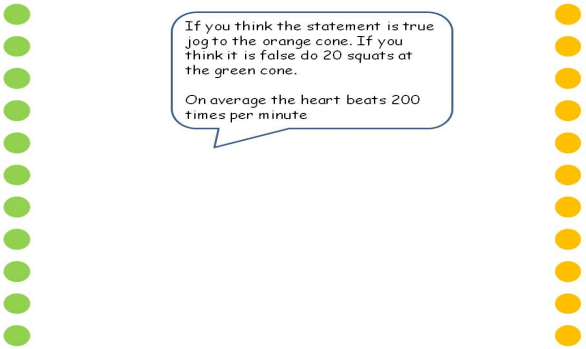


Aim: To assess the effect of exercise on both breathing rate and heart rate in the context of improving fitness levels.

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor Focus on FMS during warm-up activities, take part in vigorous activity through circuit exercises & in team activity. **Cognitive** Learn about and identify the pathways of the heart **Affective** Collaboration with teammates in activities & listen to peers during oral feedback and brainstorming activities.	**Introduction (5 minutes)** Recap lesson 4 (health benefits of PA). Introduce lesson focus of Health Related Fitness (HRF). Students check HR and breathing rate at rest. **Warm-Up (10 minutes)** **Hearty Facts:** Students line up at end line. Teacher gives command 'If you think statement is true then jog to end of hall, if you think it is false stay on the end line & do 20 jumping jacks. Teacher may change the activities. Discuss answers. **Development Stage 1 (20 minutes)** **Blood Flow Circuit: Explain blood flow through the heart (use digital resource).** Students do circuit (students *are* the blood & *flow* through the circuit), identifying each heart area as they progress around the circuit. Ask students where they are and where they are going to each time they move. Check HR. **Development Stage 2 (20 minutes)** **Rob the Nest:** Check breathing before and after your turn, remember changes noticed (up / down). Students 'rob' bibs from nests to have the highest number. Bibs can be stolen from opponents & can't be defended. One bib/runner. One runner/team at a time. **Cool-down/Debrief (5 minutes)** **Student led stretch:** Student led stretch focusing on muscles worked during lesson. Discuss the effect if exercise on the heart / breathing & benefits of sport & PE.	**Introduction** Discuss health benefits of PA and verbally brainstorm ideas. Use stopwatch for HR and breathing check. **Warm-Up** Teacher PPT (digital resource). Students move to appropriate end of the hall following each statement. **Development Stage 1** Use PPT to help explain the basic structure of the heart. Set up 6 stations with 6 exercises, corresponding with circulatory system (see digital resource). Use red cones for oxygenated areas & blue for deoxygenated. Play music to increase motivation. Use stopwatch. **Development Stage 2** 4 teams, each at a corner of the hall (their 'nest'). Bibs in the centre of the court. Students must sprint and turn quickly to snatch a bib from the centre nest, or the nest of an opposing team. **Cool-down** Students in teams, identify muscles and stretches, providing feedback to teacher & peers about the effect of PA on the body & fitness levels / how to improve.	 **Assessment** **Teacher assessment** Through oral questioning and observation of student engagement in blood flow circuit to gage comprehension. **Peer assessment** During student feedback and observation of technique during student-led stretching

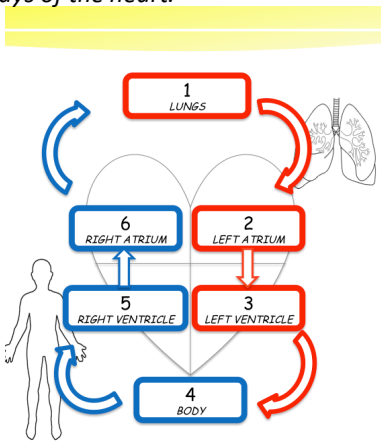
1. *Warm-Up:* Hearty Facts

Teacher decides activity for if you think the answer is true & a different activity for if you think the answer is false. Teacher calls out statement & students individually decide whether it is T/F & perform corresponding activity. Change activities for each statement.



2. *Development Stage 1:* Blood Flow Circuit

Students work in small groups to progress around the circuit, following the pathways of the heart.

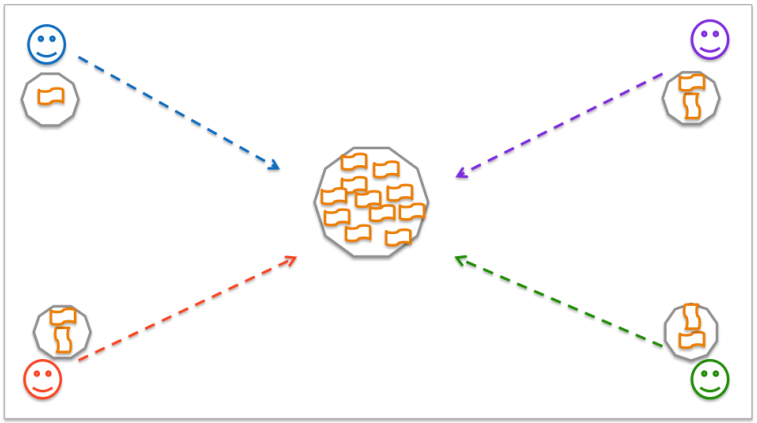


Healthy Heart Circuit

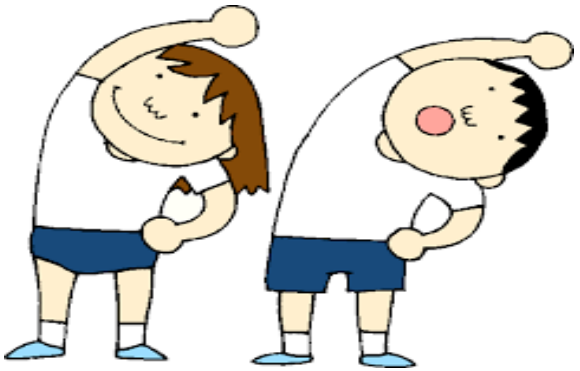
Choose 6 exercises for your circuit and follow the 'pathways of the heart'
Regularly ask students where they are in relation to the diagram (left) and ask if the blood there is oxygenated or deoxygenated

Mountain Climbers	Ladders
Squat Jumps	Hurdles
Kick Backs	Skipping
Jumping Jacks	Jump Lunges
20m Zig Zag Shuttle	Lateral Jumps
Box Jumps	Side Squat Jumps
High Knees	Step-Ups
Burpees	Bounding Jumps
Push-Up Burpees	Vertical Jumps
Tuck Jumps	Sprinter Sit-Ups

3. *Development Stage 2:* Rob the Nest



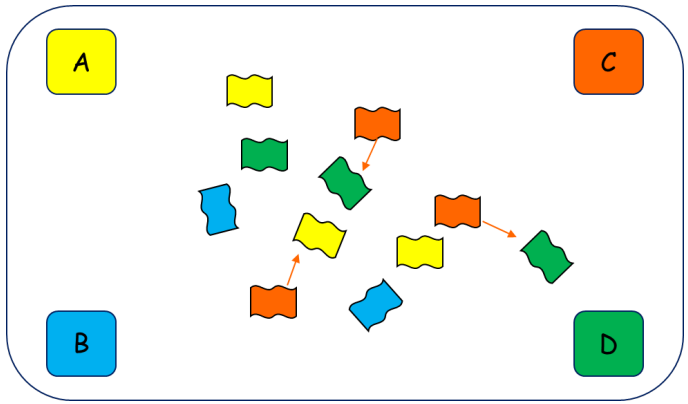
4. *Cool-down:* Student-Led Stretch



Aim: To encourage physical activity in a motivational environment & effectively revise year 2 lesson content through written assessment

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor Perform exercises in development 1 with careful and mindful movement & raise heart-rate in competitive activities & games. **Cognitive** Fully understand the blood-flow pathway of the cardiovascular system through revision & assessment. **Affective** Work effectively with teammates through all team activities.	**Introduction (5 minutes)** Oral recap of lessons 1-5 (major muscles in the body, ME/MS, food, benefits of PA, cardiovascular system) **Warm-Up (5 minutes)** **Corner tag:** On the whistle, the 1st team tries to tag everyone. Once tagged, you return to your base & check HR. Each team gets a turn & fastest team wins. **Development Stage 1 (15 minutes)** **Fit Dice:** On 'GO', 1st student runs, rolls their team dice & runs back to team. They complete the associated activity (see L6 resource) until whistle blows for next go (~20 secs). Can use pedometers to make it competitive (most steps wins). Focus on correct form and quality of movement. **Development Stage 2 (15 minutes)** **Centre-Circle Chase:** When teacher calls A (or B), A players run around the circle (clockwise) until they return to their partner, crawl under their partner's legs and into centre to collect a bib. Take 1 bib out of the centre each round. Team without a bib are 'out'. Students must be quick to react to their letter being called (A or B), turn & sprint around the circle, crawl under partners' legs & collect a bib. Change FMS each time (e.g.: running, hopping, skipping, etc.) **Cool-down (5 minutes)** Teacher-led stretching & discussion/ recap **Assessment & debrief (15 minutes)** Physical activity journals: Y2 lesson 6 assessment	**Introduction** Students share what they have learned over lessons 1-5 (prompts: major muscles in the body, ME/MS, food, benefits of PA, cardiovascular system). **Warm-Up** 4 teams wearing bibs, each in a corner of the hall. Teacher whistle. **Development Stage 1** See digital resource. 4 teams line up on the end-line (or in 4 separate corners of the hall). Team dice on ½ way line (or centre of hall). Teacher whistle & pedometers. **Development Stage 2** Students stand in a circle & become partners with the student next to them (A&B). Bibs placed in the centre of the circle, slightly spread apart to avoid collisions (1 bib less than the number of pairs). **Cool-down** Students remain in the circle from dev.2, stretch & have oral revision lead by teacher. **Assessment & debrief** Students sit alone, are handed their physical activity journal & pen and complete Y2 lesson 6 assessment. Teacher collects & corrects each of these after class.	 **Assessment** **Teacher assessment** Through oral questioning during revision & written through physical activity journal assessment. **Self-assessment** Students recognise their ability to understand the content covered in year 2 lessons through completing the written assessment tasks.

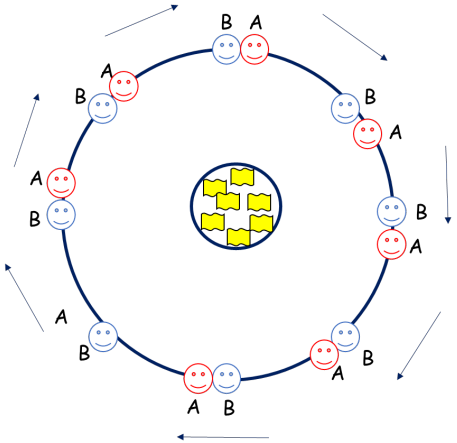
1. *Warm-Up:* **Corner Tag**



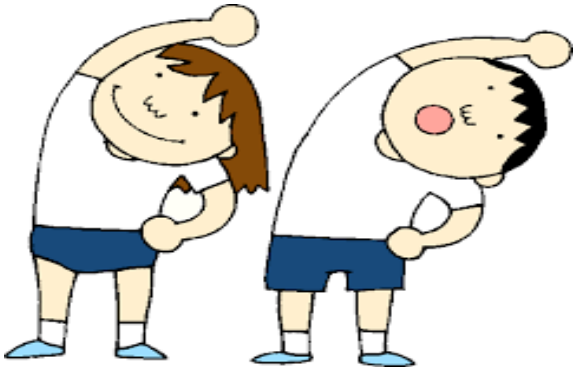
2. *Development Stage 1:* **Fit Dice**

1	HIGH KNEES
2	SQUAT JUMPS
3	PUSH-UPS
4	PLANK
5	ARM CIRCLES
6	JUMPING JACKS

3. *Development Stage 2:* **Centre-Circle Chase**



4. *Cool-down:* **Teacher-Led Stretch & Assessment**



Appendix L

Year 2 Lesson Resources

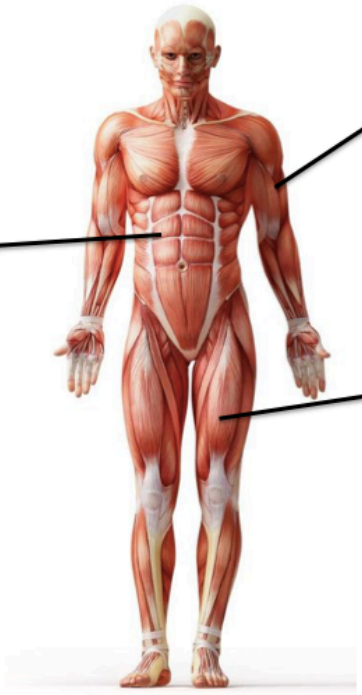
YEAR 2

LESSON 1

YEAR 2

LESSON 1

Muscles in the Body



Biceps

What do I need these for? Lifting, pulling

Exercises: bicep curls

Abdominals ("*Abs*")

What do I need these for? Sitting up, postural alignment

Exercises: crunches, leg raises

Quadriceps ("*Quads*")

What do I need these for? Climbing stairs, walking, standing up

Exercises: squats, lunges, leg press

DCU

YEAR 2

LESSON 1

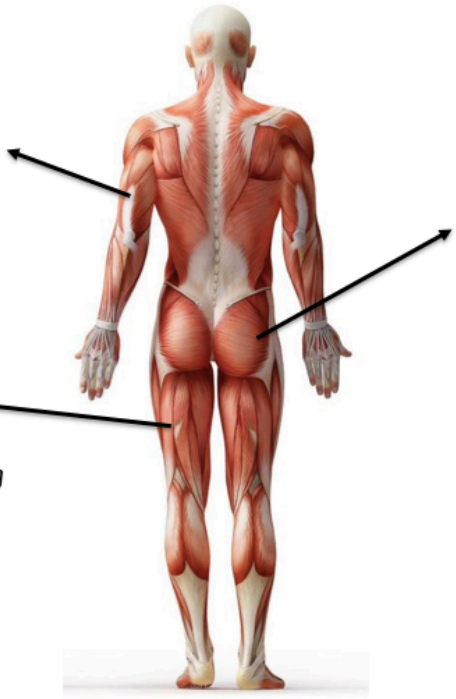
-PATH
Youth - Physical Activity Towards Health

Muscles in the Body

Triceps

What do I need these for? Pushing

Exercises: push-ups, tricep dips



Gluteus Maximus ("Glutes")

What do I need these for?
Climbing stairs, walking, standing

Exercises: squats, leg press

Hamstrings

What do I need these for? Walking

Exercises: squats, lunges, leg extensions, leg curls

DCU

YEAR 2

LESSON 1

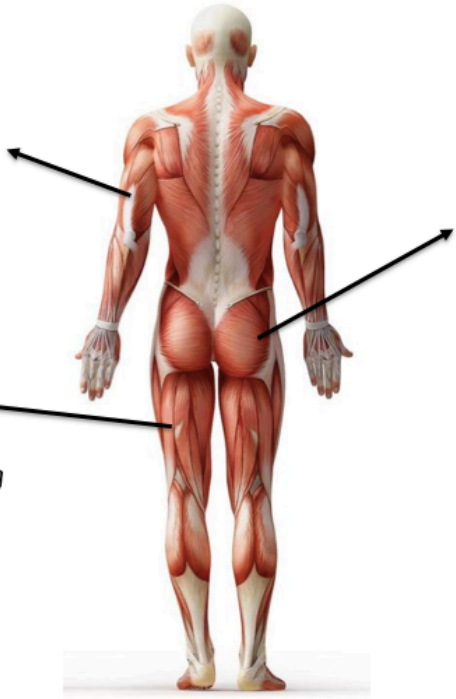
-PATH
Youth - Physical Activity Towards Health

Muscles in the Body

Triceps

What do I need these for? Pushing

Exercises: push-ups, tricep dips



Gluteus Maximus ("Glutes")

