



your body matters

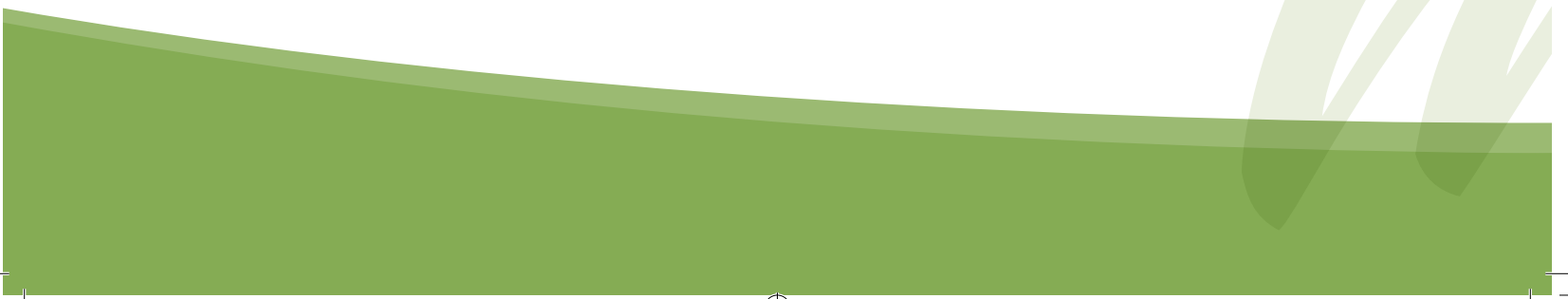


Teachers Notes

Nourishing Body & Mind for a Healthy Life
A Primary Health and Wellbeing Curriculum Pack

Revised Version 2014

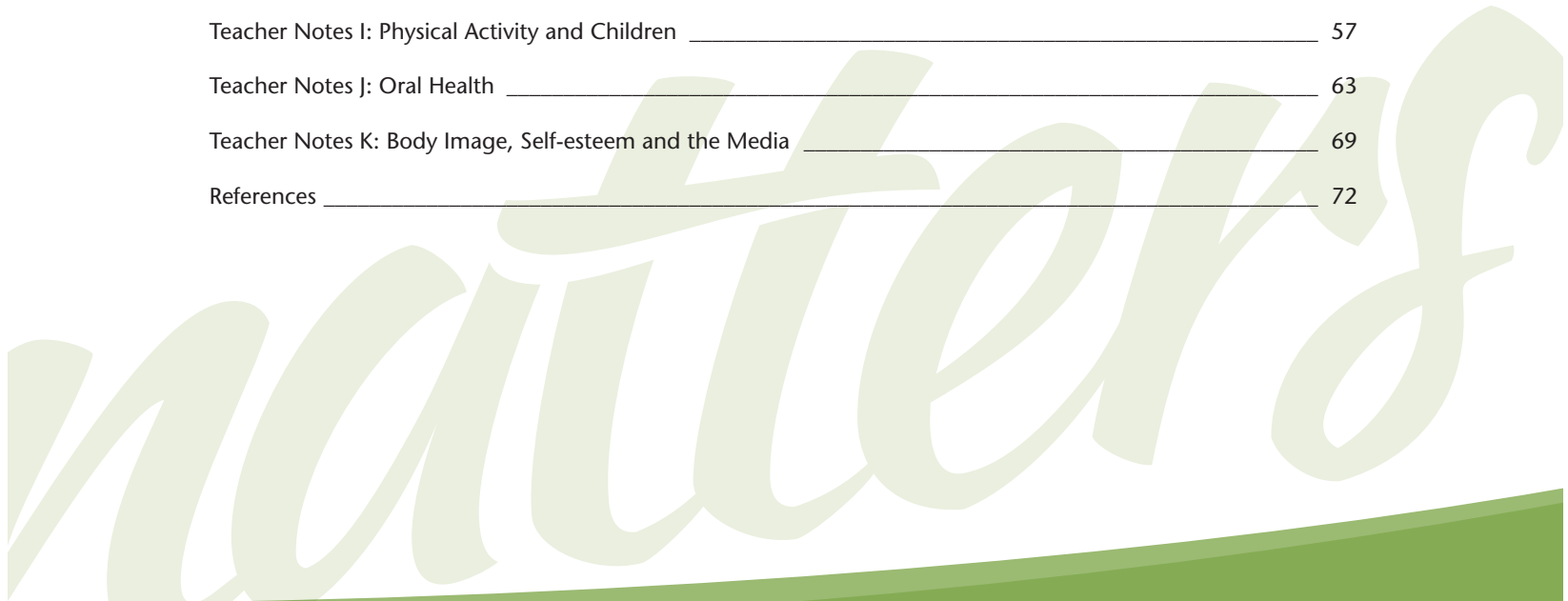






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Michelle Guthrie: Health Improvement Senior (South Sector, Glasgow CHP)

Alun Bevan: Graphic Designer (Medical Illustration Services, NHS GG&C)

Anna Blair: Depute Head Teacher (Acting) (St Roch's Primary and Hearing Impaired School)

Dominika Bugajska: Community Nutritionist (NHS GG&C South Clyde Dietetics)

Helen Clark: Quality Improvement Officer (Education Services, Glasgow City Council)

Debbie Frame: Teacher (Kirkriggs Primary School)

John Harkins: Health Improvement Senior (South Sector, Glasgow CHP)

Catriona Harper: Health Improvement Senior (South Sector, Glasgow CHP)

Carol McGurin: Health Improvement Senior (North East Sector, Glasgow CHP)

Sara McLaughlin: Health Improvement Senior (Inverclyde Community Health and Care Partnership)

Joanne McNish: Health Improvement Senior (Nutrition) (NHS GG&C)

Linda Morris: Health Improvement Lead (NHS GG&C)

Joanne Pollok: Health Improvement Senior (NHS GG&C)

Rosalind Ramage: Health Improvement Senior (North East Sector, Glasgow CHP)

Julie Watson: Teacher (Hillhead Primary)



Introduction

Welcome to the Your Body Matters curriculum pack for primary schools. This pack supports the implementation of a whole school approach to nutrition and physical activity. The pack aims to provide a coherent and progressive curriculum from P1-P7 for health and wellbeing in line with Curriculum for Excellence, specifically in relation to food and health, physical education, activity and sport.

Improved health outcomes are inextricably linked to healthy lifestyle choices. Raising awareness levels and encouraging positive behaviours in all pupils is essential to improving health outcomes and reducing health inequalities.

The World Health Organisation recognises that obesity and childhood obesity is one of the more serious public health challenges of the 21st century. As a result this agenda is being driven nationally and locally within Scotland through policies such as 'The Obesity Route Map' (Scottish Government, 2011)¹ and 'Healthy Eating, Active Living' (Scottish Government, 2008)². The Your Body Matters Curriculum pack supports the agenda to address obesity in children by promoting and facilitating the uptake of healthier choices in relation to diet and physical activity that will support the management of healthier weight in children and young people.

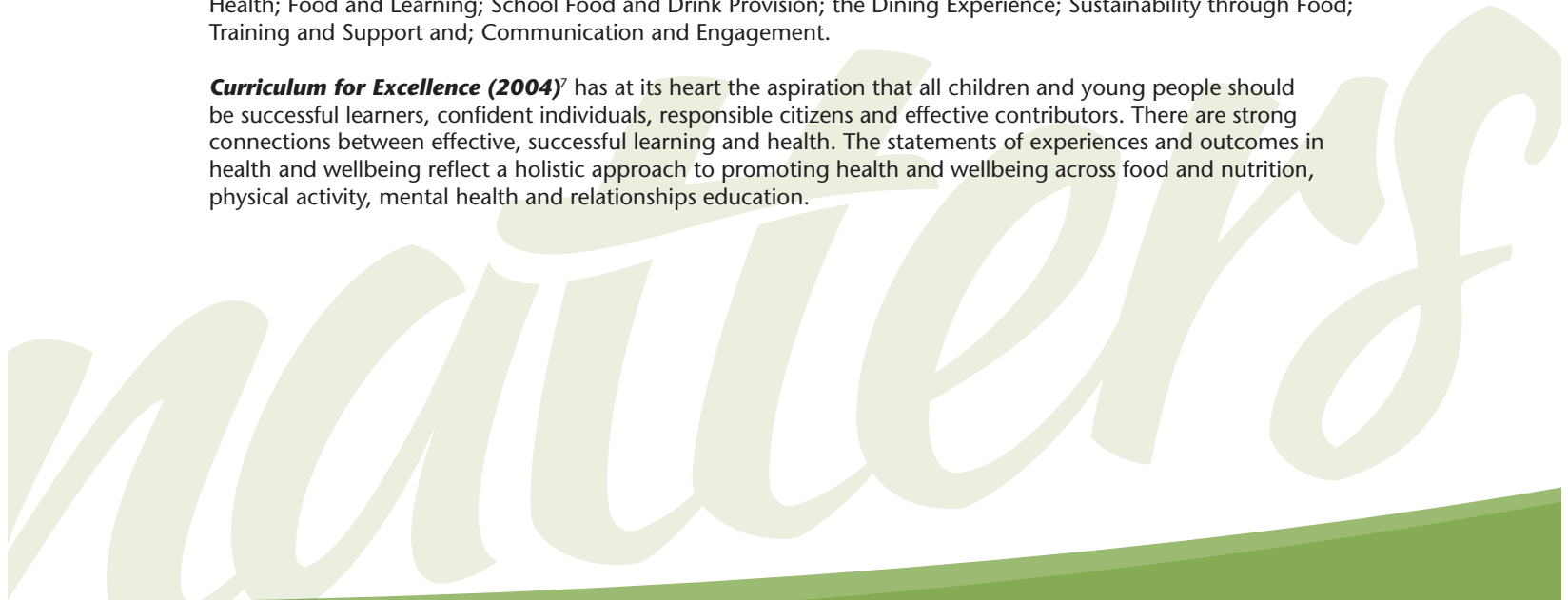
Policy Context

The Schools (Health Promotion and Nutrition) Scotland Act (2007)³ builds on the work of **Health Promoting Schools (2004)**⁴ and **Hungry for Success (2003)**⁵. The Act is to ensure schools continue to thrive as health promoting schools and place health promotion at the heart of a school's activities. The Act details the duties on Local Authorities, such as, to promote school meals and sustainable development guidance when providing food and drink and supporting the role of partner agencies in the implementation of the Act.

Under the Act, school improvement plans are expected to include health and wellbeing and are required to self-assess their progress as health promoting establishments through the development of integrated programmes. Quality improvement and performance management will be evidenced through a programme of self-assessment which is further monitored locally by Local Authority processes and nationally through the HMIE inspection regimes. In some cases a Health and Nutrition inspector (HNI) will be deployed in a sample of inspections to monitor progress of implementation of the Act, including implementation of the nutritional regulations. The self-assessment tool '**How good is our school, self-evaluation series E: The Health Promoting School' (HMIE, 2005)**' is the main vehicle that schools can use to advance this work and provides clear guidance on assessing the process of health improvement in schools.