What do I need these for?
Climbing stairs, walking, standing

Exercises: squats, leg press

Hamstrings

What do I need these for? Walking

Exercises: squats, lunges, leg extensions, leg curls

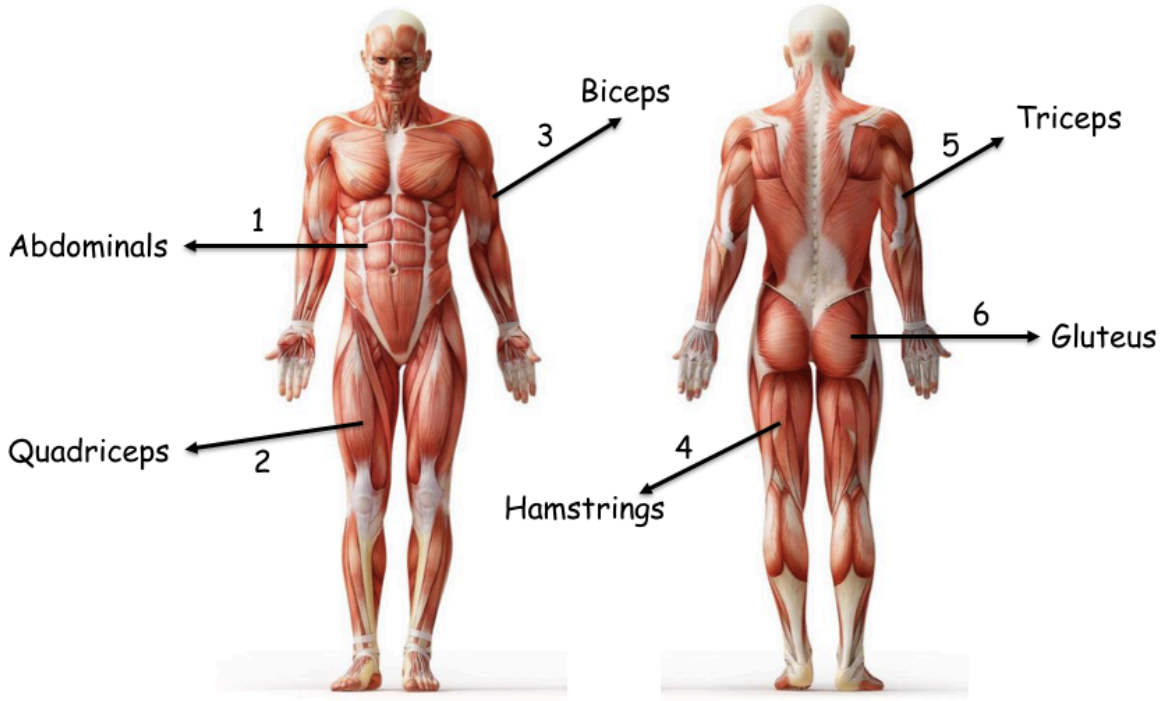
DCU

YEAR 2

LESSON 1

-PATH
Youth - Physical Activity Towards Health

Can you remember these muscles & their functions?



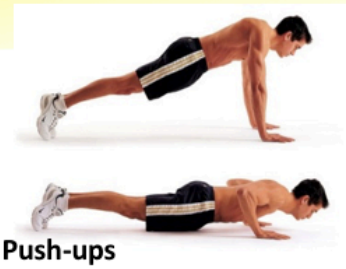
DCU

YEAR 2

LESSON 1

-PATH
Youth - Physical Activity Towards Health

CIRCUIT CARDS 1



Push-ups
- Pectorals (chest muscles)
- Triceps

Squats
- Quadriceps
- Hamstrings
- Gluteus
- Calves

Forward Lunges
- Quadriceps
- Hamstrings
- Gluteus

Pelvic Tilts
- Gluteus
- Hamstrings
- Abdominals

DCU

YEAR 2

LESSON 1

-PATH
Youth - Physical Activity Towards Health

CIRCUIT CARDS 2

Prone Leg Raises
- Gluteus
- Abdominals

Wall Sits
- Gluteus
- Quadriceps

Twisting Curl-Ups
- Obliques (side of torso)

Back Raises
- Erector Spinae (muscles along the spine)

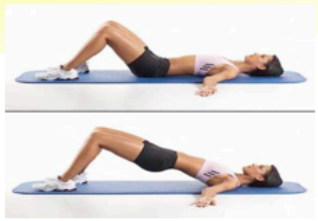
DCU

YEAR 2

LESSON 1

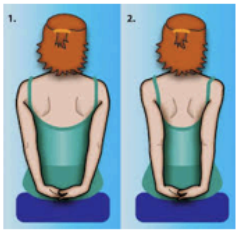
-PATH
Youth - Physical Activity Towards Health

CIRCUIT CARDS 3



Bridges
- Gluteus
- Hamstrings

Tricep Dips
- Triceps
- Pectorals (chest muscles)



Shoulder Squeeze
- Trapezius (muscles between shoulder blades)

Crunches
- Abdominals

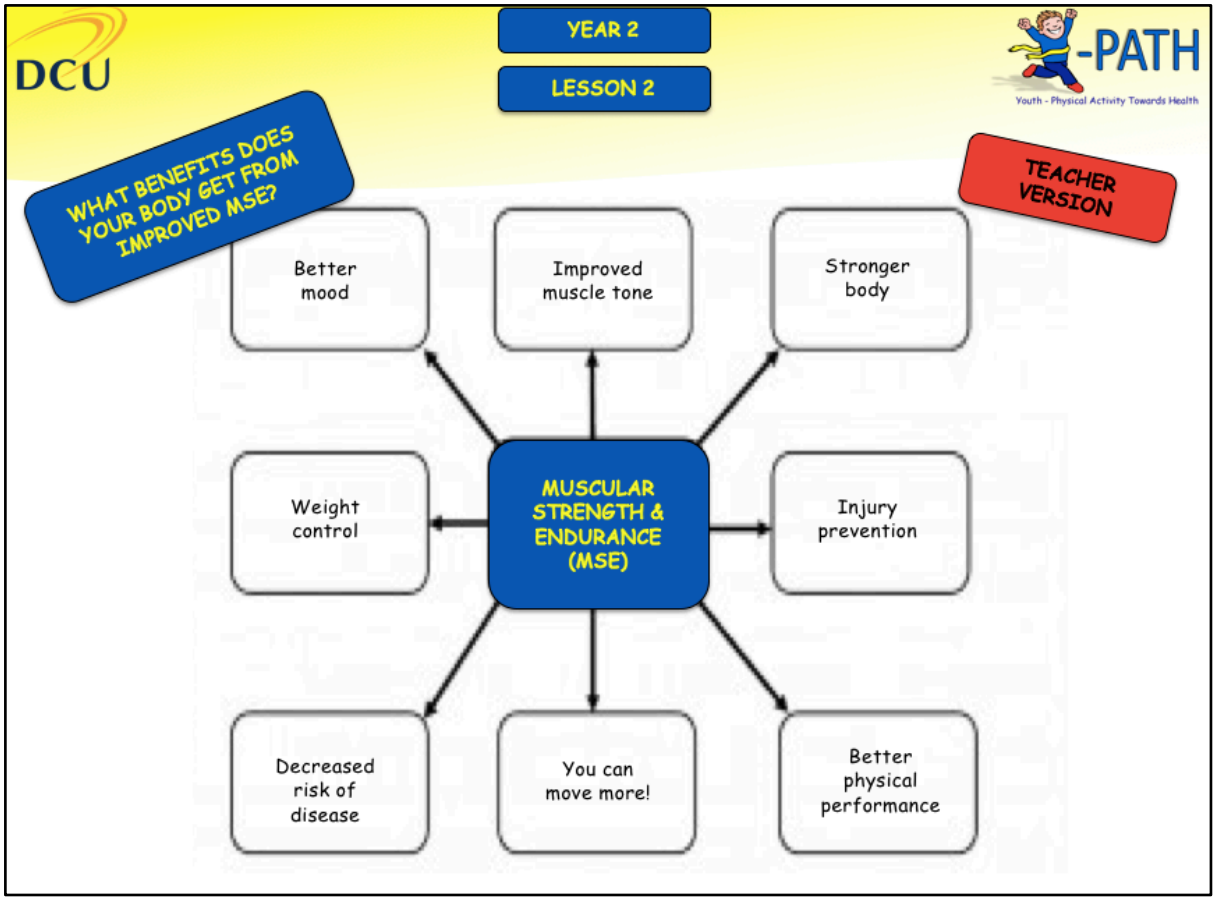
YEAR 2

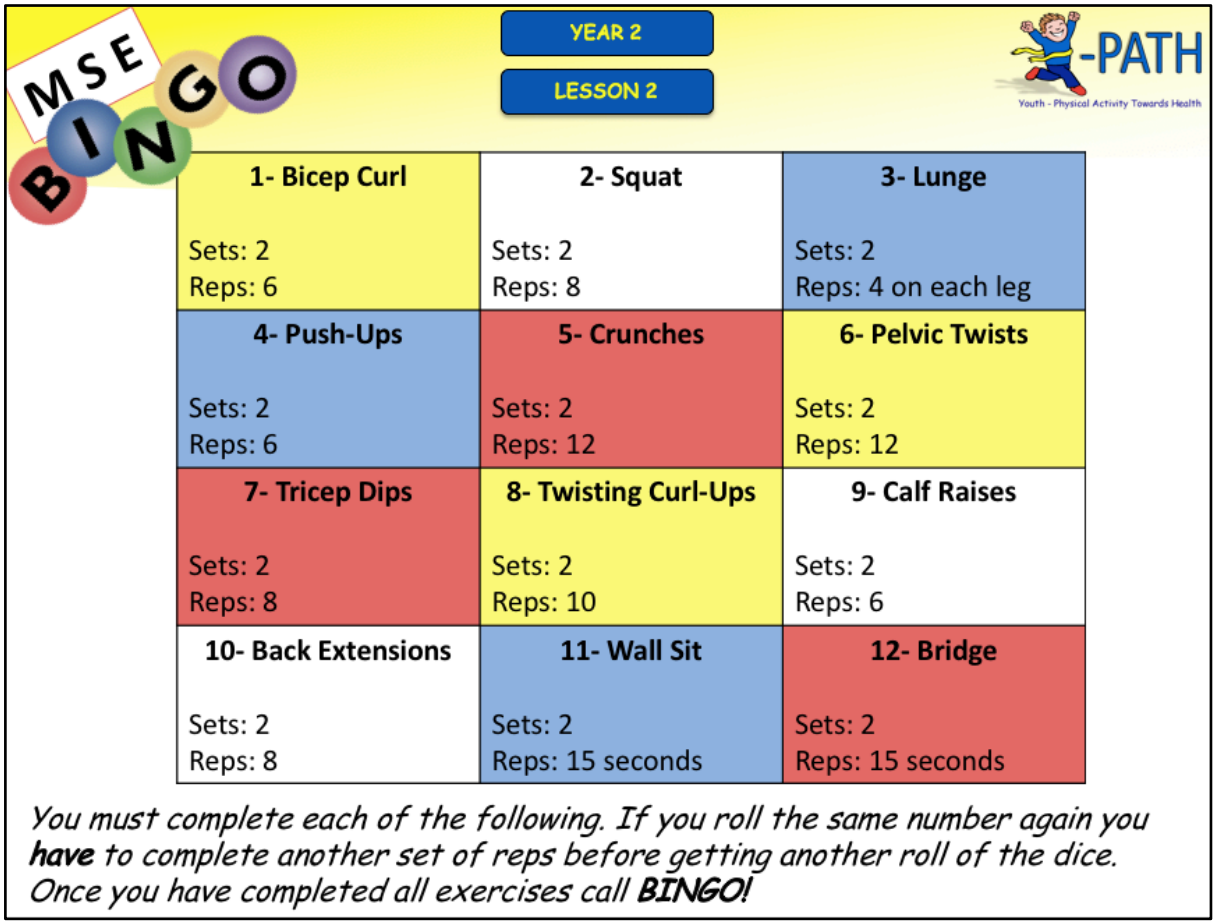
LESSON 2

YEAR 2

LESSON 2

WHAT BENEFITS DOES YOUR BODY GET FROM IMPROVED MSE?





1- Bicep Curl Sets: 2 Reps: 6	**2- Squat** Sets: 2 Reps: 8	**3- Lunge** Sets: 2 Reps: 4 on each leg
4- Push-Ups Sets: 2 Reps: 6	**5- Crunches** Sets: 2 Reps: 12	**6- Pelvic Twists** Sets: 2 Reps: 12
7- Tricep Dips Sets: 2 Reps: 8	**8- Twisting Curl-Ups** Sets: 2 Reps: 10	**9- Calf Raises** Sets: 2 Reps: 6
10- Back Extensions Sets: 2 Reps: 8	**11- Wall Sit** Sets: 2 Reps: 15 seconds	**12- Bridge** Sets: 2 Reps: 15 seconds

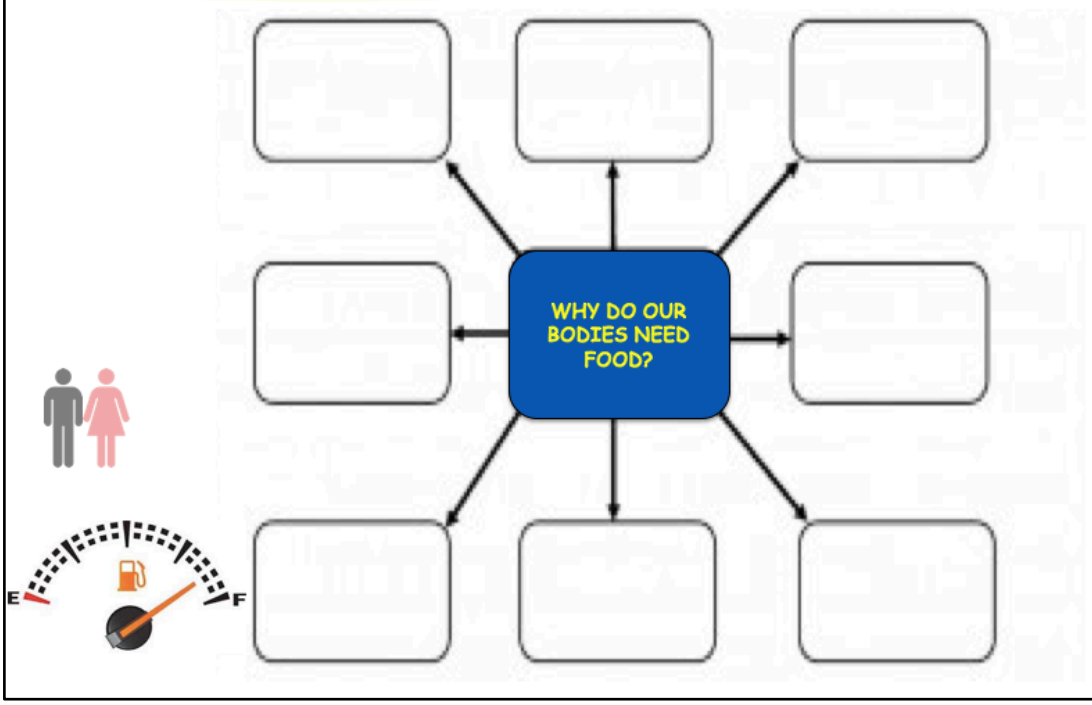
*You must complete each of the following. If you roll the same number again you **have** to complete another set of reps before getting another roll of the dice. Once you have completed all exercises call **BINGO!***

YEAR 2

LESSON 3

YEAR 2

LESSON 3



DCU

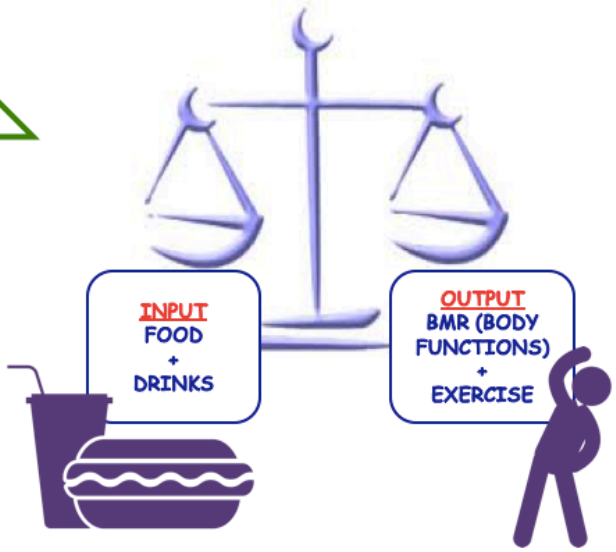
YEAR 2

LESSON 3

-PATH

Youth - Physical Activity Towards Health

MORE INPUT= WEIGHT GAIN



MORE OUTPUT= WEIGHT LOSS

DCU

YEAR 2

LESSON 3

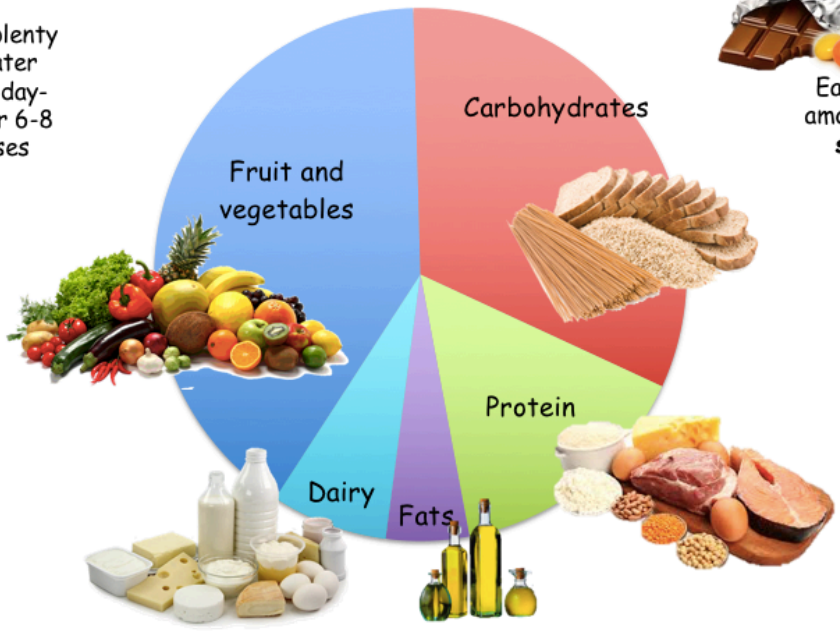
-PATH

Youth - Physical Activity Towards Health

My dinner plate

Drink plenty of water every day- aim for 6-8 glasses

Eat **small** amounts of **sugar**



YEAR 2

LESSON 3

-PATH
Youth - Physical Activity Towards Health

ENERGY IN, ENERGY OUT

	Calories burned in 10 minutes	Minutes of activity	How many calories I burned
Light activities			
Slow walk around hall	23		
Throw & catch a ball	16		
Moderate-vigorous activities			
Moderate walk around hall	29		
Badminton rally medium effort	36		
Fast walk around hall	37		
Aerobics light effort	40		
Skipping jump rope	49		
Step aerobics medium effort (low step)	50		
Basketball shooting hoops	57		
Step aerobics hard effort (high step)	68		
Total calories used in 30 minutes=			

YEAR 2

LESSON 3

-PATH
Youth - Physical Activity Towards Health

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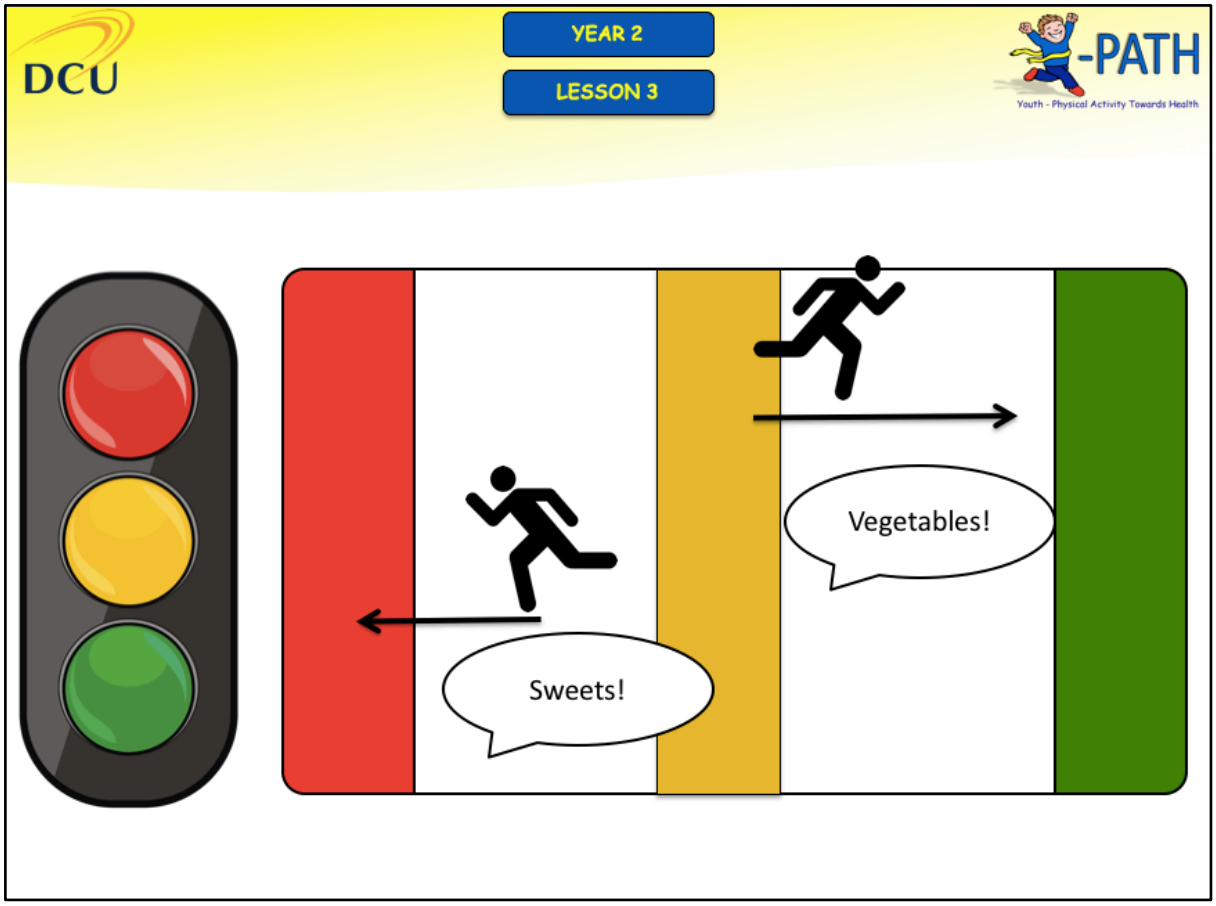
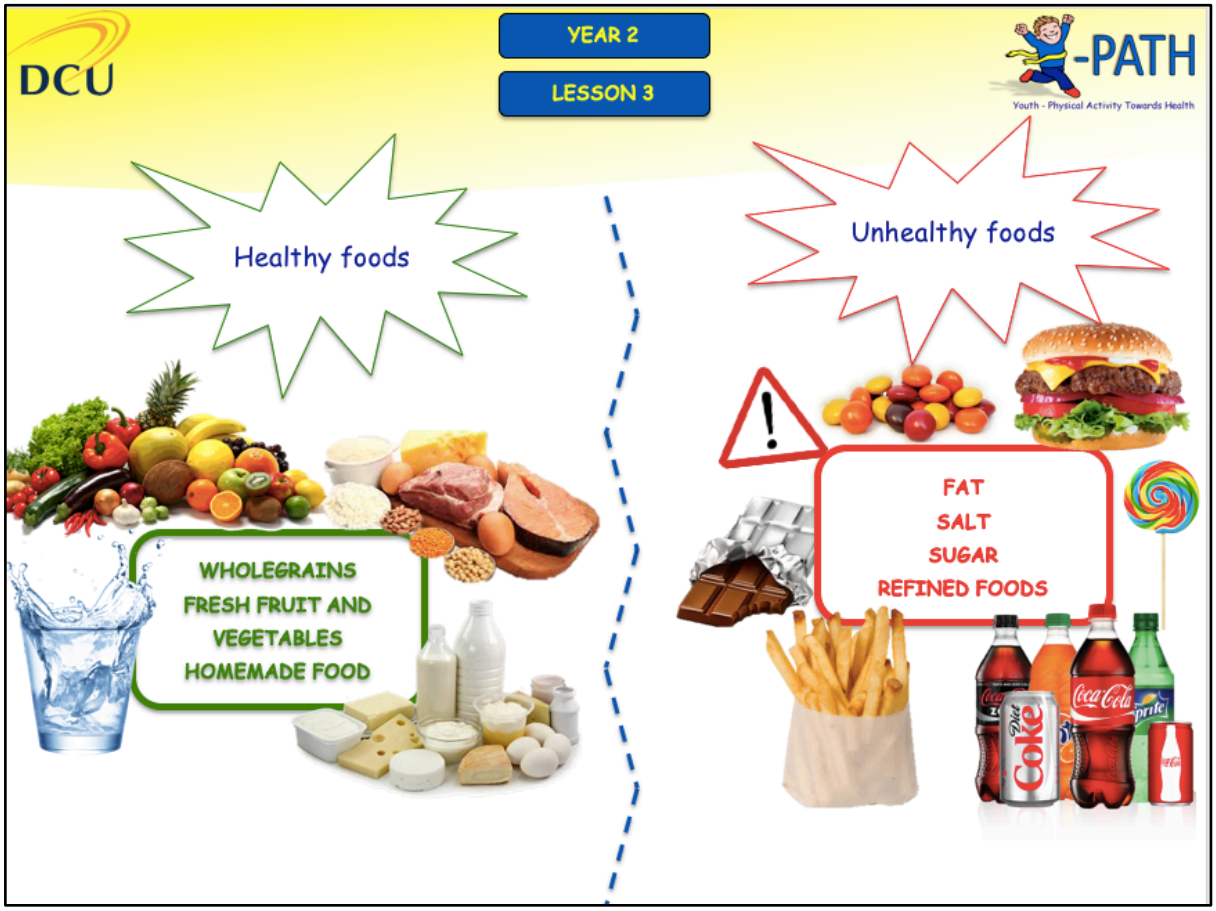

DCU
YEAR 2
LESSON 3
-PATH
Youth - Physical Activity Towards Health
Vegetables!
Sweets!


DCU
YEAR 2
LESSON 3
-PATH
Youth - Physical Activity Towards Health
Healthy foods
Unhealthy foods
WHOLEGRAINS
FRESH FRUIT AND
VEGETABLES
HOMEMADE FOOD
FAT
SALT
SUGAR
REFINED FOODS