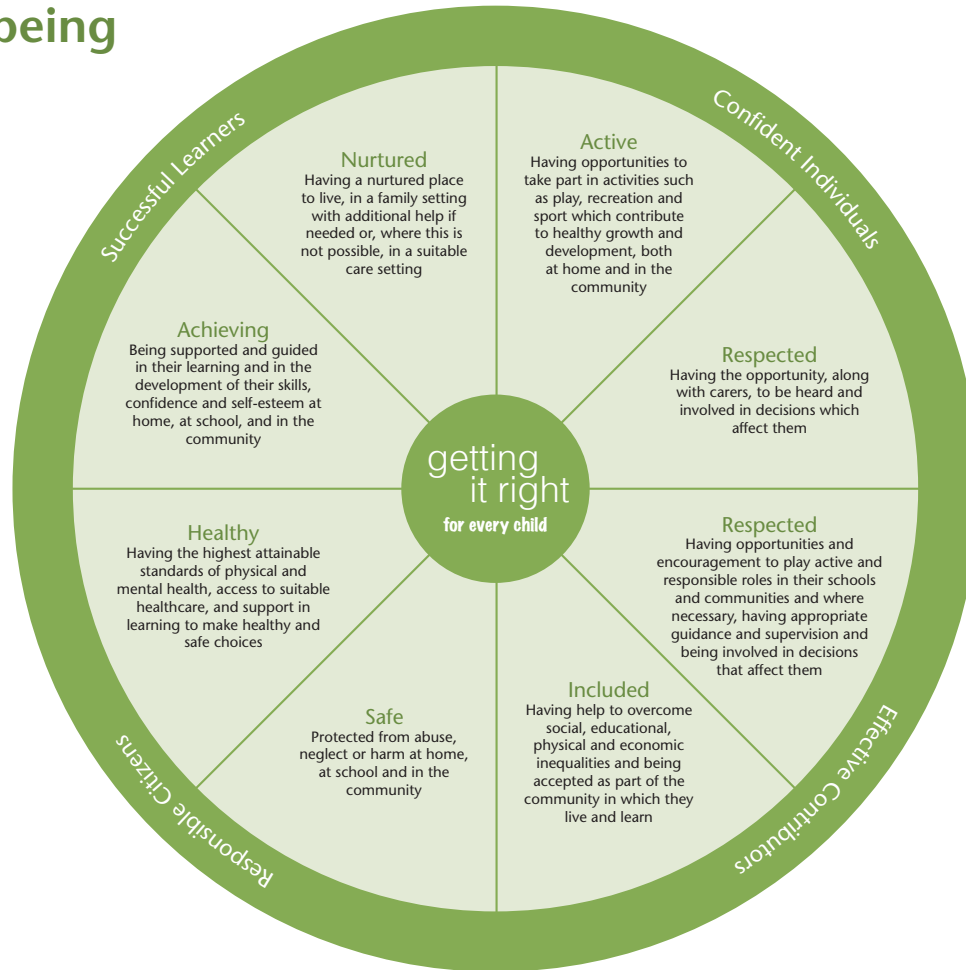
Better Eating Better Learning – A New Context for School Food (2014)⁶ is a refreshed guidance on school food and food education to build on the progress made since Hungry for Success in 2003. School food and food education present significant opportunities to rise to the health, environment and educational challenges that Scotland faces. Better Eating, Better Learning sets these opportunities and challenges in a strategic context to show how, by working in partnership and building on progress to date, further improvements in school food and food education can be made. The guidance, which is accompanied by a self-evaluation tool, covers: Food and Health; Food and Learning; School Food and Drink Provision; the Dining Experience; Sustainability through Food; Training and Support and; Communication and Engagement.

Curriculum for Excellence (2004)⁷ has at its heart the aspiration that all children and young people should be successful learners, confident individuals, responsible citizens and effective contributors. There are strong connections between effective, successful learning and health. The statements of experiences and outcomes in health and wellbeing reflect a holistic approach to promoting health and wellbeing across food and nutrition, physical activity, mental health and relationships education.



Getting It Right for Every Child (2008)⁸ sets out an approach that aims to improve outcomes for children and young people. It helps practitioners focus on what makes a positive difference for children and young people and how they can act to deliver these improvements. The wellbeing of children and young people is at the heart of GIRFEC. The approach uses eight areas of wellbeing in which children and young people need to progress in order to do well now and in the future. These eight areas are set in the context of the 'four capacities', which are at the heart of the Curriculum for Excellence.

Wellbeing



Let's Make Scotland More Active (2003)⁹ set out a framework to tackle the scale of inactivity in Scotland and by doing so, to tackle many of the health, societal, environmental and economic consequences of sedentary lifestyles. The recommendations for children's activity levels set clear guidelines and provide a plan of supported delivery that will achieve the longer-term aim of increasing Scotland's physical activity levels. In July 2011, new physical activity guidelines "Start Active, Stay Active (Department of Health, 2011)"¹⁰ were published by the four UK Chief Medical Officers, covering early years; children and young people; adults; and older adults. Physical activity should be encouraged across the population, with the latest evidence showing there is a clear link between physical activity and chronic disease. The new guidelines for children and young people (aged 5-18) state:

"Children and young people should be active for 60 minutes and up to several hours every day of moderate to vigorous intensity physical activity. Three days a week should include vigorous intensity activities that strengthen muscle and bone."

These guidelines have been supported by the Scottish Government's commitment that "every school pupil in Scotland will benefit from at least two hours per week of physical education in primary school, and two periods in S1 to S4 by 2014". This will aim to influence the cultural context and societal value of physical activity for children, making lives more active and making physical activity more accessible to individuals. Programmes such as Active Primary Schools and the physical education guidelines form an integral part of schools development as health promoting establishments.



A Whole School Policy

It is intended that through this curriculum pack, which incorporates the Curriculum for Excellence experiences and outcomes for health and wellbeing, the guiding principle from Scotland's Getting it Right for Every Child (2008) and the guidelines from the Schools Health Promotion and Nutrition Act (2007), schools will be able to establish a strong foundation for their own health and wellbeing policy. As all schools are health promoting and are now aiming to improve health, it is important that a whole school approach is adopted to ensure health and wellbeing is integrated into every aspect of life in school, reiterating the importance that the health promoting school has a major influence over the mental, emotional, social and physical health and wellbeing of children, young people and the wider school community.

Policy development should be based upon the national and local guidelines for promoting health and wellbeing and should be centred around the ethos and practices of the whole school. The following framework provides guidelines to support and develop the promotion of health and wellbeing through the whole school approach:

- **Curriculum, Learning and Teaching;** through the delivery of a full range of learning experiences within a varied curriculum, the impact of health and wellbeing will ultimately influence children's values, attitudes, behaviour and most importantly their overall health. The curriculum should cater for the needs of every child and should be continuously monitored and adapted to make sure these needs are always met. A cross curricular approach will encourage children to consider factors which influence their health and wellbeing and will in turn allow them to make well-informed decisions about their own personal lifestyle choices.
- **Extra-curricular activities and out of school hours learning;** providing or working with partners to provide opportunities for pupils to expand and cement their learning through cookery clubs, growing clubs, sports and activities.
- **Provision of food, drink and physical activity at school;** building a partnership between management, school caterers, coaches, other physical activity providers and teaching staff that will support provision of healthy food, drink and activity across all areas of work in the school, that will encourage uptake of healthy choices and that will consistently reinforce key messages.
- **Provision of environments that support healthy diet and activity habits;** ensuring that the environments for dining and activity are conducive to meeting the needs of the school population who use them and that they allow opportunities for pupils to learn associated social skills.
- **Advertisement, sponsorship and promotion;** ensuring that the advertisements, sponsorships and promotions used within school, including those that support school activities, are consistent with the messages delivered across all other areas.
- **Events and lettings;** ensuring that all events and lettings on the school premises support and provide consistency to the messages delivered within school hours, and that the messages delivered are balanced.

Whole School Action on Food and Health and Physical Education, Activity and Sport

To create an effective whole school approach to diet and activity, it is necessary to assess the health and wellbeing needs of the school community, to audit the current programmes and to determine the gaps that may exist between these programmes in relation to meeting the needs of the school community. It is important that schools use available Public Health data, in partnership and in line with local priorities to ensure health needs are met and resources are used effectively.

Many more programmes and activities can be developed and integrated into a school's health improvement plan to promote healthier diet and activity. Some of these are described below. However, these are only descriptors and are intended only to stimulate thought and discussion, there are many more programmes and activities that could be developed. Likewise schools must ensure that all programmes and resources are up-to-date and meet with quality requirements in terms of the learning experiences and outcomes. It is up to each individual school steering group to consult and involve all those concerned to ensure the programmes that are developed are interesting, fun and above all, they meet the needs of the school community.



Keeping health improvement alive and interesting in the school environment can be challenging and it is important to engage as many partners as possible to make the work and its maintenance interesting, stimulating and sustainable. The introduction of Curriculum for Excellence provides an opportunity for schools to be innovative and flexible when it comes to planning for health and wellbeing. Schools must strive to make planning and development processes as inclusive as possible and although 'thinking out of the box' can be challenging it is also a great way to engage the interest of usually disengaged, disenfranchised or excluded groups. Involving children, young people and the wider school community (parents, health professionals and local businesses) can help to build a strong sense of ownership and pride, not only in relation to the programmes that are implemented but in relation to the school as a whole.

Provision of healthy food and drink	
Healthy catering	The Schools Health Promotion and Nutrition Act (2007) outlines nutritional guidelines for food and drink in schools that must be adhered to. Implementation of the Act means all children will have access to nutritious and balanced meals during the school day. The Act also applies to school food outlets if they are operated by the Local Authority or by another person or organisation on their behalf eg community cafes, after school club providing snacks or meals.
Healthy tuck shops	Healthy tuck shops are required to comply with the Schools Health Promotion and Nutrition Act (2007). There are a wide variety of food products available compliant with the Act that are lower in fat/sugar/salt than traditional tuck shop produce and make great alternatives. Any changes to the tuck shop should be made in consultation with the children and young people.
Healthy breakfast clubs	Breakfast is often referred to as the most important meal of the day and children who have breakfast are often more calm, alert and ready to learn. Providing a healthy breakfast club on the school premises gives children access to a healthy breakfast as well as a stable, sociable environment in which to enjoy their food. Incorporating some form of activity and/or toothbrushing programme can help to fulfil additional priorities of need. Involving children in the development and maintenance of breakfast clubs will help to sustain attendance and interest.
Water provision	It is important for development and brain function to maintain an adequate level of body hydration. Providing easy access to water throughout the day not only encourages children to maintain hydration but also to adopt healthy drinking habits and to reduce the oral health risks of sugary soft drinks between meals. Hydrated children will feel refreshed and stimulated within the classroom. Water provision in the classroom/corridor/dining hall involves an element of trust. It is essential to trust the children in the use of water bottles in order to make maintaining adequate hydration a habit-forming behaviour.
Healthy Snacks/ Lunchboxes	Not all children will access food and drink made available through the school and will opt to bring their own. Food and drink brought into the school by children is not covered by the Schools Health Promotion and Nutrition Act (2007). However, schools must strive to ensure that parents are supportive of the Act and the efforts of the school to encourage healthy eating habits in children. Schools can help by providing parents with information and guidelines on appropriate playtime snacks and lunches that are compliant with the Act.
Enterprise Activities	In schools there are often other contexts where food and drink is provided or sold out with lunch e.g. enterprise activities, prizes and rewards. Eating for health can be explored across the curriculum and through many activities out with the classroom, offering a wealth of opportunities for active pupil participation. It is a natural focus for work on enterprise and citizenship. Where enterprise projects involve food and drink, pupils should take account of the nutritional regulations. Likewise, prizes and rewards should comply with the regulations.



Provision of physical activity equipment and opportunities

Playground games	Providing children with the equipment required to play traditional playground games allows them to develop structured and unstructured play within the playground. Upper school children can be trained in using the equipment and games, becoming buddies to encourage the other children to participate. Playground games provide children with the opportunities to partake in physical activities and develop their social interaction skills with their peers. Children should also be encouraged to develop their own games within the playground environment which will encourage all children to take part.
Physical Education	Physical Education is an important part of the curriculum, especially in a time when the nation is becoming increasingly sedentary. For many children PE provides opportunities for them to discover about the movement of their bodies in a structured learning environment. PE programmes are designed and planned to progressively develop the skills and abilities of children at each school stage, encouraging children to naturally build upon the skills that they learn out with the PE environment.

Out of School-Hours Learning

Healthy cookery clubs	Healthy cooking clubs are a great way to introduce children to some skills which are completely different from the normal classroom environment. These clubs are also an excellent way to interact with parents/carers, allowing them to become actively involved in their child's learning. They provide opportunities for families to experience new foods and develop their skills together in the hope that these skills will be transferred to home life.
Sports and games clubs	Extra-curricular clubs that focus on singular sports and/or games provide an opportunity for children to develop and nurture their skills and knowledge of a sport/ game that interests them. As well as helping develop their motor skills, clubs provide a safe space in which children can enhance their social and team or group skills, an invaluable asset to their future.