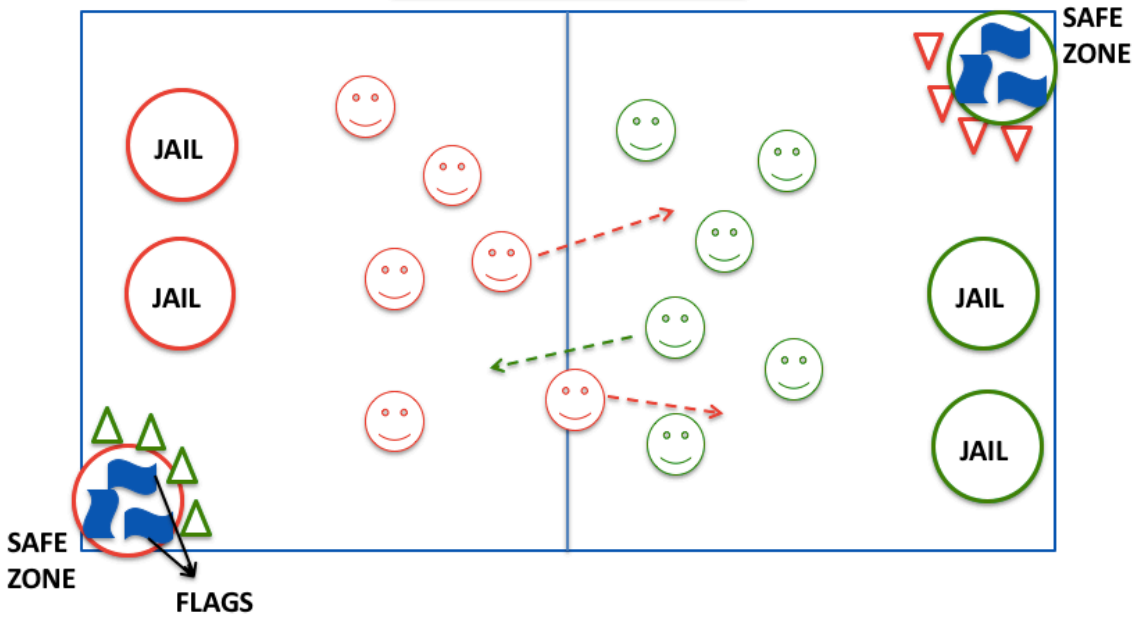
YEAR 2

LESSON 4

YEAR 2

LESSON 4

CAPTURE THE FLAG



YEAR 2

LESSON 5

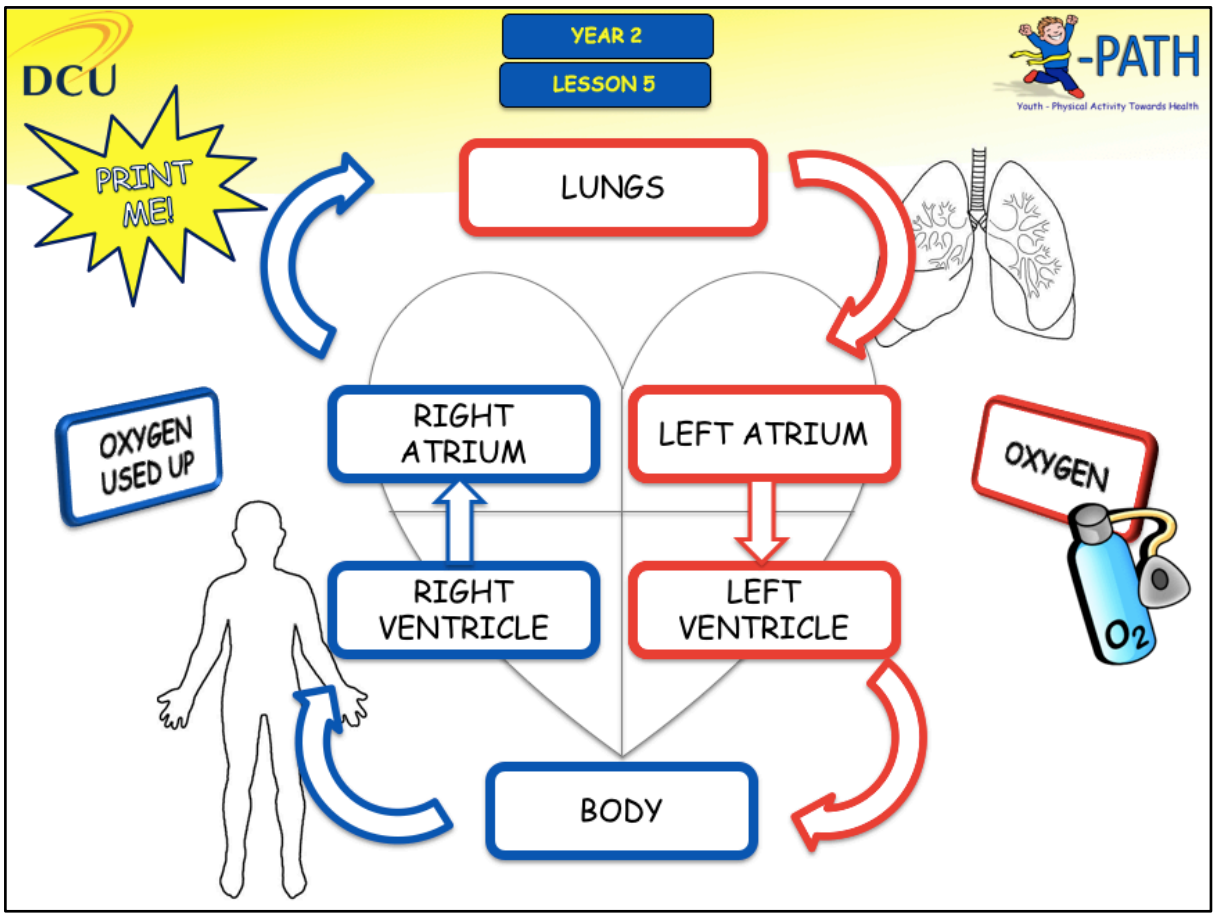
YEAR 2

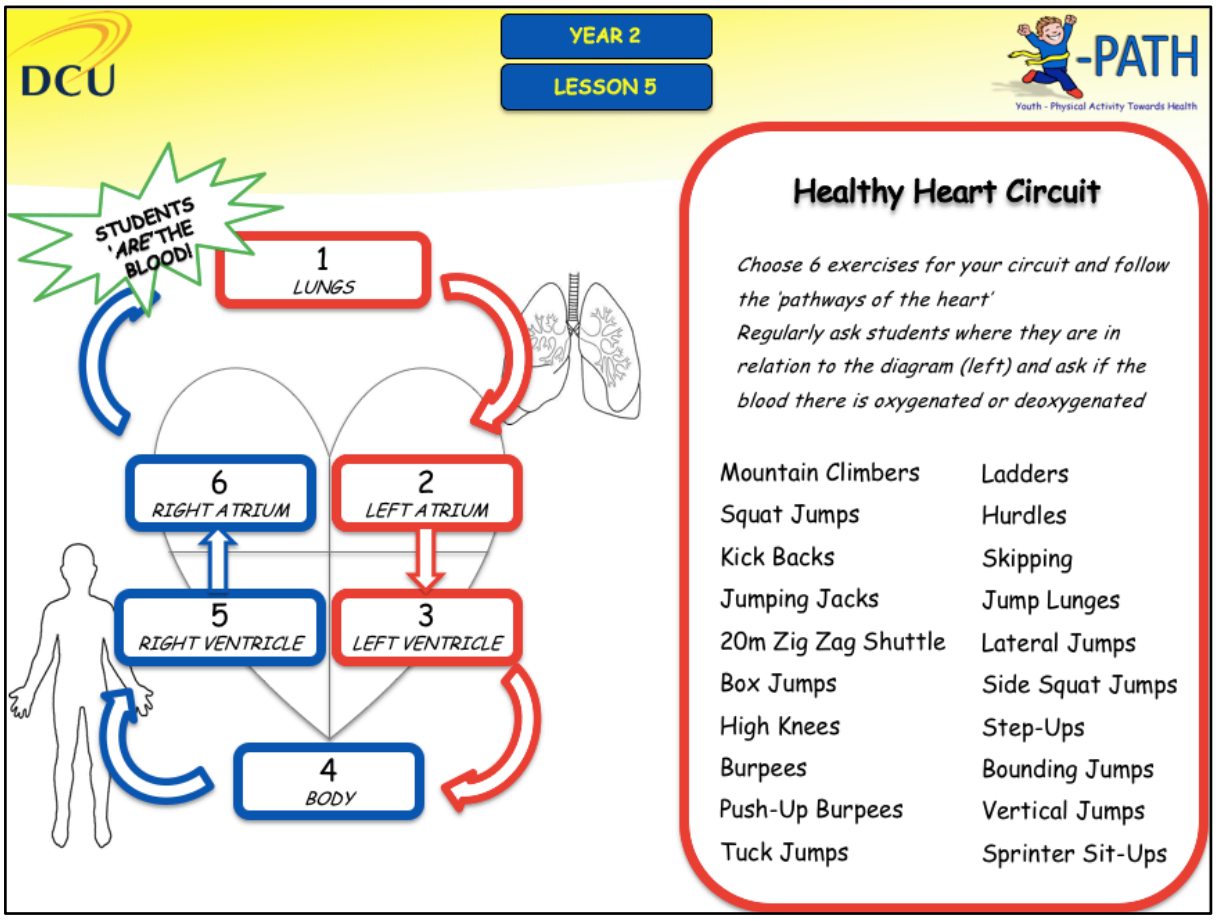
LESSON 5

PRINT ME!

Hearty Facts
Teacher Statement Sheet

1. The heart is a muscle. T
2. The heart is located a little to the right of the middle of your chest and is about the size of a melon. F *The heart is located a little to the left of the middle of your chest, and it's about the size of your fist.*
3. The components of the cardiovascular system are the heart, the blood and the blood vessels. T
4. A normal resting heart rate is between 60 and 80 beats per minute. T
5. The heart rate increases during exercise because the muscles require less oxygen and fewer nutrients to function properly. F *The heart rate increases during exercise because exercise makes the body work harder, which means that the muscles require MORE oxygen and MORE nutrients to function properly.*
6. The three main blood vessels are the arteries, veins and capillaries. T
7. The circulatory system only has one function; transport i.e. moving things round the body in the bloodstream, like oxygen, nutrients, water and waste. F *The circulatory system has THREE functions; transport, body temperature control and protection (fight diseases).*
8. The circulatory system is made up of two circuits; the systemic circuit and pulmonary circuit. T
9. The two circuit system of the heart means that oxygenated (oxygen rich) and deoxygenated (depleted of oxygen) blood do not mix. T
10. Blood leaving the right side of the heart is oxygenated. F *Deoxygenated blood leaves the right side of the heart via the pulmonary artery and goes to the lungs where it is oxygenated.*


DCU
YEAR 2
LESSON 5
-PATH
Youth - Physical Activity Towards Health
PRINT ME!
LUNGS
OXYGEN USED UP
RIGHT ATRIUM
LEFT ATRIUM
OXYGEN
RIGHT VENTRICLE
LEFT VENTRICLE
O2
BODY


DCU
YEAR 2
LESSON 5
-PATH
Youth - Physical Activity Towards Health
STUDENTS 'ARE' THE BLOOD!
1 LUNGS
6 RIGHT ATRIUM
2 LEFT ATRIUM
5 RIGHT VENTRICLE
3 LEFT VENTRICLE
4 BODY
Healthy Heart Circuit
Choose 6 exercises for your circuit and follow the 'pathways of the heart'
Regularly ask students where they are in relation to the diagram (left) and ask if the blood there is oxygenated or deoxygenated
Mountain Climbers
Squat Jumps
Kick Backs
Jumping Jacks
20m Zig Zag Shuttle
Box Jumps
High Knees
Burpees
Push-Up Burpees
Tuck Jumps
Ladders
Hurdles
Skipping
Jump Lunges
Lateral Jumps
Side Squat Jumps
Step-Ups
Bounding Jumps
Vertical Jumps
Sprinter Sit-Ups

DCU

YEAR 2

-PATH
Youth - Physical Activity Towards Health

LESSON 6

DCU

YEAR 2

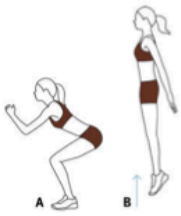
LESSON 6

-PATH
Youth - Physical Activity Towards Health

FITNESS DICE

ROLL 2 DICE, RUN BACK TO TEAM AND COMPLETE THE ASSOSIATED ACTIVITY

1	HIGH KNEES
2	SQUAT JUMPS
3	PUSH-UPS
4	PLANK
5	ARM CIRCLES
6	JUMPING JACKS



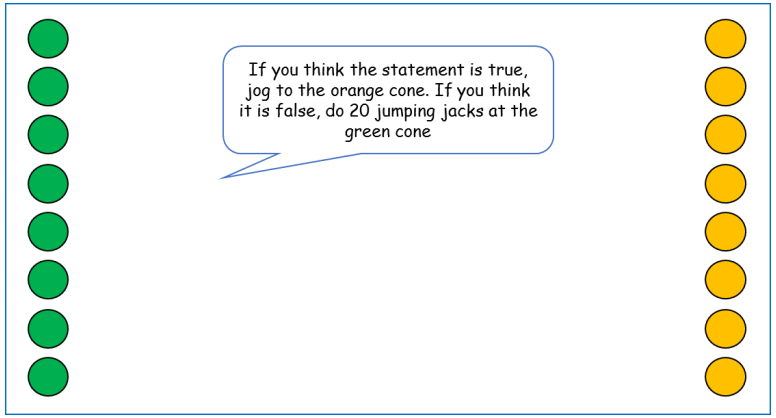
Appendix M

Year 3 HRA Lessons 1-6

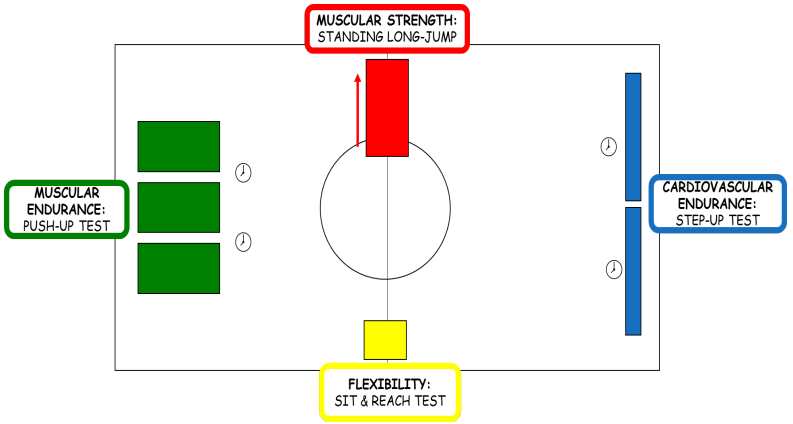
AIM: Teacher will help students to revise content learned in year 1 & year 2, and assess their muscular endurance, muscular strength, cardiovascular endurance & flexibility in an engaging and motivational lesson.

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor: Engage in 4 specific activities to assess their individual muscular endurance (ME), muscular strength (MS), cardiovascular endurance (CVE) and flexibility. **Cognitive:** Identify personal levels of ME, MS, CVE & flexibility, and become aware of stronger & weaker areas of their fitness. **Affective:** Work as part of a group to assess fitness levels & encourage peers during fitness assessment activities.	**Introduction (5 minutes)** Class revision using PPT slide 1 'Activity and My Body' under 3 categories: Physical effects of exercise on my body/ How much PA should I be getting every day/ What foods are best to fuel my exercise? **Warm-Up (10 minutes)** **Exercise & My Body T/F:** Students line up at end line. Teacher gives command 'If you think statement is true then jog to end of hall, if you think it is false stay on the end line & do 20 jumping jacks. Teacher may change the activities. Discuss answers. **Development Stage 1 (40 minutes)** **Fitness assessment:** Students use their PA Journal to record their results of each activity & compare with week 6. Station 1: **ME** push-ups (1-min) Station 2: **MS** standing long-jump (distance) Station 3: **CVE** step-ups (1-min on bench) Station 4: **Flexibility** sit & reach test **Cool-Down/Debrief (10 minutes)** Pilates & stretching routine. Reflect on the lesson with the students regarding their results.	**Introduction:** Lead Q & A on 'Activity & My Body', use PowerPoint resource (project onto whiteboard). Ask students for input & write on board (if possible). **Warm-Up** Use different commands for each statement to ensure body is fully warmed up e.g. high knees, lunges etc. Diagnostic assessment to identify current knowledge Y1 & Y2 content. Ensure to correct any misconceptions at this point. **Development Stage 1** Students in 4 groups. Each student with a partner to help record each other's results. Set up 4 stations in the hall (see diagram) and rotate clockwise every ~8 minutes. Students bring their PA journal & a pen with them to all stations. Station 1: Exercise mats & stopwatches Station 2: Mats for landing & distances marked on ground Station 3: Benches & stopwatches Station 4: Sit & reach box or alternative **Cool-down** Exercise mats & relaxing music may be used (optional). Students spread out, facing the teacher.	 **Assessment** **Teacher assessment** Questioning: previous knowledge of PA and the body. Observation: warm-up T/F activity **Self-assessment** Recognising and assessing own knowledge during introduction & warm-up activity. Becoming aware of personal fitness levels in relation to ME, MS, CVE & flexibility

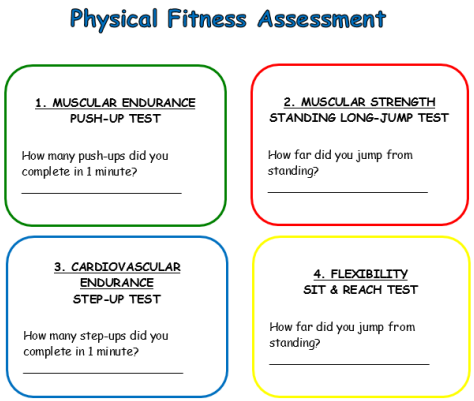
2. *Warm-up:* True/ False Run



2. *Development Stage 1*: Fitness Testing Layout



3. *Development Stage 1:* Fitness Assessment Sheet

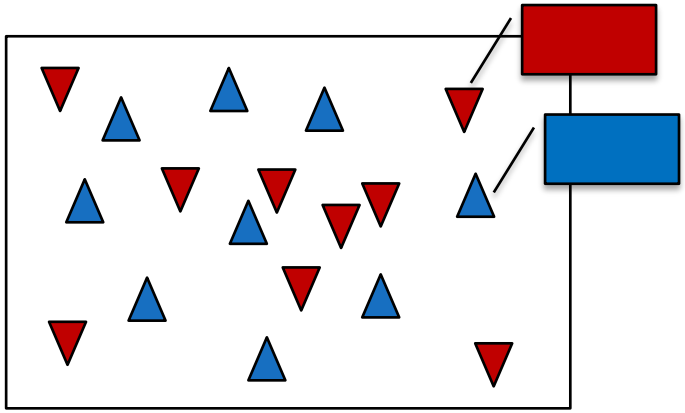


4. *Cool-down:* Teacher-led stretching & reflection

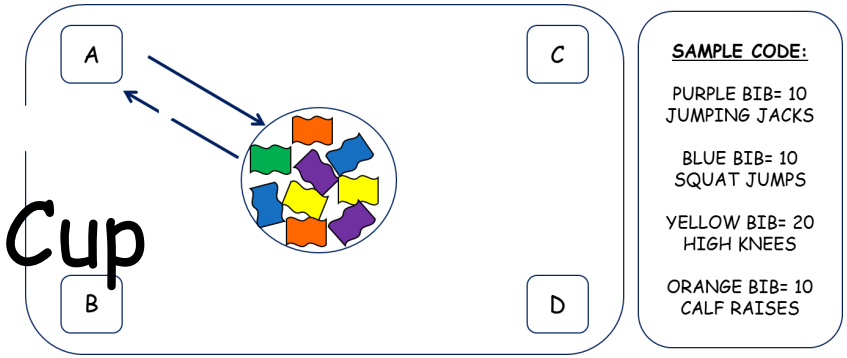
AIM: The teacher will centre learning on CVE, following the fitness testing in lesson 1 and focus on equipping students to improve their own fitness level through various activities.

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor: Engage in a variety of exercises to raise HR & promote cardiovascular endurance in group activities. **Cognitive:** Identify the concept of CVE in activity & display learning through creating an activity circuit based on aerobic endurance. **Affective:** Participate in team games & tasks, working effectively with teammates.	**Introduction (5 minutes)** Remind students about CVE assessment in lesson 1. CVE is the ability of the heart, blood vessels and lungs to transport oxygen around the body. Discuss how we can improve CVE? What benefits can we obtain from improved CVE? **Warm-Up (10 minutes)** **Cups & Saucers:** One team tries to put all the cones face-down (cups) and the other team try to make all the cones face-up (saucers). Play for 1 minute, then stop & count which team have more cones, then repeat (award 1 point per round). Suggested variations: all students hopping on two feet/ one foot/ jumping/ skipping. **Development Stage 1 (20 minutes)** **Bib run:** 4 teams, each in 1 corner of the hall. On 'GO', 1st runner in each team sprints to centre, collects 1 bib & returns to team. Team completes the associated exercise, then next runner collects another bib. Keep going until all bibs are collected. Team with most bibs wins. **Development Stage 2 (15 minutes)** **Cardio Circuit Creation**: use PPT slide for suggested activities. Students in groups decide no. of exercises, no. of reps & length of time for each activity in creating a circuit. Teach another group if time allows. **Cool-Down/Debrief (10 minutes)** Teacher-led stretch & reflect on circuit- what worked/ what didn't work? Ask how to cater for fitter students / less fit students? Introduce the concept of F.I.T.T.	**Introduction** Students sitting for roll-call and introduction. No equipment. **Warm-Up** 2 teams, cones scattered around the hall (any colour, approx. 24-30). ½ turned up, ½ turned down. Stopwatch to record 1-minute intervals. **Development Stage 1** 4 teams, each in 1 corner of the hall. Various bibs in the centre, each colour representing an exercise (see sample in diagram). **Development Stage 2** Students remain in team groups & are given 5-10 minutes to develop a fitness circuit based on CVE. Equipment may or may not be needed, depending on activities. **Cool-down** Students in a circle to stretch	 **Assessment** **Teacher assessment** Observe students' participation and involvement in activities & in oral feedback at the end of the lesson. **Peer-assessment** Students work together to create an activity & give feedback to one another during and after the lesson.

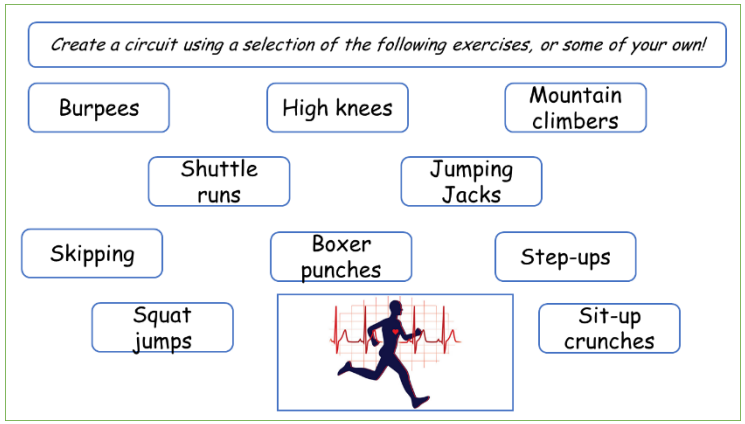
1. *Warm-up:* Cups & Saucers



2. *Development Stage 1*: Bib Run



3. *Development Stage 2:* Cardio Circuit Creation

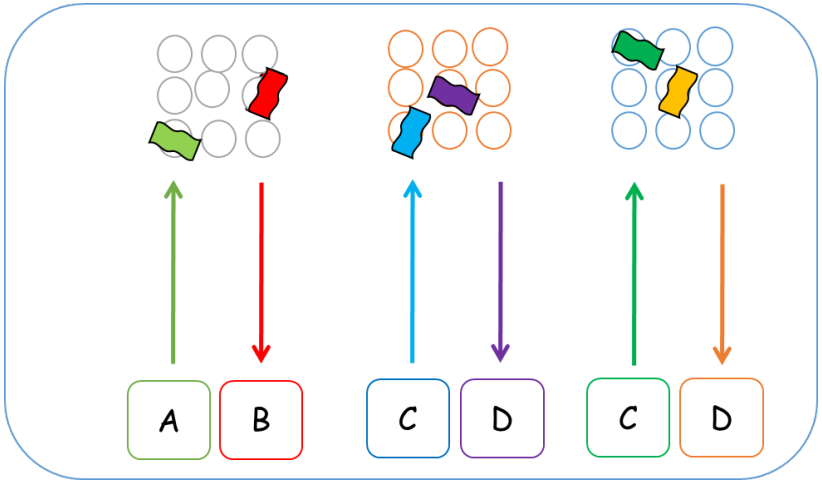


4. *Cool-down:* Pilates Stretching Routine

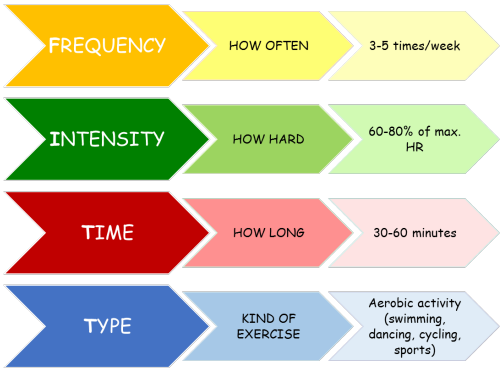
AIM: The teacher will introduce students to the concept of improving their fitness using the F.I.T.T. principle, with a focus on cardiovascular fitness.

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor: Participate in a fun & highly active game, displaying good movement patterns & high levels of motivation & participation. **Cognitive:** Display an understanding of MS, CVE & ME through activity choice in fun team game. **Affective:** Students demonstrate the ability to work cooperatively with classmates through all group activities.	**Introduction (5 minutes)** Revise what CVE is (lesson 2) and have students think about why they would benefit from increased CVE. **Warm-Up (10 minutes)** **Tic Tac Toe:** 1st player runs with a bib, places it in a hoop & runs back to team. Keep going until you have 3-in-a-row. Once all bibs are used, you can move your bib to an empty space. Vary FMS each round (hopping, skipping, etc.). **Development Stage 1 (20 minutes)** **CVE Activity Development**: Discuss **F.I.T.T.** in relation to CVE: use PPT slide. Students in their groups decide on an activity they would enjoy that would increase their CVE & then teach it to another group. Students then collate all ideas to imagine how to reach weekly recommended levels of CVE. **Development Stage 2 (20 minutes)** **Fitness Chance:** 3 categories of exercise: MS, CVE & ME. Students remain in groups. On 'GO', 1st runner collects card of their choice, teacher calls either 'MS, 'CVE' or 'ME' to identify which activity the students complete. The whole team then perform the activity in that category on their card until the teacher calls 'GO' for the next runner (~20 secs) & then next card activity & category follows. **Cool-Down/Debrief (10 minutes)** Student-led stretch in teams, reflect, focus on breathing.	**Introduction** No equipment needed. **Warm-Up** 6 teams (keep these teams for the day). Relay format (see diagram). 9 hoops are laid out on the ½ way line & 2 teams play against each other at these hoops. 4 bibs per team, to be placed in the hoops. 1 bib used per turn. **Development Stage 1** Teacher PPT. Students in groups around the room to develop their activity. Equipment may/ may not be needed. **Development Stage 2** Students in relay format, remaining in groups from previous activities. Team cards (X6) printed for each group (see digital resources) & placed on ½ way line of court, face-down. Students take a card back to their team each time (random selection). **Cool-down** Students in their groups to stretch.	 **Assessment** **Teacher assessment** Visually observe student technique & FMS in activities. Orally assess learning during introduction & cool-down. **Self-assessment** Individual assessment of fitness level during activities & understanding of the effect of improved CVE. **Peer-assessment** Students work with and observe their teammates, as they create an activity together.

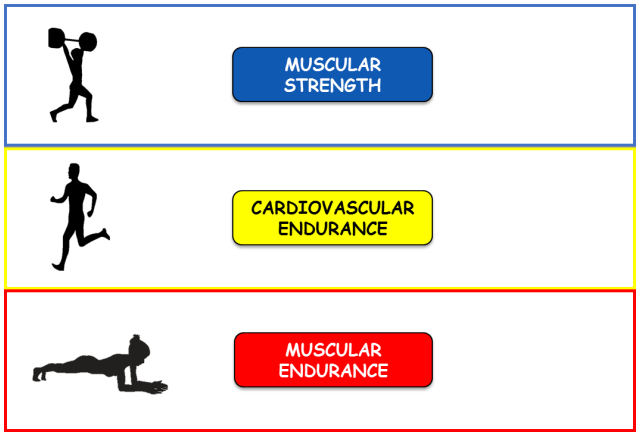
1. *Warm-up:* **Tic Tac Toe**



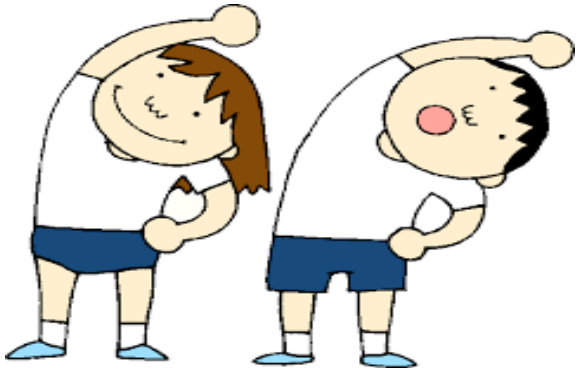
2. *Development Stage 1*: **CVE Activity Development**



3. *Development Stage 2:* **Fitness Chance**



4. *Cool-down:* **Student-led stretch & reflection**



AIM: The teacher will progress learning from lesson 3 & engage students in activities to utilise the F.I.T.T. principle in various areas of physical fitness.

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor: Students engage in a variety of activities during warm-up phase to increase HR and use all major muscle groups. **Cognitive:** Display understanding of the F.I.T.T. principle through application on components of physical fitness **Affective:** Collaborate with teammates to develop an activity, while respecting the opinion of others.	**Introduction (5 minutes)** Revise previous lesson (applying F.I.T.T to CVE) and examples of other areas of fitness (ME, MS & flexibility) **Warm-Up (10 minutes)** Form teams of 5-6 students in each. Students must move as a team from the top to the bottom of the hall in each race (see images) 1. Caterpillar races 2. Soldier commando 3. Over & Under **Development Stage 1 (15 minutes)** **Hungry Hippos:** Identify muscles used during crab-walk activity: 4 teams, beanbags (20+) in centre of hall. Players crab walk in (1 at a time), collect beanbag & balance it on the hips, crab walk back & next player goes. Most beanbags collected wins. Focus: ME & MS **Development Stage 2 (20 minutes)** **Activity creation:** Develop an activity to incorporate each aspect of F.I.T.T. for increasing either ME, MS, CVE or flexibility. Students can discuss benefits of more/ less of each element of F.I.T.T. Group 1: **Muscular endurance** Group 2: **Muscular strength** Group 3: **Cardiovascular endurance** Group 4: **Flexibility** Groups present their activity to the class. **Cool-Down/Debrief (10 minutes)** Student-led stretching & reflection	**Introduction** Discuss F.I.T.T. as a class group. No equipment needed. **Warm-Up** Students in teams, relay format. Basketball or volleyball needed for race #3 over & under. **Development Stage 1** Keep 4 groups from previous activity, 20+ beanbags in the centre of the court. Each group with a base (see diagram). **Development Stage 2** Students in 4 groups, each with a particular task/ focus. PPT slides for lesson 4 provide information on how to apply F.I.T.T principles to each element of fitness & may be used by groups. Teacher may wish to print these for students. Equipment may be needed by groups. **Encourage minimal/no equipment** **Cool-down** Students stretch muscles used in their groups and participate in whole-class discussion to review classmates' activities and reflect on their own.	 **Assessment** **Teacher assessment** Observe students as they distinguish a specific element of fitness & apply the F.I.T.T. principles to. Teacher questions students during introduction to assess understanding. **Self-assessment** Students become aware of their understanding and / or gaps in their knowledge when given the task of activity creation for either ME, MS, CVE or flexibility.

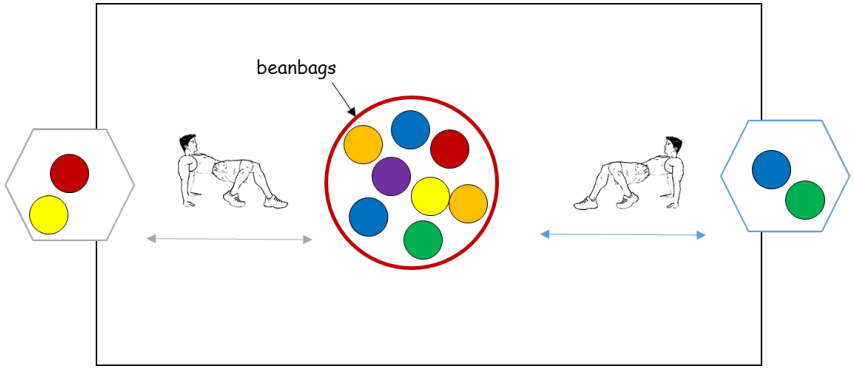
1. *Warm-up:* Relay Races

(Caterpillar races/ soldier commando/ over & under)

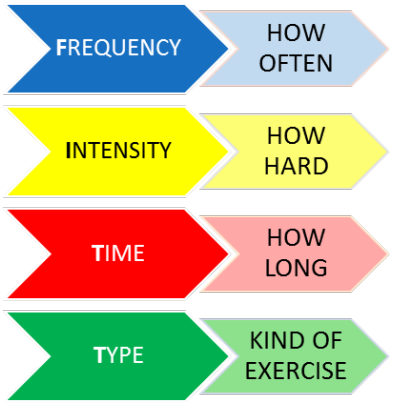
Soldier commando: students stand in a line, legs apart. Person at the back 'soldier crawls' under legs of teammates to the front, then next person goes.

2. *Development Stage 1*: Hungry Hippos

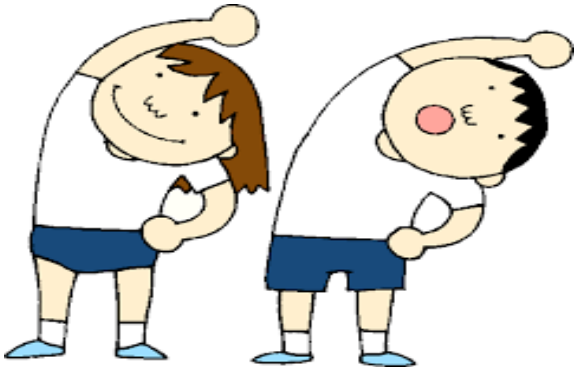
4 teams, crab-walk to centre, collect beanbag & balance on hips to transport back to base. Collect most beanbags to win.



3. *Development Stage 2:* Activity Development



4. *Cool-down:* Peer-led stretching



AIM: To encourage & enable students to be physically active outside of school & apply their learning from PE class in their local community.

This lesson is to be designed by the teacher and / or students, based on the location of each school. It is important for students to see that they can apply their learning in school to their daily lives & for PE teachers to encourage students to develop healthy habits of regular physical activity from a young age. There are a number of options for the teacher to choose from in this lesson, which are listed below. Some may not be listed & will be equally effective. Following the Y-PATH lesson template can help structure your lesson.

Some ideas:

- Student-developed circuit from lesson 4/ games in the local park (these can be general, or in groups to focus on ME/ MS/ CVE/ flexibility)
- Use a community Astroturf pitch or running track
- Go to the swimming pool
- A walk / run in the countryside
- Invite a guest into the school from a local sports club, association or fitness centre to run an activity class with the students

Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor: **Cognitive:** **Affective:**	**Introduction (5 minutes)** **Warm-Up (10 minutes)** **Development Stage 1 (20 minutes)** **Development Stage 2 (15 minutes)** **Cool-Down/Debrief (10 minutes)**	**Introduction** **Warm-Up** **Development Stage 1** **Development Stage 2** **Cool-Down/Debrief**	 **Assessment** **Teacher assessment** **Self-assessment** **Peer-assessment**

1. *Warm-up:* _____

2. *Development Stage 1*: _____

3. *Development Stage 2:* _____

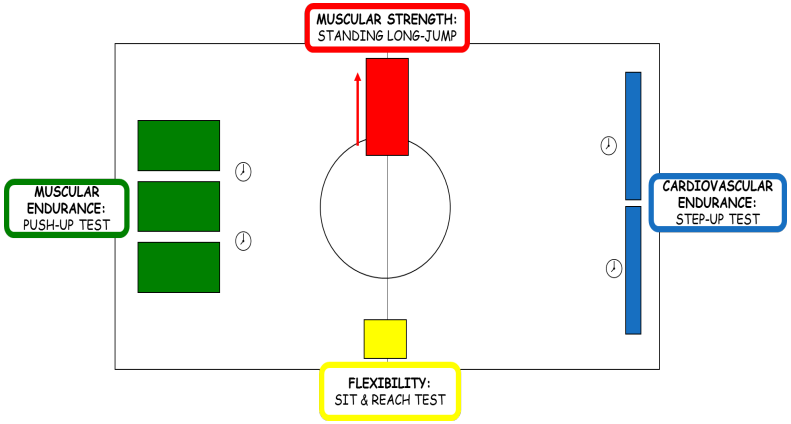
4. *Cool-down*: _____

AIM: The teacher will provide all students with the opportunity to re-assess their muscular endurance, muscular strength, cardiovascular endurance & flexibility, culminating the focus of lessons 1-5 in this final lesson.