Classroom delivery

Curriculum for Excellence Health and Wellbeing Experiences and outcomes	The main purpose of health and wellbeing within <i>Curriculum for Excellence</i> is to develop the knowledge and understanding, skills, capabilities and attributes necessary for mental, emotional, social and physical wellbeing now and in the future. Promoting health across the curriculum will help support children and young people's development as successful learners, confident individuals, responsible citizens and effective contributors. There should be flexibility which allows teams and individual teachers to make innovative provision which addresses current circumstances and meets pupils changing needs. The messages given to children in the health and wellbeing curriculum should be integrated and consistent throughout other areas of curriculum delivery and other programmes delivered in the school as part of a health promoting whole school approach.
Growing programmes	Growing clubs are another excellent way to provide children with an experience they might not otherwise have, helping to develop their understanding of food, the food chain and growth and development, as well as the processes of life. Growing will certainly achieve many curricular objectives but can also be used as fun out of school hours activity to involve and engage partners in the wider community (including parents/carers).

Active travel to school

Safe and active routes to school	Safe and active routes to school should be identified through work with partners, especially with parents/carers. Since travel to and from school takes place out of school hours, it is important that ownership for provision of these opportunities lies with parents/carers with support from the school. Schools may find it difficult to engage and interest parents in maintaining and sustaining active routes campaigns – but it can help to 'think out of the box'! Provision of and facilitating children's access and use of safe and active routes encourages them to build up healthy safe behaviours and to adopt active living habits.
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Using the Pack: Information for Teachers

The “Your Body Matters” is a P1-P7 curriculum pack that provides a broad ranging and encompassing resource for teachers to deliver an integrated and progressive health and wellbeing curriculum in relation to food and health, physical education, activity and sport and topics that are or can be associated with these. There are also elements of the pack that are conducive to interdisciplinary learning projects, whilst some topics may link to other curriculum resources such as those that deal with emotional literacy and relationships. Teachers may want to take this into consideration when planning lessons.

The pack is a flexible resource that can be adapted and delivered to suit the needs of children. Teachers may opt to split lessons into two or more lessons depending on the needs and abilities of their class. Each lesson plan offers suggested websites that provide additional information and access to resources if required.

The resource pack includes the following:

- Resource folder with teacher notes, lesson plans and accompanying resources
- CD rom
- Handwashing Poster
- Eatwell Plate Model Poster
- Oral Health Poster
- Plough to Plate Cards
- Food Cards
- Meal Cards

There may be some elements of the pack that you would like to investigate further with your class, to expand the children’s learning about a certain topic or issue, or perhaps you would like to create a stronger link to another area of the curriculum. We recommend that as a first port of call you visit the Education Scotland Website: www.educationscotland.gov.uk which provides links to a range of nutrition and physical activity resources. The following resources are suggested additional sources of information and activities that may help you to achieve extended learning for your class.

- **Food for Thought:** a poster in the form of a mind map exploring food and drink through Curriculum for Excellence.
<http://www.educationscotland.gov.uk/studyingScotland/resourcesforlearning/learning/Contextsforstudy/foodforthought/index.asp>
- **Food and Health Skills Resource Support:** The focus of this resource is the curriculum area of health and wellbeing, in particular the Food and Health and Technologies experiences and outcomes.
<http://www.educationscotland.gov.uk/resources/f/foodhealthskillssupportresource.asp?strReferringChannel=educationscotland&strReferringPageID=tcm:4-615801-64>
- **Wash Your Hands of Them:** Full of materials and ideas to encourage children to make hand washing part of their everyday routine.
<http://www.washyourhandsofthem.com/home.aspx>



Assessment

Assessment is an integral part of learning and teaching. Staff using Your Body Matters should follow the assessment principles set out in:

- Building the Curriculum 5
- Curriculum for Excellence Health and Wellbeing Principles and Practice
- Assessing Progress in Health and Wellbeing: guidance from Education Scotland

Because important aspects of health and wellbeing are the responsibility of all staff, everyone should be clear about their areas of responsibility and their roles in assessment. In health and wellbeing, assessment has to take account of the breadth and purpose of the wide range of learning experienced by children and young people within this curriculum area. It should focus on children and young people's knowledge and understanding, skills and attributes in relation to physical education, food and health, substance misuse, relationships, sexual health and parenthood and their social and life skills.

Teachers and learners can gather evidence of progress as part of day to day learning inside and outside the classroom, and, as appropriate, through specific assessment tasks. From early years through to the senior stages, children and young people's progress will be in how well they are developing and applying their knowledge, understanding and skills. It is important that children and young people have the opportunities to reflect their own learning. In doing so children and young people should have a supportive relationship with a key member of staff who knows them well and with whom they can have regular dialogue.

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Matching the Your Body Matters pack to Curriculum for Excellence

Mental and emotional wellbeing

Early	First	Second
<p>Lesson 1.3 I am aware of and able to express my feelings and am developing the ability to talk about them. HWB 0-01a</p> <p>I know that we all experience a variety of thoughts and emotions that affect how we feel and behave and I am learning ways of managing them. HWB 0-02a</p> <p>I understand that there are people I can talk to and that there are a number of ways in which I can gain access to practical and emotional support to help me and others in a range of circumstances. HWB 0-03a</p> <p>I understand that my feelings and reactions can change depending upon what is happening within and around me. This helps me to understand my own behaviour and the way others behave HWB 0-04a</p> <p>Lesson 1.3 I know that friendship, caring, sharing, fairness, equality and love are important in building positive relationships. As I develop and value relationships, I care and show respect for myself and others. HWB 0-05a</p> <p>I understand the importance of mental wellbeing and that this can be fostered and strengthened through personal coping skills and positive relationships. I know that it is not always possible to enjoy good mental health and that if this happens there is support available. HWB 0-06a</p> <p>I am learning skills and strategies which will support me in challenging times, particularly in relation to change and loss. HWB 0-07a</p> <p>I understand that people can feel alone and can be misunderstood and left out by others. I am learning how to give appropriate support HWB 0-08a</p>	<p>Lesson 2.4 I am aware of and able to express my feelings and am developing the ability to talk about them. HWB 1-01a</p> <p>I know that we all experience a variety of thoughts and emotions that affect how we feel and behave and I am learning ways of managing them. HWB 1-02a</p> <p>I understand that there are people I can talk to and that there are a number of ways in which I can gain access to practical and emotional support to help me and others in a range of circumstances. HWB 1-03a</p> <p>Lesson 2.3 / Lesson 3.4 I understand that my feelings and reactions can change depending upon what is happening within and around me. This helps me to understand my own behaviour and the way others behave. HWB 1-04a</p> <p>I know that friendship, caring, sharing, fairness, equality and love are important in building positive relationships. As I develop and value relationships, I care and show respect for myself and others. HWB 1-05a</p> <p>I understand the importance of mental wellbeing and that this can be fostered and strengthened through personal coping skills and positive relationships. I know that it is not always possible to enjoy good mental health and that if this happens there is support available. HWB 1-06a</p> <p>Lesson 2.2(2) I am learning skills and strategies which will support me in challenging times, particularly in relation to change and loss. HWB 1-07a</p> <p>I understand that people can feel alone and can be misunderstood and left out by others. I am learning how to give appropriate support HWB 1-08a</p>	<p>Lesson 6.4 I am aware of and able to express my feelings and am developing the ability to talk about them. HWB 2-01a</p> <p>I know that we all experience a variety of thoughts and emotions that affect how we feel and behave and I am learning ways of managing them. HWB 2-02a</p> <p>I understand that there are people I can talk to and that there are a number of ways in which I can gain access to practical and emotional support to help me and others in a range of circumstances. HWB 2-03a</p> <p>Lesson 6.5 / Lesson 7.3 I understand that my feelings and reactions can change depending upon what is happening within and around me. This helps me to understand my own behaviour and the way others behave. HWB 2-04a</p> <p>I know that friendship, caring, sharing, fairness, equality and love are important in building positive relationships. As I develop and value relationships, I care and show respect for myself and others. HWB 2-05a</p> <p>I understand the importance of mental wellbeing and that this can be fostered and strengthened through personal coping skills and positive relationships. I know that it is not always possible to enjoy good mental health and that if this happens there is support available. HWB 2-06a</p> <p>I am learning skills and strategies which will support me in challenging times, particularly in relation to change and loss. HWB 2-07a</p> <p>I understand that people can feel alone and can be misunderstood and left out by others. I am learning how to give appropriate support HWB 2-08a</p>

Social wellbeing

Early	First	Second
<p>As I explore the rights to which I and others are entitled, I am able to exercise these rights appropriately and accept the responsibilities that go with them. I show respect for the rights of others. HWB 0-09a</p>	<p>As I explore the rights to which I and others are entitled, I am able to exercise these rights appropriately and accept the responsibilities that go with them. I show respect for the rights of others. HWB 1-09a</p>	<p>As I explore the rights to which I and others are entitled, I am able to exercise these rights appropriately and accept the responsibilities that go with them. I show respect for the rights of others. HWB 2-09a</p>
<p>I recognise that each individual has a unique blend of abilities and needs. I contribute to making my school community one which values individuals equally and is a welcoming place for all. HWB 0-10a</p>	<p>I recognise that each individual has a unique blend of abilities and needs. I contribute to making my school community one which values individuals equally and is a welcoming place for all. HWB 1-10a</p>	<p>I know that we all experience a variety of thoughts and emotions that affect how we feel and behave and I am learning ways of managing them. HWB 2-02a</p>
<p>I make full use of and value the opportunities I am given to improve and manage my learning and, in turn, I can help to encourage learning and confidence in others. HWB 0-11a</p>	<p>I make full use of and value the opportunities I am given to improve and manage my learning and, in turn, I can help to encourage learning and confidence in others. HWB 1-11a</p>	<p>Lesson 7.1 I make full use of and value the opportunities I am given to improve and manage my learning and, in turn, I can help to encourage learning and confidence in others. HWB 2-11a</p>
<p>Representing my class, school and/or wider community encourages my self-worth and confidence and allows me to contribute to and participate in society. HWB 0-12a</p>	<p>Representing my class, school and/or wider community encourages my self-worth and confidence and allows me to contribute to and participate in society. HWB 1-12a</p>	<p>Representing my class, school and/or wider community encourages my self-worth and confidence and allows me to contribute to and participate in society. HWB 2-12a</p>
<p>Through contributing my views, time and talents, I play a part in bringing about positive change in my school and wider community. HWB 0-13a</p>	<p>Through contributing my views, time and talents, I play a part in bringing about positive change in my school and wider community. HWB 1-13a</p>	<p>Lesson 5.4(1) / 5.4(2) / Lesson 6.4 Through contributing my views, time and talents, I play a part in bringing about positive change in my school and wider community. HWB 2-13a</p>
<p>I value the opportunities I am given to make friends and be part of a group in a range of situations HWB 0-14a</p>	<p>Lesson 2.1 I value the opportunities I am given to make friends and be part of a group in a range of situations HWB 1-14a</p>	<p>Lesson 6.2 I value the opportunities I am given to make friends and be part of a group in a range of situations. HWB 2-14a</p>

Physical wellbeing

Early	First	Second
<p>Lesson 1.1/Lesson 1.4 I am developing my understanding of the human body and can use this knowledge to maintain and improve my wellbeing and health. HWB 0-15a</p> <p>I am learning to assess and manage risk, to protect myself and others, and to reduce the potential for harm when possible. HWB 0-16a</p> <p>I know and can demonstrate how to keep myself and others safe and how to respond in a range of emergency situations. HWB 0-17a</p> <p>I know and can demonstrate how to travel safely. HWB 0-18a</p>	<p>Lesson 2.2(1) / Lesson 3.3/Lesson 3.5/ Lesson 4.1(2) I am developing my understanding of the human body and can use this knowledge to maintain and improve my wellbeing and health. HWB 1-15a</p> <p>Lesson 2.5 /Lesson 3.5 I am learning to assess and manage risk, to protect myself and others, and to reduce the potential for harm when possible. HWB 1-16a</p> <p>I know and can demonstrate how to keep myself and others safe and how to respond in a range of emergency situations. HWB 1-17a</p> <p>I know and can demonstrate how to travel safely. HWB 1-18a</p>	<p>Lesson 5.3 I am developing my understanding of the human body and can use this knowledge to maintain and improve my wellbeing and health. HWB 2-15a</p> <p>I am learning to assess and manage risk, to protect myself and others, and to reduce the potential for harm when possible. HWB 2-16a</p> <p>I know and can demonstrate how to keep myself and others safe and how to respond in a range of emergency situations. HWB 2-17a</p> <p>I know and can demonstrate how to travel safely. HWB 2-18a</p>

Planning for choices and changes

Early	First	Second
<p>In everyday activity and play, I explore and make choices to develop my learning and interests. I am encouraged to use and share my experiences. HWB 0-19a</p> <p>I can describe some of the kinds of work that people do and I am finding out about the wider world of work. HWB 0-20a</p>	<p>Through taking part in a variety of events and activities, I am learning to recognise my own skills and abilities as well as those of others. HWB 1-19a</p> <p>Lesson 2.5 I can describe some of the kinds of work that people do and I am finding out about the wider world of work. HWB 1-20a</p>	<p>Opportunities to carry out different activities and roles in a variety of settings have enabled me to identify my achievements, skills and areas for development. This will help me to prepare for the next stage in my life and learning. HWB 2-19a</p> <p>I am investigating different careers/occupations, ways of working, and learning and training paths. I am gaining experience that helps me recognise the relevance of my learning, skills and interests to my future life HWB 2-20a</p>

Physical education, physical activity and sport

Early	First	Second
I am learning to move my body well, exploring how to manage and control it and finding out how to use and share space. HWB 0-21a	I am discovering ways that I can link actions and skills to create movement patterns and sequences. This has motivated me to practise and improve my skills to develop control and flow. HWB 1-21a	As I encounter new challenges and contexts for learning, I am encouraged and supported to demonstrate my ability to select, adapt and apply movement skills and strategies, creatively, accurately and with control. HWB 2-21a
I am developing my movement skills through practice and energetic play. HWB 0-22a	I am developing skills and techniques and improving my level of performance and fitness. HWB 1-22a	I practise, consolidate and refine my skills to improve my performance. I am developing and sustaining my levels of fitness. HWB 2-22a
I am aware of my own and others' needs and feelings especially when taking turns and sharing resources. I recognise the need to follow rules. HWB 0-23a	I can follow and understand rules and procedures, developing my ability to achieve personal goals. I recognise and can adopt different roles in a range of practical activities. HWB 1-23a	While working and learning with others, I improve my range of skills, demonstrate tactics and achieve identified goals. HWB 2-23a
I am enjoying daily opportunities to participate in different kinds of energetic play, both outdoors and indoors. HWB 0-25a	Within and beyond my place of learning I am enjoying daily opportunities to participate in physical activities and sport, making use of available indoor and outdoor space. HWB 1-25a	I am experiencing enjoyment and achievement on a daily basis by taking part in different kinds of energetic physical activities of my choosing, including sport and opportunities for outdoor learning, available at my place of learning and in the wider community. HWB 2-25a
		Lesson 7.2 I have investigated the role of sport and the opportunities it may offer me. I am able to access opportunities for participation in sport and the development of my performance in my place of learning and beyond. HWB 2-26a

Physical activity and health

Early	First	Second
Lesson 1.2 I know that being active is a healthy way to be. HWB 0-27a	Lesson 2.2(1) / Lesson 3.2 I am aware of the role physical activity plays in keeping me healthy and know that I also need to sleep and rest, to look after my body. HWB 1-27a	Lesson 4.2 / Lesson 5.2 I can explain why I need to be active on a daily basis to maintain good health and try to achieve a good balance of sleep, rest and physical activity. HWB 2-27a
Lesson 1.2 I can describe how I feel after taking part in energetic activities and I am becoming aware of some of the changes that take place in my body. HWB 0-28a	I understand that my body needs energy to function and that this comes from the food I eat. I am exploring how physical activity contributes to my health and wellbeing. HWB 1-28a	Lesson 5.2 I can explain the links between the energy I use while being physically active, the food I eat, and my health and wellbeing. HWB 2-28a

Food and health

Early	First	Second
<p>I enjoy eating a diversity of foods in a range of social situations. HWB 0-29a</p>	<p>Lesson 2.4 I enjoy eating a diversity of foods in a range of social situations. HWB 1-29a</p>	<p>I enjoy eating a diversity of foods in a range of social situations. HWB 2-29a</p>
<p>Together we enjoy handling, tasting, talking and learning about different foods, discovering ways in which eating and drinking may help us to grow and keep healthy. HWB 0-30a</p>	<p>Lesson 2.1 / Lesson 3.1(1) / Lesson 4.1(1) By investigating the range of foods available I can discuss how they contribute to a healthy diet. HWB 1-30a</p> <p>I experience a sense of enjoyment and achievement when preparing simple healthy foods and drinks. HWB 1-30b</p>	<p>Lesson 5.1(1) / Lesson 6.1 By applying my knowledge and understanding of current healthy eating advice I can contribute to a healthy eating plan. HWB 2-30a</p>
<p>Lesson 1.1 I know that people need different kinds of food to keep them healthy. HWB 0-32a</p>	<p>I am beginning to understand that nutritional needs change at different stages of life, for example the role of breastfeeding in infant nutrition. HWB 1-32a</p>	<p>I understand that people at different life stages have differing nutritional needs and that some people may eat or avoid certain foods HWB 2-32a</p>
<p>I am becoming aware of how cleanliness, hygiene and safety can affect health and wellbeing and I apply this knowledge in my everyday routines such as taking care of my teeth. HWB 0-33a</p>	<p>Lesson 3.3 / Lesson 3.5 / Lesson 4.1(2) I am becoming aware of how cleanliness, hygiene and safety can affect health and wellbeing and I apply this knowledge in my everyday routines such as taking care of my teeth. HWB 1-33a</p>	<p>Lesson 5.3 / Lesson 6.3 Having learned about cleanliness, hygiene and safety, I can apply these principles to my everyday routines, understanding their importance to health and wellbeing. HWB 2-33a</p>
<p>I explore and discover where foods come from as I choose, prepare and taste different foods. HWB 0-35a</p>	<p>When preparing and cooking a variety of foods, I am becoming aware of the journeys which foods make from source to consumer, their seasonality, their local availability and their sustainability. HWB 1-35a</p>	<p>Lesson 4.4 Through exploration and discussion, I can understand that food practices and preferences are influenced by factors such as food sources, finance, culture and religion. HWB 2-34a</p>
<p>I explore and discover where foods come from as I choose, prepare and taste different foods. HWB 0-35a</p>	<p>When preparing and cooking a variety of foods, I am becoming aware of the journeys which foods make from source to consumer, their seasonality, their local availability and their sustainability. HWB 1-35a</p>	<p>Lesson 5.1(1) / Lesson 5.1(2) / Lesson 6.1 By applying my knowledge and understanding of current healthy eating advice I can contribute to a healthy eating plan. HWB 2-35a</p>
<p>I explore and discover where foods come from as I choose, prepare and taste different foods. HWB 0-35a</p>	<p>When preparing and cooking a variety of foods, I am becoming aware of the journeys which foods make from source to consumer, their seasonality, their local availability and their sustainability. HWB 1-35a</p>	<p>Lesson 4.3 (1) / Lesson 4.3(2) By investigating food labelling systems, I can begin to understand how to use them to make healthy food choices. HWB 2-36a</p>
<p>I am discovering the different ways that advertising and the media can affect my choices. HWB 1-37a</p>	<p>I am discovering the different ways that advertising and the media can affect my choices. HWB 1-37a</p>	<p>Lesson 6.2 / Lesson 6.5 I can understand how advertising and the media are used to influence consumers. HWB 2-37a</p>

Substance misuse

Early	First	Second
I understand there are things I should not touch or eat and how to keep myself safe, and I am learning what is meant by medicines and harmful substances. HWB 0-38a	I know that there are medicines and some other substances that can be used in a safe way to improve health and I am becoming aware of how choices I make can affect my health and wellbeing. HWB 1-38a	I understand the effect that a range of substances including tobacco and alcohol can have on the body. HWB 2-38a
		I know that popular culture, the media and peer groups as well as my own attitudes and values can influence how I feel about substance use and recognise the impact this may have on my actions. HWB 2-39a
		I know that alcohol and drugs can affect people's ability to make decisions. HWB 2-40a
		I can identify the different kinds of risks associated with the use and misuse of a range of substances. HWB 2-41a
I can show ways of getting help in unsafe situations and emergencies. HWB 0-42aa	I know how to react in unsafe situations and emergencies. HWB 1-42a	I know of actions I can take to help someone in an emergency. HWB 2-42a
		I understand the impact that misuse of substances can have on individuals, their families and friends. HWB 2-43a

Relationships, sexual health and parenthood

Early	First	Second
I am aware of how friendships are formed and that likes, dislikes, special qualities and needs can influence relationships. HWB 0-44a	I am aware of how friendships are formed and that likes, dislikes, special qualities and needs can influence relationships. HWB 0-44a	range of different kinds of friendships and relationships exist. HWB 2-44a
I understand positive things about friendships and relationships but when something worries or upsets me I know who I should talk to. HWB 0-44b	I understand positive things about friendships and relationships but when something worries or upsets me I know who I should talk to. HWB 0-44b	I am aware that positive friendships and relationships can promote health and the health and wellbeing of others. HWB 2-44b
I know that there are people in our lives who care for and look after us and I am aware that people may be cared for by parents, carers or other adults. HWB 0-45a	Lesson 2.4 I know that there are people in our lives who care for and look after us and I am aware that people may be cared for by parents, carers or other adults. HWB 1-45a	I am identifying and practising skills to manage changing relationships and I understand the positive impact this can have on my emotional wellbeing. HWB 2-45a

Relationships, sexual health and parenthood continued

Early	First	Second
<p>I am aware of the need to respect personal space and boundaries and can recognise and respond appropriately to verbal and non-verbal communication.</p> <p>HWB 0-45b</p>	<p>I am aware of the need to respect personal space and boundaries and can recognise and respond appropriately to verbal and non-verbal communication.</p> <p>HWB 1-45b</p>	<p>I am aware of the need to respect personal space and boundaries and can recognise and respond appropriately to verbal and non-verbal communication.</p> <p>HWB 2-45b</p>
<p>Lesson 1.3</p> <p><i>I recognise that we have similarities and differences but are all unique.</i></p> <p>HWB 0-47a</p> <p>I am aware of my growing body and I am learning the correct names for its different parts and how they work.</p> <p>HWB 0-47b</p>	<p>I recognise that we have similarities and differences but are all unique.</p> <p>HWB 0-47a</p> <p>I am aware of my growing body and I am learning the correct names for its different parts and how they work.</p> <p>HWB 0-47b</p>	<p>I recognise that how my body changes can affect how I feel about myself and how I may behave.</p> <p>HWB 2-47a</p>
<p>Lesson 1.4</p> <p><i>I am learning what I can do to look after my body and who can help me.</i></p> <p>HWB 0-48a</p>	<p>I am learning what I can do to look after my body and who can help me.</p> <p>HWB 0-48a</p>	<p>I can describe the physical and emotional changes during puberty, understand why they are taking place and the importance of personal hygiene.</p> <p>HWB 2-48a</p>
<p>I am learning about respect for my body and what behaviour is right and wrong. I know who I should talk to if I am worried about this.</p> <p>HWB 0-49a</p> <p>I am learning about where living things come from and about how they grow, develop and are nurtured.</p> <p>HWB 0-50a</p>	<p>I am learning about respect for my body and what behaviour is right and wrong. I know who I should talk to if I am worried about this.</p> <p>HWB 0-49a</p> <p>I am learning about where living things come from and about how they grow, develop and are nurtured.</p> <p>HWB 0-50a</p>	<p>I know that all forms of abuse are wrong and I am developing the skills to keep myself safe and get help if I need it.</p> <p>HWB 2-49a</p> <p>I am able to describe how human life begins and how a baby is born.</p> <p>HWB 2-50a</p>
<p>I am able to show an awareness of the tasks required to look after a baby.</p> <p>HWB 0-51a</p>	<p>I am able to show an awareness of the tasks required to look after a baby.</p> <p>HWB 0-51a</p>	<p>I can describe the role of a parent/carer and the skills, commitment and qualities the role requires.</p> <p>HWB 2-51a</p>

Teacher Notes A: The Eatwell Plate

Associated lesson plans		
Primary Stage	Lesson	Title
2	2.1	Eating for Health
3	3.1	The Eatwell Plate
4	4.1(1)	Food Groups
6	6.1	Healthier Diet
Useful websites	<p>http://www.nhs.uk/Livewell/healthy-eating/Pages/Healthyeating.aspx <i>Food Standards Agency produced website which looks at health issues, a healthy diet, food labelling, food safety and preparation and nutritional needs for different age groups.</i></p> <p>http://www.eatwellscotland.org/ <i>Provides information to help make healthier choices.</i></p> <p>http://www.nhs.uk/LIVEWELL/5aday/Pages/5ADAYhome.aspx <i>National site for more information on the 5-a-day-message.</i></p> <p>http://www.nutrition.org.uk/ <i>Provides nutrition information for teachers and educational resources.</i></p> <p>http://www.foodafactoflife.org.uk/ <i>Provides a wealth of free resources about healthy eating, cooking, food and farming for children and young people aged 3 -18. food and farming for children and y</i></p>	

Key Messages:

1. A balance and variety of foods in the diet is important for health.
2. Eating a variety of foods from each group, in the proportions illustrated, will ensure an intake of a variety of nutrients which are necessary to keep the body healthy.
3. The balance does not have to be achieved at every meal; the balance can be achieved across meals in a day.

matters



Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.