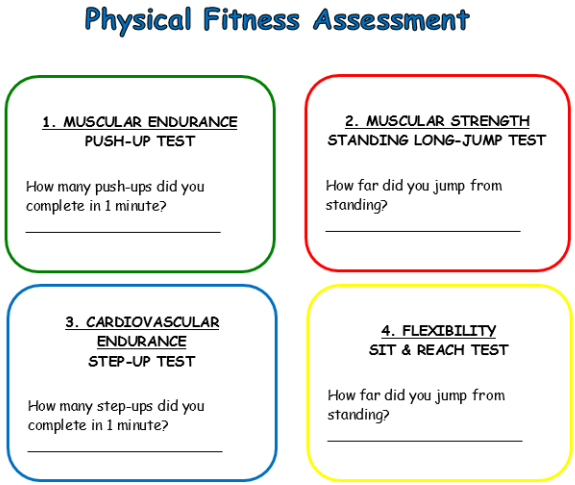
Learning Outcomes	Class Structure & Content	Organisation & Resources	Indicators of Wellbeing
Psychomotor: Perform all activities in fitness assessment, displaying best individual effort & determination. **Cognitive:** Display understanding of why results in fitness assessment have either changed or remained the same during reflection. **Affective:** Recognise and respect individual differences in relation to ME, MS, CVE & flexibility.	**Introduction (5 minutes)** Review and discuss all areas of learning students can remember from past 5 lessons, as well as learning from year 1 & year 2. **Warm-Up (10 minutes)** **Plant the Trees:** 2 teams, split the area into 3 sections (middle section = trees & plants, either end= team forest for either team). On 'GO', teams run to bring as many 'trees & plants' (beanbags) to their forest. You can only collect 1 at a time & must place it down in your area (not thrown). On 'STOP', count no. of beanbags collected. **Development Stage 1 (40 minutes)** **Fitness assessment:** Students use their PA Journal to record their results of each activity & compare with week 1. Station 1: **ME** push-ups (1-min) Station 2: **MS** standing long-jump (distance) Station 3: **CVE** step-ups (1-min on bench) Station 4: **Flexibility** sit & reach test **Cool-Down/Debrief (5 minutes)** Teacher-led stretch and calm breathing exercises. Review lesson and student results from fitness assessment. Discuss how to improve elements of fitness & associated benefits for body & mind.	**Introduction** Group discussion, no equipment needed. **Warm-Up** Divide group into 2 teams. Identify 3 areas using cones (see diagram). Fill the middle section with beanbags (approx. 20 beanbags). Students may carry 1 at a time to their area & once the mid-section is empty, students can 'steal' beanbags from the opponent's area. **Development Stage 1** Students in 4 groups. Each students with a partner to help record each other's results. Set up 4 stations in the hall (see diagram) and rotate clockwise every ~8 minutes. Students bring their PA journal & a pen with them to all stations. Station 1: Exercise mats & stopwatches Station 2: Mats for landing & distances marked on ground Station 3: Benches & stopwatches Station 4: Sit & reach box or alternative **Cool-Down/Debrief** Students reflect on learning during cool-down.	 **Assessment** **Teacher assessment** Teacher will observe student engagement in this final lesson and written results in PA journal. **Self-assessment** Students will become aware of personal fitness levels in relation to ME, MS, CVE & flexibility & how this has / has not changed over 6 weeks.

1. *Warm-up:* Plant the Trees

2. *Development Stage 1*: Fitness Testing Layout



3. *Development Stage 1:* Fitness Testing Assessment



4. *Cool-down & Reflection:* Stretch & review

Appendix N

Year 3 Lesson Resources

YEAR 3

LESSON 1

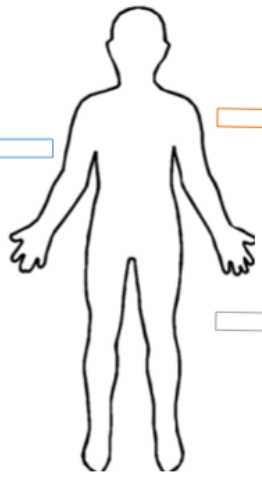
YEAR 3

LESSON 1

ACTIVITY & MY BODY

PHYSICL EFFECTS OF EXERCISE ON MY BODY:

- ✓ _____
- ✓ _____
- ✓ _____
- ✓ _____



HOW MUCH PHYSICAL ACTIVITY SHOULD I BE GETTING EVERY DAY?

_____

SOME HEALTHY FOODS FOR MY BODY

- ✓ _____
- ✓ _____
- ✓ _____

DCU

PRINT ME!

YEAR 3

LESSON 1

-PATH

Youth - Physical Activity Towards Health

Exercise & My Body
Teacher Statement Sheet

1. Your hamstring muscles are in your legs. T
2. A normal resting heart rate is between 60 and 80 beats per minute. T
3. Muscular strength is how many times you can exert a force repeatedly. F ***Muscular strength*** *is the amount of force you can exert against a resistance;* ***muscular endurance*** *is exerting a force repeatedly.*
4. Teenagers are recommended to have at least 60 minutes MVPA/day T
5. Cardiovascular endurance is how strong your muscles are. F *Cardiovascular endurance is the ability of your heart to deliver oxygen around your body.*
6. A healthy diet should contain a variety of foods . T
7. The circulatory system only has one function; transport i.e. moving things round the body in the bloodstream, like oxygen, nutrients, water and waste. F *The circulatory system has THREE functions; transport, body temperature control and protection (fight diseases).*
8. Muscles that are not used get smaller and weaker. T
9. There are 300 muscles in the body. . F *There are over 600 muscles in the body*
10. Being physically active helps to deal with stress. T

DCU

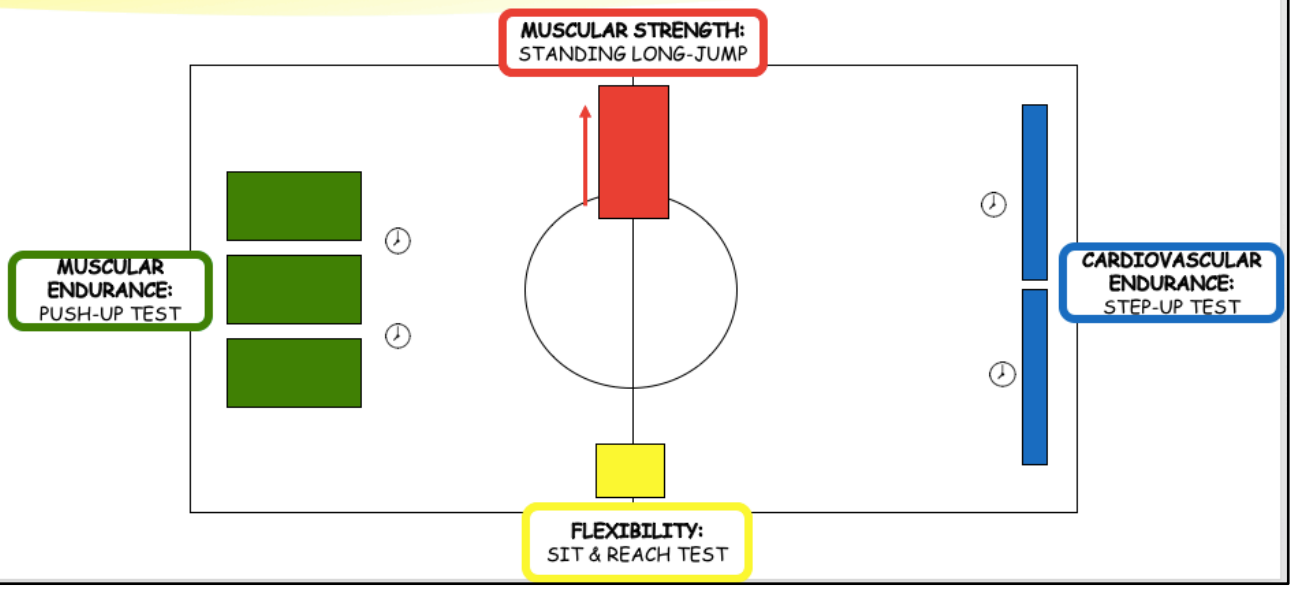
YEAR 3

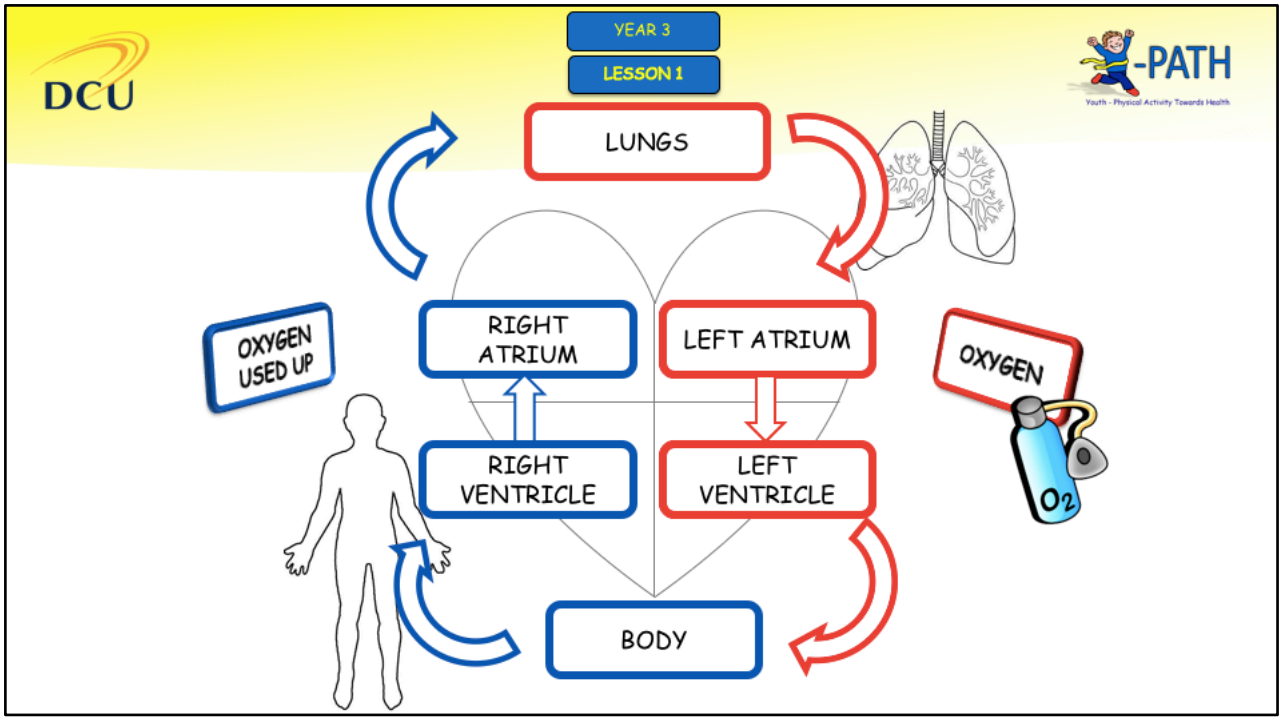
LESSON 1

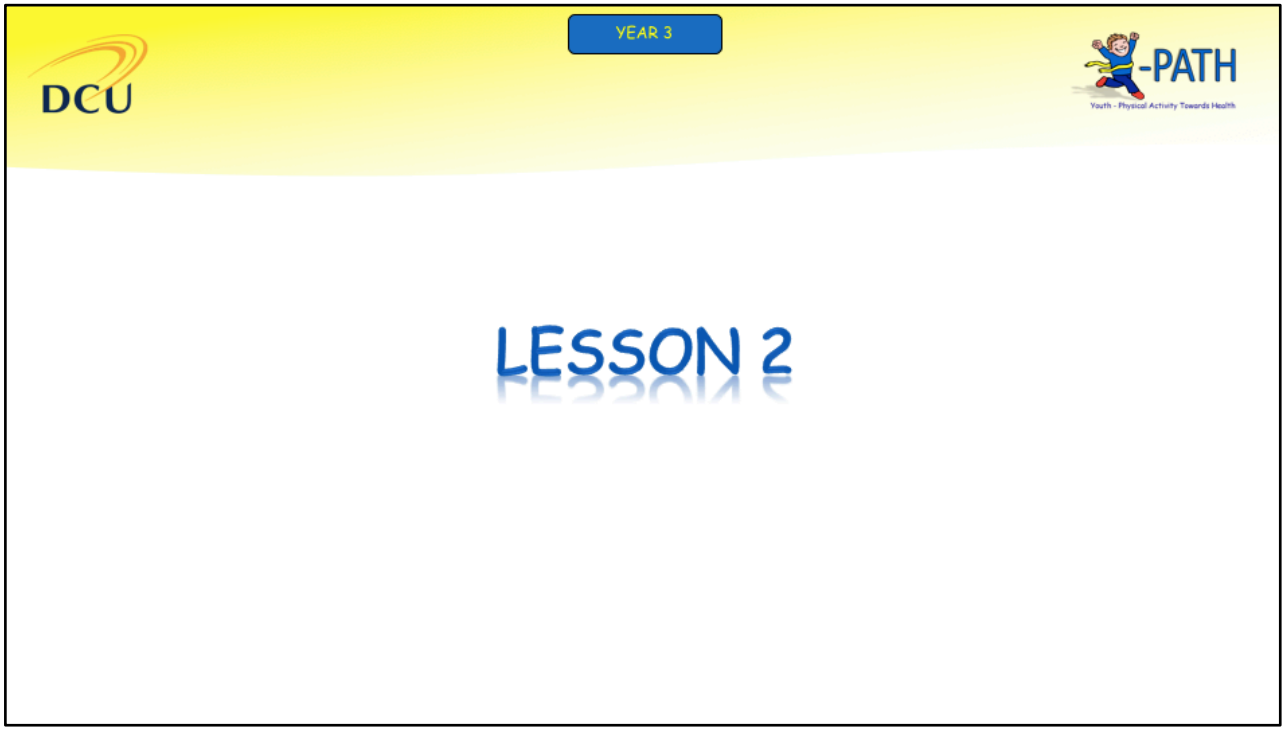
-PATH

Youth - Physical Activity Towards Health

Fitness Testing Stations



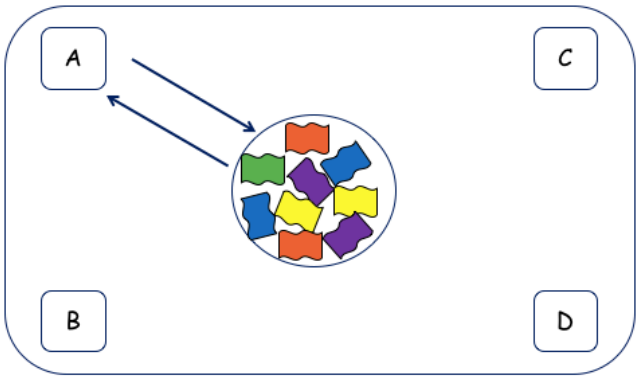

YEAR 3
LESSON 1
DCU
-PATH
Youth - Physical Activity Towards Health
LUNGS
OXYGEN USED UP
RIGHT ATRIUM
LEFT ATRIUM
OXYGEN
RIGHT VENTRICLE
LEFT VENTRICLE
O2
BODY


YEAR 3
DCU
-PATH
Youth - Physical Activity Towards Health
LESSON 2

YEAR 3

LESSON 2

Bib Run Activity



SAMPLE CODE:

PURPLE BIB= 10 JUMPING JACKS

BLUE BIB= 10 SQUAT JUMPS

YELLOW BIB= 20 HIGH KNEES

ORANGE BIB= 10 CALF RAISES

YEAR 3

LESSON 2

Exercises to increase aerobic endurance

Create a circuit using a selection of the following exercises, or some of your own!