Public Health England in association with the Welsh Government, the Scottish Government and the Food Standards Agency in Northern Ireland

The Eatwell Plate is a pictorial representation of the types and proportions of different foods that are needed to make up a healthy balanced diet. It is a guide that aims to help people to understand and enjoy healthy eating by promoting the message that a healthy diet is a balanced diet, one that does not exclude foods but has them in balance. The model reinforces that it is balance and variety of foods that is important for health.

The model divides foodstuffs into five food groups:

1. Bread, rice, potatoes, pasta and other starchy foods
2. Fruit & vegetables
3. Milk & dairy foods
4. Meat, fish, eggs, beans and other non-dairy sources of protein
5. Foods & drinks high in fat and/or sugar.



The proportion of each group shown in the model represents the proportion of these foods that should make up the overall diet. A diet based upon these recommendations will provide a balanced intake of the various nutrients required to maintain health. As indicated, foods from the largest groups (bread, rice, potatoes, pasta and other starchy foods and fruit & vegetables) should be eaten most often and foods from the smallest group (foods & drinks high in fat and/or sugar) should be eaten least often.

The Eatwell Plate is recommended as a dietary guide for most people over the age of five years (children younger than this have dietary recommendations applicable to high energy needs for their growth and development (See Teacher Notes B)). The Eatwell Plate is appropriate advice for most people including people of all ethnic origins and people who are of a healthy weight or overweight. It is also suitable for vegetarians. Additionally, the Eatwell Plate does not apply to adults and children with particular medical conditions, and there are alternative and supplementary recommendations for women that should be taken into account during a pregnancy.

Why is balance more important than exclusion?

No single food or food group contains all the essential nutrients the body needs to be healthy and function efficiently. The nutritional value of a person's diet depends on the overall mixture (or balance) of foods that is eaten over a period of time, as well as on the needs of the individual. A balanced diet is one that is likely to include a large number or variety of foods, so that adequate intakes of all the nutrients are achieved. It is important not to exclude foods or food groups from the diet (including foods & drinks that are high in fat and/or sugar) because this will deprive the body of nutrients that it requires to function healthily.

It is not necessary to achieve balance at each meal but it should be applied to food eaten over a day or even a week. The amounts (or portion sizes) that should be consumed will vary depending on the energy needs of the individual and may be influenced by age, sex and physical activity levels.

National recommendations and the Eatwell Plate

The Eatwell Plate is consistent with the Scottish Executive's Eight Tips for Eating for Health, published in October 2005:

1. Base your meals on starchy foods
2. Eat lots of fruit and vegetables
3. Eat more fish
4. Cut down on saturated fat and sugar
5. Try to eat less salt
6. Get active and try to be a healthy weight
7. Drink plenty of water
8. Don't skip breakfast

These recommendations were set down to help people decipher the information from and recommendations of nutrition experts, dietitians and doctors so that they could achieve a healthy diet with as much ease as possible.

nutrition matters





Teacher Notes B: The Food Groups and a Healthy Diet

Associated lesson plans		
Primary Stage	Lesson	Title
1	1.1	Growing for Health
2	2.1	Eating for Health
3	3.1 (1)	The Eatwell Plate
4	4.1 (1)	Food Groups
6	6.1	Healthier Diet
Useful Websites	<p>http://www.nhs.uk/Livewell/healthy-eating/Pages/Healthyeating.asp <i>Food Standards Agency produced website which looks at health issues, a healthy diet, food labelling, food safety and preparation and nutritional needs for different age groups.</i></p> <p>http://www.nhs.uk/LIVEWELL/5aday/Pages/5ADAYhome.aspx <i>National site for more information on the 5-a-day-message.</i></p> <p>http://www.eatwellsotland.org/ <i>Provides information to help make healthier choices</i></p> <p>http://www.nutrition.org.uk/ <i>Provides nutrition information for teachers and educational resources.</i></p> <p>http://www.foodfactoflife.org.uk/ <i>Provides a wealth of free resources about healthy eating, cooking, food and farming for children and young people aged 3 -18.f</i></p> <p>http://www.focusonfood.org/cookingbuses.html <i>Mobile cooking classroom.</i></p>	

Key messages:

1. Meals should be based on foods from the largest sections of the plate model; 'fruit & vegetables', and 'bread, rice, potatoes, pasta and other starchy foods'.
2. To ensure healthy nutrient intake, at least 5 portions of fruit and vegetables should be eaten daily.
3. 2-3 servings of milk and dairy products should be eaten per day; low-fat varieties when they are available.
4. When meat is consumed, lean cuts of meat are recommended (trim off visible fat and skin).
5. 2 portions of fish (one oily) per week are recommended to ensure intake of essential fats (tinned tuna not counted as oily fish).
6. Sugary foods and drinks should only be consumed at mealtimes, if at all, rather than between meals.

Fruit and vegetables

Core Components:

- Carotenes: prevent oxidative damage, therefore may decrease the risk of chronic diseases such as heart disease and cancer.
- Foliates: needed for the formation of healthy red blood cells. help reduce the risk of neural tube defects in early pregnancy.
- Vitamin C: same as carotenes. Also needed for healthy skin and tissue. Aids the absorption of iron.
- Fibre: not absorbed but passes through the gut, it keeps the gut healthy and helps prevent constipation.



Number of portions recommended daily:

- Aim to have at least 5 portions of fruit and vegetables a day and to eat a wide variety of produce from this group in order to gain a variety of nutrients. Try not to eat the same fruits and vegetables every day.

General Information:

- Almost all forms of fruits and vegetables are found in this group, including fresh, frozen, dried, tinned or canned varieties, and vegetable or fruit dishes (e.g. vegetable curry, ratatouille, vegetable soup, fruit smoothies, fruit salad).
- A small glass of fruit juice counts towards the 5 a day recommendation, but can only count as one portion per day no matter how much is consumed! This is to encourage people to eat the 'flesh' and skin of fruit and vegetables; a rich source of nutrients. Regardless of how many fruits/vegetables are in juices/smoothies, one small glass still only counts as one portion towards your 5-a-day.
- Potatoes do not count as a vegetable; they are included in the starch-rich group (bread, rice potatoes, pasta).
- Fruit juices and dried fruit all contain a high concentration of sugars that can cause decay – these should be consumed at mealtimes only.

What's in a portion?

Portion sizes given here are recommended for an average adult. Children's portion sizes will vary depending on their age and energy requirements. An estimated portion size for a child would relate to what they can hold in their hand.

ONE PORTION(80g) = any of these (adult)

- | | |
|---|---|
| <ul style="list-style-type: none"> • 1 apple, banana, pear, orange or other similar sized fruit • 2 plums or similar sized fruit • ½ a grapefruit • 1 slice of large fruit, such as melon or pineapple • 3 heaped tablespoons of fruit salad (fresh or tinned in fruit juice) or stewed fruit • 1 heaped tablespoon of dried fruit (such as raisins and apricots) • 1 cupful of grapes, cherries or berries • a glass (150ml) of fruit juice (however much you drink, fruit juice counts as a maximum of one portion a day) | <ul style="list-style-type: none"> • ½ avocado • 3 heaped tablespoons of vegetables (raw, cooked, frozen or tinned) • 3 heaped tablespoons of beans and pulses (however much you eat, beans and pulses count as a maximum of one portion a day) • a dessert bowl of salad |
|---|---|

Examples of foods included in this group

Fruit

Apple, Apricot, Banana, Blackberry, Blueberry, Cherry, Fig, Fruit Juice, Grapefruit, Grape, Melon, Kiwi fruit, Lemon, Mango, Nectarine, Orange, Papaya, Passion fruit, Pear, Pineapple, Plum, Pumpkin, Raisins/sultanas/currants, Raspberry, Rhubarb, Satsuma, Star fruit, Strawberry, Tomato

Vegetables

Asparagus, Aubergine, Avocado, Broccoli, Brussel sprouts, Cabbage, Carrot, Cauliflower, Celery, Courgette, Leek, Lettuce, Marrow, Mouli, Mushroom, Okra, Onion, Parsnip, Peas, Pepper, Spinach, Sweetcorn, Watercress

Achieving 5-a-day:

It can be challenging to achieve the recommended 5 portions a day, but we can all increase the amount of fruit and vegetables that we eat through some very simple steps:



Bread, rice, potatoes, pasta and other starchy cereals

Core Components:

- Carbohydrate (starch): provides energy.
- Some calcium: development and maintenance of teeth and bones.
- B vitamins: involved in energy metabolism.
- Some iron: needed for healthy red blood cells.
- Fibre: is not absorbed but passes through the gut, it keeps the gut healthy and helps prevent constipation.
- (Some darker varieties of these foods also contain high amounts of fibre).



Number of portions recommended daily

- Aim to have 5-6 portions from this food group daily.

General Information:

- Eat foods from this group in good amounts - meals should be based on foods from this group as they provide a stable energy source.
- Eating more foods from this group will help to increase the amount of fibre and reduce the amount of fat (by proportionately reducing intake of meat, fish and dairy foods) in the diet.
- Make sure the potato, rice or pasta is the largest portion on your plate e.g. use more spaghetti in relation to meat sauce in spaghetti bolognaise or more mashed potato topping in relation to meat in cottage or shepherd's pie.
- Eating a variety of foods from this group is also recommended.
- Try to eat wholemeal, wholegrain and brown versions of produce (e.g. rice, pasta, bread, cereals) as well as white or refined versions.
- It is often thought that foods from this group are fattening. This isn't true but starchy foods can become fattening if they are either cooked or served with fat. So try to avoid having them fried or adding too much fat in the form of spreads or sauces rather than cutting down on the starchy foods themselves.

Examples of foods included in this group:

White bread, Oats, Brown bread, Puffed rice, Whole-grain bread, Couscous, Spaghetti, Chapatti, Pasta, Flour tortilla, Baked potato, Low sugar cereal, Natural muesli, Sweet potato White rice, Scones, Brown rice, Noodles, White flour, Wholemeal flour, Naan bread

Practical Advice:

- Have a low salt/sugar wholegrain cereal for breakfast.
- Snack on sandwiches or toast (use thick cut bread).
- Use wholemeal bread or rolls at lunchtime.
- Have potatoes, rice or pasta as the base for evening meals.

Meat, fish, eggs, beans and other non-dairy sources of protein

Core Components:

- Protein: is required for growth and repair of the body, and excess is used to provide energy.
- Iron: needed for the formation of healthy red blood cells.
- B vitamins: Vitamin B¹² needed for the formation of blood cells and nerve fibres.
- Zinc: needed for bone development and nerve and muscle function.
- Omega-3 fatty acids: can help to protect against heart attacks.



Number of portions recommended daily:

- Aim to consume 2-3 portions of this food group daily.

General Information:

- Eat moderate amounts of foods from this group and choose lower fat versions where possible.
- Choose lean cuts of meat.
- Food preparation can help to make the foods in this group healthier e.g. cutting fat and skin from cuts of meat or poultry.
- Avoid fish and poultry cooked in batter or breadcrumb coatings.
- Avoid too many processed beefburgers and sausages as they are often high in fat & salt.
- Cook these foods without adding fat (e.g. grill or oven bake instead of frying).
- It is recommended that we eat at least two portions of fish each week, one of which should be an oily fish (e.g. salmon, mackerel, trout, sardines or fresh tuna). N.B tinned tuna only/still counts as white fish.
- Non-dairy sources are other foods high in protein that are eaten by people who may or may not eat meat or fish and include foods such as nuts, tofu, mycoprotein, textured vegetable protein (TVP) and pulses such as lentils and seeds. These foods provide protein, fibre and iron but unlike those listed above are not a rich source of zinc and generally provide no vitamin B¹²

Examples of foods included in this group:

<i>Beef steak</i>	<i>Tofu</i>
<i>Beef mince</i>	<i>Quorn/Textured Vegetable Protein</i>
<i>Cold ham slices</i>	<i>Red kidney beans</i>
<i>Chicken breast</i>	<i>Pumpkin seeds</i>
<i>Fish</i>	<i>Nuts</i>
<i>Tinned tuna fish</i>	<i>Baked beans</i>
<i>Eggs</i>	<i>Black-eyed beans</i>
<i>Prawns</i>	<i>Sunflower seeds</i>
<i>Sushi</i>	

Practical Advice:

- Have tuna in a baked potato or sandwich at lunchtime.
- Chicken casserole with plenty of vegetables as part of an evening meal.

Milk and dairy foods

Core Components:

- Calcium: development and maintenance of teeth and bones.
- Protein: required for growth and repair of the body, any excess is used to provide energy.
- Vitamin B¹²: needed for the formation of blood cells and nerve fibres.
- Vitamin A: needed for the maintenance and repair of tissues necessary for growth and development and is also essential for immune function and night vision.
- Some vitamin D (main source of Vitamin D is sunlight): promotes calcium and phosphate absorption from foods and is essential for healthy teeth and bones.



Number of portions recommended daily:

- Aim to eat 2-3 portions from this food group daily.

General Information:

- Eat and drink moderate amounts of foods from this group.
- Choose lower fat versions where possible such as semi-skimmed or skimmed milks, low fat yoghurts, fromage frais and reduced fat cheeses.
- To reduce fat intake, use a smaller amount of strong tasting cheese such as mature cheddar in cooking.

Examples of foods included in this group:

<i>Cheddar cheese</i>	<i>Yoghurt drinks</i>
<i>Blue cheese</i>	<i>Semi-skimmed milk</i>
<i>Brie</i>	<i>Goats milk</i>
<i>Low-fat cream cheese</i>	<i>Low-fat milkshake</i>
<i>Cottage cheese</i>	<i>Goats cheese</i>
<i>Fromage frais</i>	<i>Mini cheeses</i>
<i>Paneer</i>	<i>Natural yoghurt</i>
<i>Halloumi</i>	<i>Low-fat fruit yoghurt</i>
<i>Calcium fortified soya alternatives</i>	

Practical Advice:

- Use semi-skimmed milk with cereal for breakfast.
- Have low-fat yoghurt as a snack or dessert.
- Use a small amount of strong cheese or a low fat cheese in a sandwich for lunch.



Foods and drinks high in fat and/or sugar

Core Components:

- **Fat:** ingested in the diet is used as insulation and padding for protection of sensitive or high impact areas (e.g. sole of the foot) or is broken down into its component parts and used as building blocks for essential proteins in the body.
- **Simple Carbohydrate (sugar):** provides a source of energy to enable the body to perform movement and to allow it to synthesise many of the cells and tissues essential to the maintenance, function and repair of the body.
- Some also provide fat soluble vitamins and some salt.



Fat

It's important to have some fat in our diet because fat helps the body absorb some vitamins. It's a good source of energy and a source of the essential fatty acids that the body can't make itself.

What is important is the kind of fat we eat. There are two main types of fat:

- **Saturated fat** - having too much can increase the amount of cholesterol in the blood, which increases the chance of developing heart disease.
- **Unsaturated fat** - having unsaturated fat instead of saturated fat can help lower blood cholesterol.

Try to cut down on food that is high in saturated fat (pies, hard cheese, butter, pastry cakes) and have foods that are rich in unsaturated fat instead, such as vegetable oils (including sunflower, rapeseed and olive oil), oily fish, avocados, nuts and seeds.

Sugar

Most people in the UK eat too much sugar. We should try to eat fewer foods containing added sugar, such as sweets, cakes, biscuits and drink fewer sugary soft and fizzy drinks. Having sugary foods and drinks too often can cause tooth decay, especially if you have them between meals. Many foods that contain added sugar can also be high in calories so cutting down can help control weight.

Number of portions recommended daily:

- Foods from the 'foods and drinks high in fat and/or sugar' group contain higher quantities of fat and/or sugar than foods in the other groups and often few other useful nutrients. Hence the foods in this group should be used to add variety to the diet, should be eaten only in small quantities and not very often and kept to mealtimes only.

General Information:

- Foods in this group should be eaten in small amounts.
- They should be used to flavour and add interest to the diet.
- Some of these foods, such as oils and spreads, are typically eaten every day, so try to use sparingly and look for lower fat alternatives where possible.
- Vegetable fats and oils can be healthier alternatives from this group.
- Other foods such as cakes and biscuits should not be eaten too frequently and again, try to choose lower fat alternatives where possible.
- Restrict foods and drinks containing sugar to mealtimes, rather than between meals to reduce the impact on teeth.

Examples of foods included in this group:

<i>Olive oil</i>	<i>Crisps</i>	<i>Doughnut</i>	<i>Jelly</i>
<i>Vegetable oil</i>	<i>Pretzels</i>	<i>Biscuits</i>	<i>Jam</i>
<i>Butter/ghee</i>	<i>Croissant</i>	<i>Marmalade</i>	<i>Margarine</i>
<i>Cordial/squash</i>	<i>Chocolate</i>	<i>Syrup</i>	<i>Fizzy drinks</i>
<i>Sweets</i>	<i>Sugar</i>	<i>Mayonnaise</i>	<i>Cakes</i>
<i>Honey</i>	<i>Tomato Ketchup</i>	<i>Salad cream</i>	<i>Cream</i>
<i>Sausage Roll</i>	<i>Pastry (Sweet & Savoury)</i>		





Practical Advice:

- Spread butter or margarine thinly.
- Grill, bake or microwave rather than fry foods in fat.
- Don't have sugary snacks and drinks too often and if possible, limit to mealtimes.
- Serve salad dressings and dessert toppings separately.

Composite Dishes

Sausage pizza

- Dough base from 'Bread, rice, potatoes, pasta and other starchy foods'
- Cheese from 'Milk and dairy foods' group
- Sausage from 'Meat, fish eggs, beans and other non-dairy sources of protein'
- Tomato from 'Fruit and vegetables' group



In order to apply the Eatwell Plate to our diet it is important to know what proportion of foods we are eating from each group. Dishes such as casseroles, lasagne, spaghetti bolognaise and sandwiches are called composite dishes. Composite dishes cannot be neatly put into one food group but must be broken down into their component parts.

The picture above shows how the ingredients of a pizza can be broken down and grouped into the 'Eatwell Plate' food groups. It is possible to make composite dishes healthier by changing the amount of each food group present in the dish i.e. by reducing the amount of cheese and adding more vegetables to a pizza.

Fluids

Some fluids such as milk and fruit juice contain important nutrients such as vitamins and minerals, and as such are included within the Eatwell Plate food groups. Sugary drinks also feature on the Eatwell Plate model but can only be considered as maximum one portion/serving from the foods and drinks high in fat and/or sugar.

The human body requires fluids, particularly water, in order to function efficiently and healthily. There is no formal recommendation about the amount of total fluid that should be taken in a day. For most people this means drinking 6-8 glasses of fluid per day. When the weather is hot, during and after exercise or strenuous activity, more fluid is needed to compensate for that which is lost from the body.



Drinks that contain caffeine, such as tea, coffee and cola can act as mild diuretics, meaning that they make the body produce more urine. This affects some people more than others. We should limit our intake of drinks that contain caffeine and drink more fluids each day that don't contain caffeine.

Pure unsweetened fruit juice is a good source of vitamin C and is best given with breakfast or a main meal to help the absorption of iron. However, fruit juices are not recommended between meals as are they are acidic and can cause dental decay and erosion. Sweetened juices, squashes and fizzy drinks (including diet versions) are a major cause of tooth decay and erosion. If consumed these drinks should only be given at mealtimes given and drank through a thin straw to limit effects on teeth.

Plain milk and water are the best between meals drinks because they contain no sugar or acid and therefore do not pose a risk to dental health.



Salt

Most people in the UK eat too much salt and would benefit from cutting down the amount of salt that they eat. Eating too much salt can raise your blood pressure; people with high blood pressure are three times more likely to develop heart disease or have a stroke than people with normal blood pressure.

Cutting down on salt reduces blood pressure, whether or not your blood pressure is high to start with. When your blood pressure goes down, your risk of developing heart disease and stroke goes down too, whatever your age. If you have high blood pressure, cutting down on salt can help to lower blood pressure in weeks.

Adults should have a maximum of 6g salt per day and children should have even less. The maximum amount of salt children should be having varies by age:

- **4 to 6 years** **Maximum 3g salt per day**
- **7 to 10 years** **Maximum 5g salt per day**
- **11 years onwards** **Maximum 6g salt per day**

6g salt is about a teaspoonful. This is not a large amount, especially when you consider that 75% of the salt we eat comes from processed food.

It would be very difficult to calculate exactly how much salt you eat in a day, because you would need to know the salt content of each food and measure the exact quantities you eat. But, it's useful to know the recommended maximum of 6g, because if you find out the amount of salt in a few of the foods that you normally eat, then you'll see how easy it is to eat more than 6g. One of the easiest ways to cut down on salt is to compare foods and choose those that are lower in salt whenever you can.

Salt is made up of sodium and chloride. It's the sodium in salt that can be bad for your health. Sodium is usually listed in the nutritional information on food labels. Salt is also listed on some foods, but not all. If you know how much sodium is in a food you can estimate the amount of salt it contains by multiplying the amount of sodium by 2.5.

Try to avoid eating lots of foods that are high in salt. If you eat a lot of these foods, it can be very easy to have more than your daily limit of salt. When buying processed foods, even those aimed at children, remember to check the information given on labels and choose those with less salt. It's also a good idea to choose foods that say 'no added salt', if possible. Avoid adding salt to food, both during cooking and at the table.

Foods that are almost always high in salt.

To cut down on salt, eat them less often or have smaller amounts:

- anchovies
- cheese
- gravy granules
- stock cubes/powder
- hot dogs (sausages)
- processed
- cured meats (e.g. pepperoni, salami)
- olives
- pickles
- prawns
- salted and dry roasted nuts
- salted fish
- smoked meat and fish
- soy sauce
- yeast extract

Foods that can be high in salt.

In the following foods, the salt content can vary widely between different brands or varieties. That means you can cut down on salt by comparing brands and choosing the one that is lower in salt. Nutrition labels can help you do this. These foods include:

- burgers
- pasta sauces
- crisps
- pizza
- ready meals
- some soups
- sandwiches, especially shop bought
- sausages
- tomato ketchup, mayonnaise and other sauces
- *bread products such as crumpets, bagels and ciabatta
- *breakfast cereals

*Please note that it is not recommended to cut these, otherwise generally healthy, foods out due to their potentially high salt content. As mentioned above, lower salt varieties can be found by comparing brands. Also, otherwise avoiding/ reducing using salt, e.g. in cooking and at the table are better ways to lower the overall salt intake. No added salt/ low salt breakfast cereals are available in the shops.