Burpees

High knees

Mountain climbers

Shuttle runs

Jumping Jacks

Skipping

Boxer punches

Step-ups

Squat jumps

Sit-up crunches

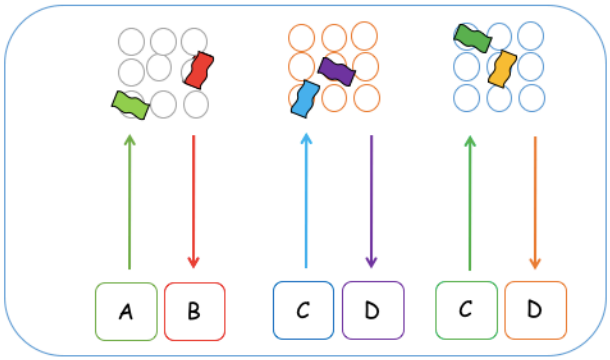
YEAR 3

LESSON 3

YEAR 3

LESSON 3

TIC TAC TOE



TIC TAC TOE

Aim: to get 3-in-a-row

Set-up: 9 cones or hoops. 6 teams, each team with 4 bibs

How to play: relay format, run with a bib, place it in a hoop and run back to team. Keep going until you have 3-in-a-row before your opponents. Once all bibs are used, move your bib to another space.

YEAR 3

LESSON 3

Cardiovascular Endurance

FREQUENCY	HOW OFTEN	3-5 times/week
INTENSITY	HOW HARD	60-80% of max. HR
TIME	HOW LONG	30-60 minutes
TYPE	KIND OF EXERCISE	Aerobic activity (swimming, dancing, cycling, sports)

YEAR 3

LESSON 3

MUSCULAR STRENGTH

CARDIOVASCULAR ENDURANCE

MUSCULAR ENDURANCE

DCU

YEAR 3

LESSON 3

Print & cut 1 set of cards per group.

PRINT ME!

-PATH

Youth - Physical Activity Towards Health

CARD 1

CALF-RAISES X10

JUMPING JACKS X20

WALL SIT X20 SECONDS

CARD 2

PUSH-UPS X10

HIGH KNEES X20

FLUTTER KICK X20

DCU

YEAR 3

LESSON 3

Print & cut 1 set of cards per group.

PRINT ME!

-PATH

Youth - Physical Activity Towards Health

CARD 3

ARM CIRCLES X20

BURPEES X10

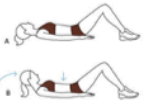
PLANK X20 SECONDS

CARD 4

TRICEP DIPS X10

MOUNTAIN CLIMBERS X20

CRUNCHES X20



YEAR 3

LESSON 3

Print & cut 1 set of cards per group.

PRINT ME!

CARD 5	CARD 6
SQUATS x10 	CRAB WALKS X20 SECONDS 
BOXER PUNCHES X20 	SHUTTLE RUNS X20 SECONDS 
SUPERMAN x10 	BICYCLE KICKS X20 

YEAR 3

LESSON 4

YEAR 3

LESSON 4

Flexibility

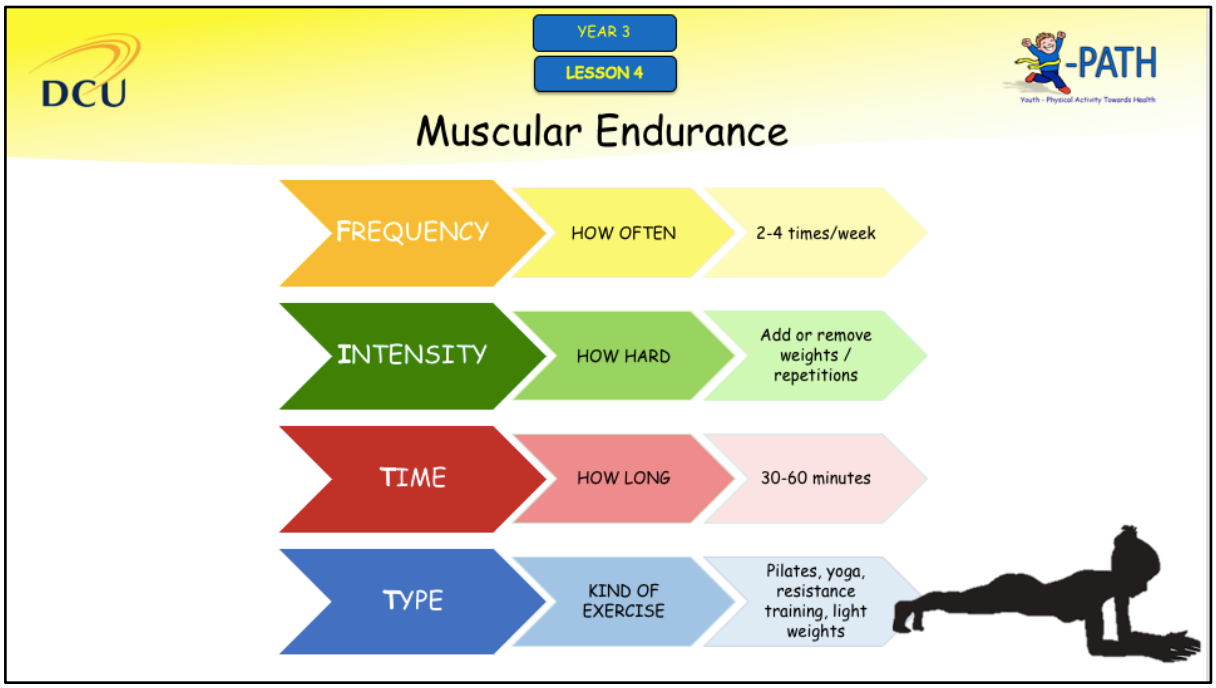
FREQUENCY	HOW OFTEN	Daily
INTENSITY	HOW HARD	Stretch a little further than is comfotable
TIME	HOW LONG	~15 seconds per stretch
TYPE	KIND OF EXERCISE	Stretches for all areas of the body, yoga

YEAR 3

LESSON 4

Muscular Strength

FREQUENCY	HOW OFTEN	2-4 times/week
INTENSITY	HOW HARD	A weight you can lift 8-12 times
TIME	HOW LONG	30-60 minutes
TYPE	KIND OF EXERCISE	Weight lifting, sprints, plyometrics


DCU
YEAR 3
LESSON 4
-PATH
Youth - Physical Activity Towards Health
Muscular Endurance
FREQUENCY
HOW OFTEN
2-4 times/week
INTENSITY
HOW HARD
Add or remove weights / repetitions
TIME
HOW LONG
30-60 minutes
TYPE
KIND OF EXERCISE
Pilates, yoga, resistance training, light weights

Appendix O

Student Physical Activity Journal

-PATH

Youth - Physical Activity Towards Health

Student Physical Activity Journal

Student name: _____

Table of Contents

Physical Education, Wellbeing and You!

ACTIVE

- Am I a confident and skilled participant in physical activity?
- How physically active am I?

RESPONSIBLE

- Do I take action to protect and promote my wellbeing and that of others?
- Do I make healthy eating choices?
- Do I know where my safety is at risk and do I make right choices?

CONNECTED

- Do I feel connected to my school, my friends, my community and the wider world?
- Do I appreciate that my actions and interactions impact on my own wellbeing and that of others, in local and global contexts?

RESILIENT

- Do I believe that I have the coping skills to deal with life's challenges?
- Do I know where I can go for help?
- Do I believe that with effort I can achieve?

RESPECTED

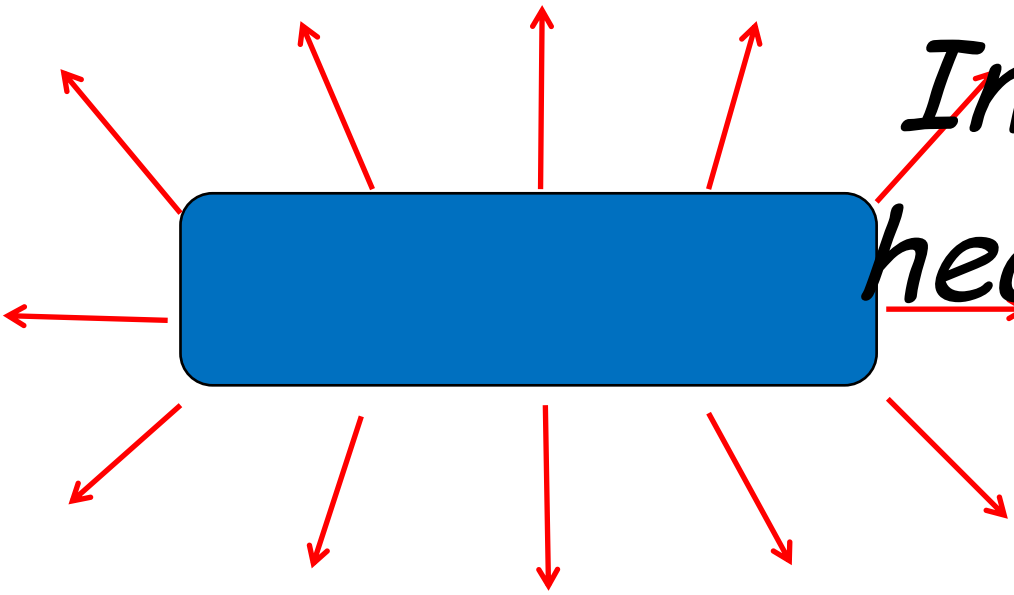
- Do I feel that I am listened to and valued?
- Do I have positive relationships with my friends, my peers and my teachers?
- Do I show care and respect for others?

AWARE

- Am I aware of my thoughts, feelings and behaviours and can I make sense of them?
- Am I aware of what my personal values are and do I think through my decisions?
- Do I understand what helps me to learn and how I can improve?

1st Year Y-PATH Lesson 4

Write down the key points you can remember from the past 4 lessons in PE to help you revise & see how much you have learned!



Increas

heart ra

Reflection: Identify 3 ways you can apply what you have learned to your life

1. _____

2. _____

3. _____

He

1st Year Y-PATH Lesson 6

Complete the following 10 questions

1. How many minutes of physical activity should you get every day?
2. Should this physical activity be easy, moderate or vigorous?
3. What is your typical resting heart rate?
4. What happens to your heart rate when you do exercise?
5. What happens to your body temperature when you do exercise?
6. List 3 effects physical activity has on the body
7. Explain how you can check your heart rate
8. How many steps should you aim to take every day?
9. Name 1 reason why it is important to warm-up before exercise
10. Name 3 muscles in your body that you stretch after exercise

✓ Teacher mark & comment:

1st Year Physical Activity Record

Your teacher will ask you to complete this

Date _____	Activity done	Time spent being physically active
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

1. Do you feel like you were as active as you should be?
2. Did you reach at least 60 minutes of physical activity per day?
3. Is there anything you would like to do differently?

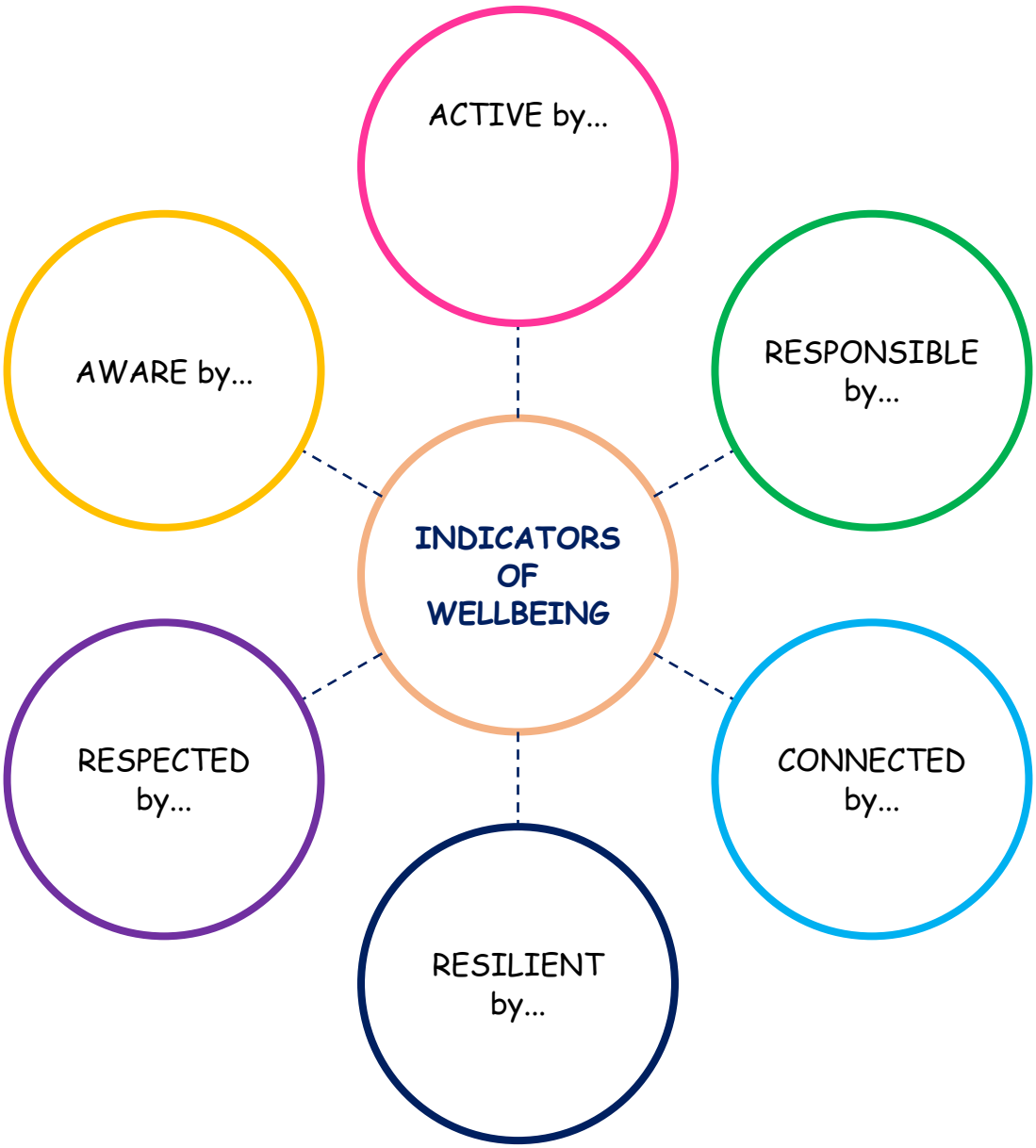
Date _____	Activity done	Time spent being physically active
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

1. Do you feel like you were as active as you should be?
2. Did you reach at least 60 minutes of physical activity per day?
3. Is there anything you would like to do differently?