Nutritional Needs of Primary School Children

Children need a healthy, varied diet containing an adequate balance of energy and nutrients; as outlined in the Eatwell Plate model. This balance is essential for normal growth and development, which can be rapid during certain times of childhood. The energy requirements of children can change rapidly because they are growing quickly and are becoming more active; they have high energy requirements in relation to their size. To achieve this energy intake, foods which are high in energy (and other nutrients) should be eaten as part of small and frequent meals for younger children (4-6 years) as their stomach size is not large enough to cope with large meals.

Children should be encouraged to eat a varied diet which is rich in fruit, vegetables and starchy foods as this will help to ensure that they obtain the wide range of nutrients as well as the energy that they require to grow, develop and maintain health.

There are a number of essential minerals and vitamins that children require for healthy growth and development:

Mineral/Vitamin	Information
Calcium	<ul style="list-style-type: none"> Milk, cheese, yoghurt, soya beans and nuts are high in Calcium. Needed for healthy bones and teeth.
Vitamin D	<ul style="list-style-type: none"> Fortified breakfast cereals, margarine and oily fish are high in dietary vitamin D. The body can also synthesise vitamin D through a chemical process facilitated by energy from sunlight on skin; this is the main source of vitamin D in the body. Helps to ensure a good supply of calcium in the blood and therefore healthy bones.
Iron	<ul style="list-style-type: none"> Meat, particularly red meat and liver, and fish are rich sources of Iron is needed for healthy blood. Pulses (beans and lentils), green vegetables and fortified cereals are also good sources of iron.
Fish	<ul style="list-style-type: none"> Fish is a good source of protein, vitamins and minerals and is low in saturated fat. Oily fish such as mackerel, salmon and sardines also contain Omega 3 fatty acids which help prevent heart disease, and are also a good source of vitamins A & D. It is recommended that children should eat at least 2 portions of fish a week (a portion is around 140g), one of which should be an oily fish. There is a recommended maximum intake of oily fish: for boys no more than four portions of oily fish a week and for girls, no more than two portions of oily fish a week. The lower recommendation for girls is because pollutants, such as dioxins, found in oily fish can accumulate in the body over time and may be detrimental in later life to an unborn baby. It is also recommended that fish such swordfish, marlin or shark should not be eaten by children because these fish have been found to contain relatively high levels of mercury, which may affect a child's developing nervous system.
Vitamin C	<ul style="list-style-type: none"> Citrus fruits such as oranges, tomatoes and potatoes are all good sources of vitamin C. Potatoes with skin on e.g. baked potatoes and unpeeled baby potatoes have more Vitamin C than peeled potatoes. Vitamin C may help the absorption of iron; therefore, having fruit juice with an iron rich meal may help increase iron absorption.
Vitamin A	<ul style="list-style-type: none"> Milk, margarine, butter, green vegetables, carrots and apricots are all good sources of vitamin A which is important for good vision and healthy skin.

Teacher Notes C: Food Labelling

Associated lesson plans		
Primary Stage	Lesson	Title
4	4.3 (1)	Being Careful with Food
4	4.3 (2)	Being Careful with Food
Useful Websites	http://www.food.gov.uk/scotland/scotnut/signposting/ <i>Food Standards Agency food labelling information</i>	

Why do we label food?

Food labelling is important as it provides information to consumers that will inform their food choices i.e. between different foods, brands and flavours. There is a legal requirement for much of the information that must be provided on food labels. UK laws regarding food labelling are based on EU community legislation which provides some consistency across the EU. This consistency makes the import and export of packaged foods easier across the EU countries.

What information can a label tell us?

Food labelling tells us two important types of information:

1. Specific information about the food which is required to be included in accordance with labelling laws e.g. name of food, ingredients list, information on allergens, quantity of certain ingredients, weight or volume, date and storage instructions, name and address of manufacturer (or importer), place of origin, preparation instructions and (from 13 December 2014) a nutrition declaration.
2. Additional information that is not required by law such as serving suggestions.

Specific Information (required by law)

Name or description of food

A label must clearly state the name of a food or give an accurate description of the foods ingredients and how it has been processed e.g. 'dried', 'salted', 'smoked'. This information cannot be misleading in any way and should describe any differences between similar food so as not to be ambiguous e.g. 'fruit flavoured yoghurt' will be flavoured with artificial flavourings while 'fruit yoghurt' will be flavoured with real fruit.

Ingredients

Ingredients are listed in order of their weight within the food product; from the largest ingredient to the smallest.

Allergens (Changes beginning December 2014)

Any of the 14 allergens that are on the regulatory list will be emphasised on the label, if they are used as ingredients in a pre-packaged food. Food businesses can choose what method they want to use to emphasise these, for example, bold, italics, highlighting, contrasting colours, capitalising text and underlining. Information about allergenic ingredients will be located in a single place, i.e. the ingredients list on pre-packed food. This means that the voluntary use of the current types of allergy boxes (such as: 'Contains nuts') that provide a short cut to allergen information also given in the ingredients list, will no longer be allowed. Loose foods (that can be bought without packaging), for example in supermarkets, delis, cafes and restaurants, will have to provide information on any of the 14 allergens used as ingredients.



What are the 14 allergens on the regulatory list?

- eggs
- milk
- fish
- crustaceans (for example crab, lobster, crayfish, shrimp, prawn)
- molluscs (for example mussels, oysters, squid)
- peanuts
- tree nuts (almonds, hazelnuts, walnuts, cashews, pecans, brazils, pistachios, macadamia nuts or Queensland nuts)
- sesame seeds
- cereals containing gluten (wheat (such as spelt, Khorasan wheat/Kamut), rye, barley, oats or their hybridised strains).
- soya
- celery and celeriac
- mustard
- lupin
- sulphur dioxide and sulphites (at concentration of more than ten parts per million)

Weight or volume

The weight does not need to be exact and can be provided within a few grams of the actual weight. Products that weigh less than 5g do not need to declare their weight.

Dates and storage instructions

Perishable foods that can spoil quickly have a 'use by' date. If kept for too long these foods can cause food poisoning even though they may not taste differently. Other foods have a 'best before' date. The flavour, colour and texture of these foods may not be at their best but they should be safe to eat if they have been stored according to their instructions on the label. Date marks such as 'display until' or 'sell by' often appear near or next to the 'best before' or 'use by' date. They are used by some shops to assist with stock control and are instructions for shop staff, not shoppers. Other guidance on the mode of storage has become universal. For example, a simple star system is used for refrigeration and freezer storage instructions; what temperature the food should be held at and for how long:

* - **6°C 1 week (pre frozen food only)**

** - **12°C 1 month (pre frozen food only)**

*** - **18°C 3 months (pre frozen food only)**

**** - **18°C or colder 6 months (pre frozen food; can also be used to freeze fresh food from room temperature)**

Name of business (the manufacturer, packer, seller or importer)

Food Business Operators (FBO) whose name appears on the labelling is the business responsible for the information on the label. This must be a FBO in the EU or, where the food is imported into the EU, the importer into the EU. This information should be clearly stated and should provide consumers with contact details.

Country of origin

The origin or place of provenance of a food must be given if it would be misleading not to include this information on a label it should be clearly stated e.g. Greek yoghurt that was made in France should clearly state that the product was made in France. Some other origin labelling provisions have yet to be agreed.

Preparation/cooking instructions

If the food needs to be cooked, this needs to be apparent, especially if the food requires a specific cooking technique, such as the use of a microwave oven. The oven cooking temperature and the cooking time should be provided; similar information may also be given for microwaving or other methods of cooking e.g. boiling.

Nutrition declaration

FBO will need to provide a mandatory nutrition declaration (commonly referred to as "back of pack" nutrition labelling) on pre-packed food from 13 December 2016. This comprises energy value (in kilojoules (kJ) and kilocalories (kcal)) plus the amounts (in grams (g)) of fat, saturates, carbohydrate, sugars, protein and salt.



Additional information (not required by law)

Serving suggestions

Some manufacturers include recipes to give an indication of how the food product can be used. Serving suggestions are typically used to show how the product can make up part of a meal or composite dish (not to show how the product will look without the packaging).

Organic certification

Manufacturers or producers wishing to label their food as Organic, must gain certification from one of the six UK certification bodies.

Genetically Modified (GM) Ingredients

Any GM organisms contained in foods or any ingredients produced from GM organisms must be clearly labelled. This does not include foods made with genetically modified technology e.g. cheese produced using GM enzymes or meat, milk or eggs from animals fed with GM produce.

Lot or batch number

Lot marks are sometimes identified by an 'L' before the number. The date of production is sometimes used as a lot mark. A lot or batch number is by the manufacturer if there is need to recall a batch of food in the event of a fault.

Loose produce

Labelling rules for pre-packed foods do not always apply to foods sold loose; for example, the listing of ingredients and date and storage conditions. However, for GM products sold 'loose', information must be displayed immediately next to the food to indicate that it is GM.

Assured food standards

When you see the Red Tractor logo, it means the food's been made by a member of a food assurance scheme overseen by Assured Food Standards. This means it's had to meet certain standards when it was being made. Assurance schemes are mostly voluntary and are set up for farmers, growers and other food businesses. A few schemes are independent of Assured Food Standards. The organisation that runs an assurance scheme carries out independent inspections to check whether these businesses are meeting certain standards. If they are, they become accredited. The standards vary depending on the scheme. They cover mostly food safety, animal welfare and the environment.

Front-of-pack nutrition labelling

Following detailed discussions with the food industry, health organisations and other interested parties, the Food Standards Agency in Scotland launched a new, front of pack (FoP) nutrition labelling scheme to help consumers see at a glance what is in their food.

The basic elements of a Front of Pack (FoP) nutrition label

A FoP label will contain:

- Information on the energy value in kilojoules (kJ) and kilocalories (kcal) per 100g/ml and in a specified portion of the product.
- Information on the amounts in grams of fat, saturated fat ("saturates"), (total) sugars and salt in grams, in a specified portion of the product.
- Portion size information expressed in a way that is easily recognisable by and meaningful to the consumer. For example, ¼ of a pie or 1 burger.
- % Reference Intakes (or 'RIs') information based on the amount of each nutrient and energy value in a portion of the food (100g/ml or a specified portion in g/ml)
- Colour coding of the nutrient content of the food.

*The term 'Reference Intakes' (or 'RIs') has replaced 'Guideline Daily Amounts' ('GDAs'). RIs are given for all of the mandatory nutrients (energy, fat, saturates, carbohydrate, sugars, protein and salt). However, unlike with GDAs where values existed for men, women and children, for simplicity there is now only one set of RIs (below).

The new label will be colour-coded red, amber and green, and highlights 'percentage Reference Intakes' (see below)



Additional descriptors

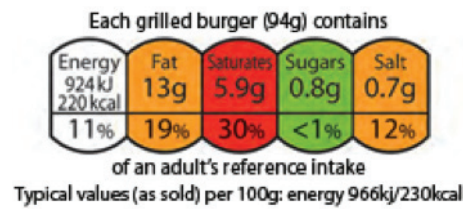
Companies may additionally include the descriptors “High”, “Medium” or “Low” (HML),* together with the colours red, amber or green respectively, to reinforce their meaning.

Red - colour coding means the food or drink is high in this nutrient and we should try to have these foods less often or eat them in small amounts.

Amber - means medium and if a food contains mostly amber, you can eat it most of the time.

Green - means low and the more green lights a label displays, the healthier the choice.

The new scheme (an example of which is illustrated here), is recommended for use across the UK.



* How to tell what's high, medium and low:

Total fat

High: more than 17.5g of fat per 100g

Low: 3g of fat or less per 100g

Saturated fat

High: more than 5g of saturated fat per 100g

Low: 1.5g of saturated fat or less per 100g

Sugars

High: more than 22.5g of total sugars per 100g

Low: 5g of total sugars or less per 100g

Salt

High: more than 1.5g of salt per 100g (or 0.6g sodium)

Low: 0.3g of salt or less per 100g (or 0.1g sodium)



Teacher Notes D: Where Does Food Come From?