My Wellbeing in 1st Year PE

Your teacher will ask you to complete this

This year in my PE class, I showed I could be…



Fill out the questionnaire below before and after the period of exercise
Put a tick in the appropriate box that **best describes** how you are feeling at that moment

2nd Year Y-PATH Lesson 4

The Exercise Effect

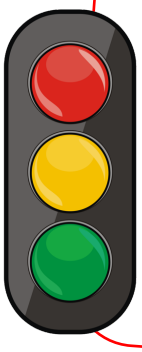
		Pre-exercise					Post-exercise				
		Not at all	A little	Moderately	Quite a lot	Extremely	Not at all	A little	Moderately	Quite a lot	Extremely
	Feelings										
1	Panicky										
2	Lively										
3	Confused										
4	Worn Out										
5	Dispirited										
6	Downhearted										
7	Annoyed										
8	Exhausted										
9	Mixed-Up										
10	Sleepy										
11	Bitter										
12	Unhappy										
13	Anxious										
14	Worried										
15	Energetic										
16	Miserable										
17	Muddled										
18	Nervous										
19	Angry										
20	Active										
21	Tired										
22	Bad-Tempered										
23	Alert										
24	Uncertain										

2nd Year Y-PATH Lesson 6

Q.1 Put the foods in the appropriate boxes

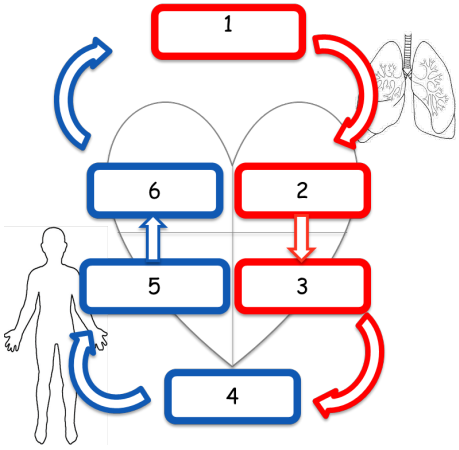
EAT THESE…

RARELY	
SOMETIMES	
OFTEN	



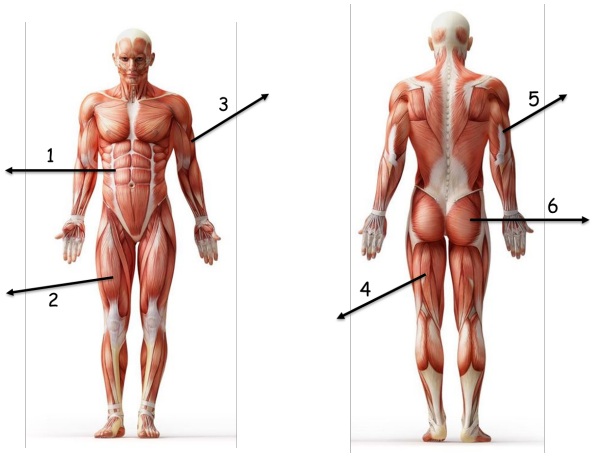
Q.2 Label these 6 important areas of the circulartory system

1
2
3
4
5
6



Q.3 Label the 6 muscles below

1
2
3
4
5
6



2nd Year Physical Activity Record

Your teacher will ask you to complete this

Date _____	Activity done	Time spent being physically active
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

1. Do you feel like you were as active as you should be?
2. Did you reach at least 60 minutes of physical activity per day?
3. Is there anything you would like to do differently?

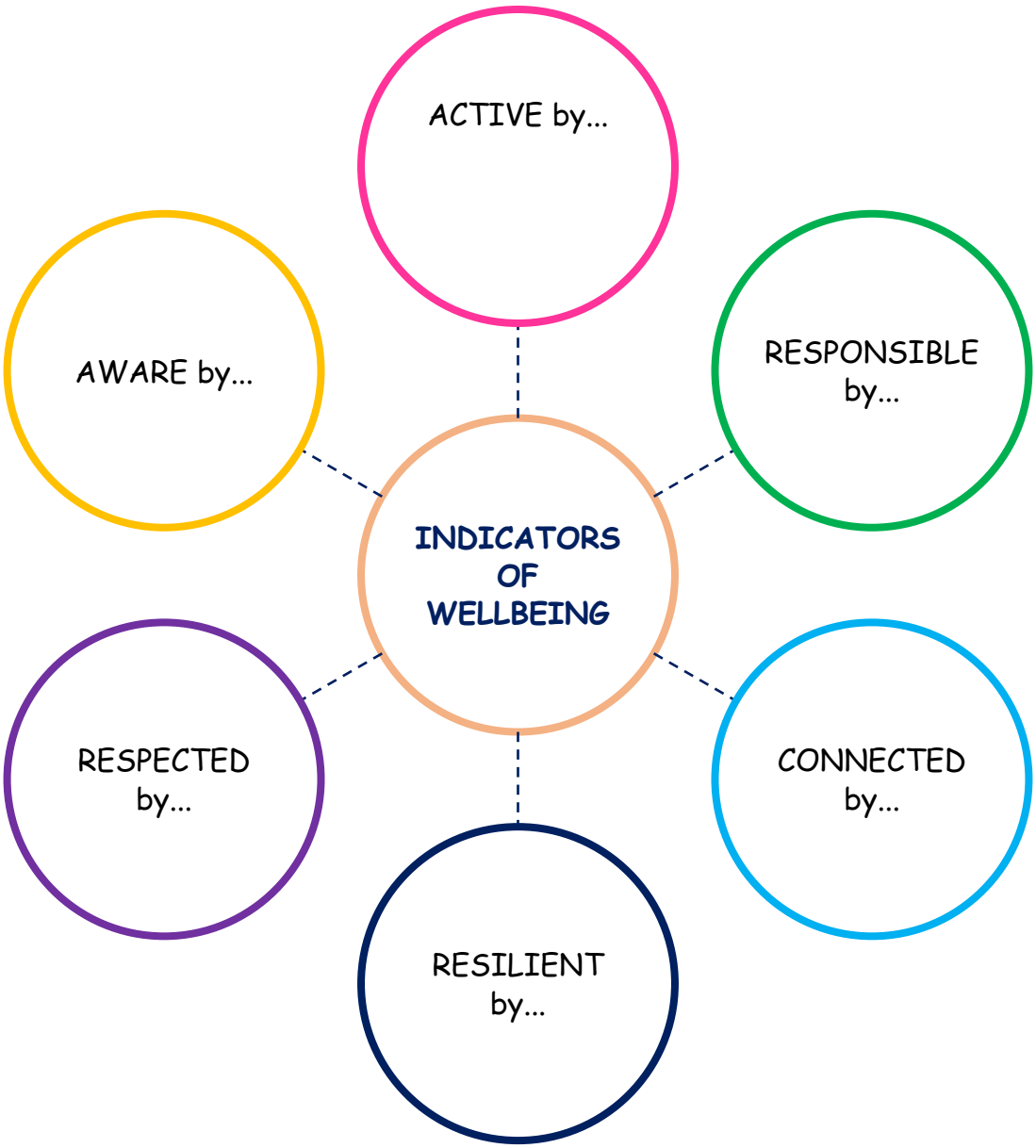
Date _____	Activity done	Time spent being physically active
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

1. Do you feel like you were as active as you should be?
2. Did you reach at least 60 minutes of physical activity per day?
3. Is there anything you would like to do differently?

My Wellbeing in 2nd Year PE

Your teacher will ask you to complete this

This year in my PE class, I showed I could be…



3rd Year Y-PATH Lesson 1

Physical Fitness Assessment

1. MUSCULAR ENDURANCE
PUSH-UP TEST

How many push-ups did you complete in 1 minute?

_____

2. MUSCULAR STRENGTH
STANDING LONG-JUMP TEST

How far did you jump from standing?

_____

3. CARDIOVASCULAR ENDURANCE
STEP-UP TEST

How many step-ups did you complete in 1 minute?

_____

4. FLEXIBILITY
SIT & REACH TEST

How far did you jump from standing?

_____

Personal reflection

- ✓ Were you pleased with your results in each assessment?

- ✓ What would you like to improve by lesson 6?

3rd Year Y-PATH Lesson 6

Physical Fitness Assessment & Comparison

1. MUSCULAR ENDURANCE
PUSH-UP TEST

How many push-ups did you complete in 1 minute?

_____

2. MUSCULAR STRENGTH
STANDING LONG-JUMP TEST

How far did you jump from standing?

_____

3. CARDIOVASCULAR ENDURANCE
STEP-UP TEST

How many step-ups did you complete in 1 minute?

_____

4. FLEXIBILITY
SIT & REACH TEST

How far did you jump from standing?

_____

How did I do?			
	Improved	Stayed the same	Deteriorated
1. MUSCULAR ENDURANCE			
2. MUSCULAR STRENGTH			
3. CARDIO-VASCULAR ENDURANCE			
4. FLEXIBILITY			

3rd Year Physical Activity Record

Your teacher will ask you to complete this

Date _____	Activity done	Time spent being physically active
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

1. Do you feel like you were as active as you should be?
2. Did you reach at least 60 minutes of physical activity per day?
3. Is there anything you would like to do differently?

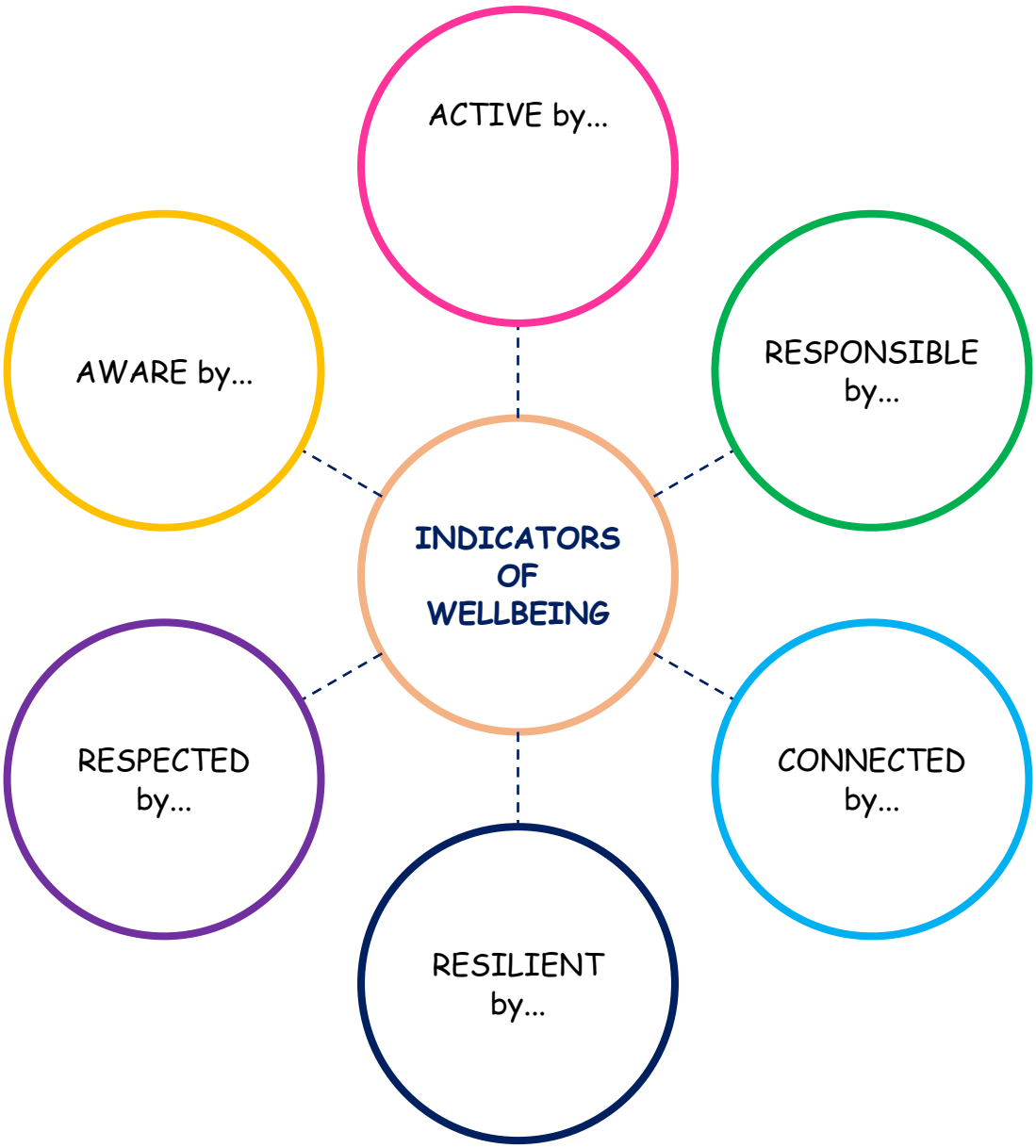
Date _____	Activity done	Time spent being physically active
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

1. Do you feel like you were as active as you should be?
2. Did you reach at least 60 minutes of physical activity per day?
3. Is there anything you would like to do differently?

My Wellbeing in 3rd Year PE

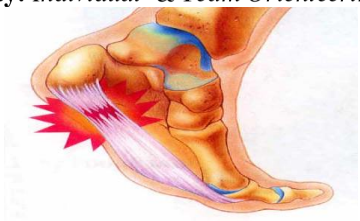
Your teacher will ask you to complete this

This year in my PE class, I showed I could be…



Appendix P

Integration Cards (Sample)

Health Related Activity(HRA) Focus: Meeting the daily 60 minutes guideline **Fundamental movement skill (FMS) Focus:** Improving ability to crouch	**HRA Focus:** Exposure to individual and team-based activities **FMS Focus:** Improving ability to land on the balls of feet	**HRA Focus:** Success and choice in the PA environment **FMS Focus:** Improving arm/leg co-ordination
Activity: *Leap Frog Tag & Blind Leap Frog* 	**Activity:** *Individual & Team Orienteering* 	**Activity:** *Rock-climbing* 
HRA Focus: Student must reach the target based on fellow student directions. Teacher highlights the importance of meeting the 60 min guideline through these two activities, drawing attention to the many daily activities that can contribute to the 60 mins. **FMS Skills:** Horizontal and vertical jump addressed in this crouched action. Components of skip and run incorporated also.	**HRA Focus:** Students participate in orienteering individually and as part of a team, teacher helps them identify the pros and cons of each, students can start to identify their PA preferences, **FMS Skills:** Run and skip addressed through the balls of feet action. Components of both vertical and horizontal jump incorporated also.	**HRA Focus:** Students introduced to rock-climbing – 3 optional routes ranging from easier to more challenging identified. Students self-select their own choice in route. **FMS Skills:** Arm/leg co-ordination inadvertently integrated in this adventure activity. Arm/leg co-ordination is a component of skip, run and balance.
Teacher Reflection: Crouch component addressed in this unit? Students aware of the 60 minute guideline?	**Teacher Reflection:** Landing on balls of the feet addressed in this unit? Students aware of individual and team activities?	**Teacher Reflection:** Arm/leg co-ordination addressed in this unit? Students aware of choice in physical activity?

Don't be afraid to mix and match
the HRA focus to a different FMS focus.
For example:

HRA Focus: Exposure to individual and team-based activities **FMS Focus:** Improving arm/leg co-ordination	**HRA Focus:** Success and choice in the PA environment **FMS Focus:** Improving ability to crouch	**HRA Focus:** Meeting the daily 60 minutes guideline **FMS Focus:** Improving ability to land on the balls of feet
Activity: *Team skis* 	**Activity:** *Obstacle course* 	**Activity:** *Orienteering* 
HRA Focus: Students have 2 skis which are made up of a plank of wood with string handles for each participant. Students place feet on wood and hold handle forcing them to lift handle and feet to move one ski at a time. Begin with one person and progress into whole team on the pair of skis working together to move. **FMS Skills:** Arm/leg co-ordination component is addressed as well as the balance skill.	**HRA Focus:** Students split into teams create their own obstacle course. Students choose what activities to include which must incorporate specific criteria such as jumps, leap frog etc, but within each activity students must allow at least two different ways to complete it (differentiation). **FMS Skills:** Crouch component is developed while doing the horizontal and vertical jump in obstacle course.	**HRA Focus:** Students split into teams and participate in orienteering. At each station they will collect an exercise instruction which they bring back to base and perform before going to next station. Exercises will include jumping jacks, tuck jumps, knees up etc. Highlight how long students have been active for and the different intensity levels, and how these contribute to the 60 mins. **FMS Skills:** Students will address a variety of FMS such as run and vertical jump and more specifically FMS components such as arm/leg co-ordination and ability to land on balls of feet.
Teacher Reflection: Arm/leg co-ordination addressed in this activity? Students aware of individual and team activities?	**Teacher Reflection:** Crouch addressed in this activity? Students aware of choice in physical activity?	**Teacher Reflection:** Landing on balls of the feet addressed in this unit? Students aware of the 60 minute guideline?