Associated lesson plans		
Primary Stage	Lesson	Title
5	5.1(1)	Food on my Plate
Useful websites	<p>www.fairtrade.org.uk <i>Fairtrade foundations website. Details about campaigns, producers, suppliers in the UK, and news about fairtrade. Contains a pack looking at raising the profile of fairtrade within the school.</i></p> <p>www.co-operativefood.co.uk <i>'Make your school Fairtrade friendly' is a resource pack, produced for primary schools by the Cooperative food retailer, which examines where our food comes from and how fairtrade can make a difference to producers and their communities.</i></p>	

Where does the food we eat come from?

Many foods that are now commonly available in Britain were imported for growing at a point in history or are still to this day imported from countries all over the world. For example, potatoes came from the 'new world' and were first grown in Scotland around the 17th Century, squashes and marrows were originally from the 'new world' and came to Britain via Spain in the 16th Century, and pears were originally imported from European countries and are now also commonly grown in the UK. Many foods commonly found in our shops and supermarkets such as bananas, tea, potatoes, and chocolate are produced in the Caribbean, India, Egypt and Ghana, and then imported for consumption on the British market. Along with more traditional export crops, UK consumers can now buy items such as mangetout from Guatemala, mangoes from South Africa, paw-paw from Ghana, tuna from Indonesia, fine beans from Kenya and star fruit from Malaysia. The following table shows where some of the most commonly imported food produce is sourced from around the world:

Food Produce	Country grown in	Food Produce	Country Grown in
Bananas	<ul style="list-style-type: none"> • Mexico • Nicaragua • Uganda • Honduras • Guatemala • Columbia • Panama 	<ul style="list-style-type: none"> • Coffee 	<ul style="list-style-type: none"> • Brazil • Columbia • Ghana • Vietnam • Mexico • Indonesia • Kenya
Orange Juice	<ul style="list-style-type: none"> • Brazil • Mexico • Spain • USA 	<ul style="list-style-type: none"> • Sugar 	<ul style="list-style-type: none"> • India • Brazil • China • Mexico • South Africa • Thailand • UK • France
Tea	<ul style="list-style-type: none"> • China • India • Indonesia • Sri Lanka • Argentina • Kenya • Malawi • Tanzania 	<ul style="list-style-type: none"> • Rice 	<ul style="list-style-type: none"> • India • Thailand • Vietnam • Cambodia • Pakistan
Cocoa (Chocolate)	<ul style="list-style-type: none"> • Brazil • Côte d'Ivoire • Indonesia • Nigeria • Cameroon • Ivory Coast • Ghana 	<ul style="list-style-type: none"> • Honey 	<ul style="list-style-type: none"> • Chilli • Mexico • United Kingdom • Nicaragua



Our food and meals are part of global trade and can travel from countries as far away as New Zealand to reach our plate. This often means that large numbers of people (farmers, production lines, packers, transporters, shippers and retailers) and countries are involved in getting the food we eat onto the plate. This global trade has also opened up our experience of food, recipes and dishes from all over the world. Traditionally, British food was bland and heavy in composition; there was very little variety available to create dishes. However, naval exploration and global trade have since expanded the possibilities and embedded many dishes from around the world into common use in the UK.

Farming

There are a wide variety of farming techniques associated with modern food production. In the westernised countries, most of our food is already produced intensively on large and highly mechanised farms. Factory-style production of meat, eggs and dairy products is now the norm and chemicals and pesticides are widely used in the production of all kinds of crop and plant foods. This type of farming ensures that foodstuffs are produced at a lower price for the consumer, enabling many people to eat a varied diet i.e. provides access to a greater variety of foods. However, the effect that these farming methods have on food quality and animal welfare is a hotly contested issue. There is now a growing interest in free-range (animals are given more freedom to naturally roam outdoor spaces) and organic farming (farming without the use of chemical fertilisers and pesticides).

Food Retail in the UK

Before the 1960's, the majority of food retail in the UK was through small to medium sized local and independent businesses. The introduction of supermarkets and multiple retail units in the early 1950s and their development and expansion in the 1960's dramatically changed the landscape of food production and retail in the UK. Supermarkets and superstores were a revolution in the food retail industry as they began to sell a wide variety of products under one roof. Traditional food retail outlets were smaller with less variety of produce or were specialist shops that sold one type of product, usually fresh from local farms or made on the premises (e.g. bakers, greengrocers, butchers). Since the 1960's, these more traditional retailers have lost a large percentage of their business to the superstores of supermarket chains. Throughout the 21st century supermarkets have come to account for the majority of the food retail market in the UK.

While specialist shops and smaller retail outlets were traditionally at the heart of local communities and towns, a place where people would come together to buy their fresh produce from local producers, now out-of-town retail units and supermarket stores attract people to a less community focused form of shopping. Now supermarkets chains account for the majority of our food retail. This is partly a result of people choosing to purchase their food and other items in an 'all-under-one-roof' experience but also as a result of the large buying power that the supermarkets command which means that they are able to offer lower prices and out-sell smaller retailers. As smaller, independent retailers lose increasing numbers of their consumers, they are forced to either increase their prices in order to survive (but then risk alienating customers who would no longer afford to purchase their goods), or alternatively, to attempt to compete with the low prices that the supermarkets offer in a bid to attract their customers away from the supermarkets, but in doing so risk the future of their business.

The closure of smaller, specialist food retailers has had a devastating effect upon many aspects of communities. Obviously, the impact will be greatly felt by the owners of the businesses that are being drained of their consumers to the large out-of-town stores but the loss of local business within communities also reduces the competition that supermarkets have for the produce that they sell. With the loss of local independent or small business retail outlets and the market competition to provide an incentive for the supermarkets to maintain high quality, variety and low prices for consumers, supermarkets may then begin to move towards low quality, limited produce and escalating prices in order to realise the constant need for increased profit margins.





Food Mileage and Sustainable Development

Traditionally, the majority of food produced in an area was transported only a short distance for sale within the local area (i.e. local businesses or farm shops). However, with the development and expansion of supermarket chains and the changes and liberalisation of trade to increasingly include food, our food now travels a substantial distance 'from plough to plate'. The distance that food travels from 'plough to plate' is termed 'food miles' and contributes to the overall sustainability of the food industry. The extra transport and travel that food industry is now associated with, as well as the travel that is required of consumers to reach the retail outlets incurs costs to society and the environment that are often not accounted for and that are unsustainable in terms of the future of food production and the growth of the food retail industry in the UK.

Before the 1970's food production was viewed as a domestic objective for the British Government. The farming and food industry in the UK accounted for much of the produce that was consumed in UK households (including that produce sold through supermarket retail), topped up with seasonal supplements from imported sources. The increased inclusion of food in liberalised global trade and the expansion of large supermarket chains have brought modern food industry to operate in an increasingly globalised market.

The domination of supermarkets on the UK food market, has allowed them to develop efficient, competitive buying and distributing techniques (which also serve to maintain profit margins) and to manipulate the farming and farmers that produce for them. Buying produce from the smallest number of farmers and producers as possible enables the supermarkets to reduce their costs. It has also meant that farmers and producers have limited the produce that they grow in order to accommodate the high bulk demands of the supermarkets and that specific produce is sourced from certain areas in the UK and overseas. This approach of farming has a dramatically limiting effect on the variety and range of produce that can be found in local regions and will, in the long-term, limit the ability of local areas to sustain themselves on the produce that is farmed in the area.

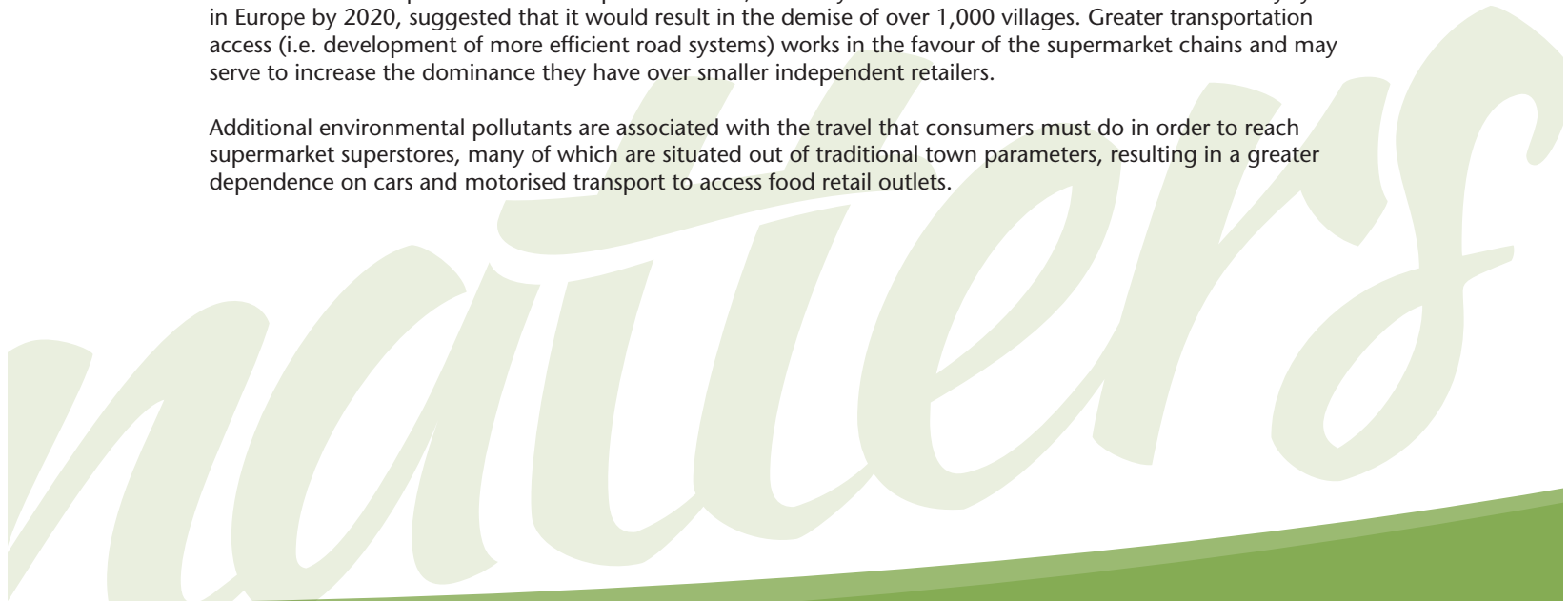
Food Transportation

Changes in trade legislation, supermarket purchasing and operating systems, as well as advancements in travel have coincided with an increase in the distance that our food travels 'from plough to plate' and an increase in the road-haulage volume in the UK. Since the 1970's the quantity of food transported by road-haulage Heavy Goods Vehicles across the UK has doubled.

An increase in the road haulage of food cannot simply be attributed to the sourcing of foods from further away and import but to the additional journey that food makes within the sourcing and distribution process i.e. from the source/producer to the distribution centre and from the distribution centre out to the retail outlets. All food sourced by supermarkets passes through a distribution centre on its way from the producer to the consumer, no matter how close or far away from the distribution centre the source of the produce may be, this additional link in the chain increases the transportation costs of food retail.

The increase of road transport associated with the complex transportation systems used by the supermarket chains and food transportation in general is not only associated with increased pollutants in the environment but is contributing to changing the environmental and social landscape altogether. Increased road haulage has caused strain on UK and European roads, not only promoting the construction of new road systems but the alteration of cities, towns and villages to accommodate them. In 2004 an impact assessment by the European Commission of the planned Trans-European Network, a road system that will almost double the motorway system in Europe by 2020, suggested that it would result in the demise of over 1,000 villages. Greater transportation access (i.e. development of more efficient road systems) works in the favour of the supermarket chains and may serve to increase the dominance they have over smaller independent retailers.

Additional environmental pollutants are associated with the travel that consumers must do in order to reach supermarket superstores, many of which are situated out of traditional town parameters, resulting in a greater dependence on cars and motorised transport to access food retail outlets.





Environmental and ethical factors

Food choices can be based on environmental and ethical factors.

Environmental factors are things that help reduce the impact of food production on the environment and might cause someone to choose to buy a product. For example, locally produced food doesn't have to be transported as far, so less CO₂ is produced. This means there is less of an impact on the environment.

Ethical factors are things that can be seen as morally right eg, buying fairtrade food which provides farmers with better working conditions.

Some environmental and ethical factors are:

- **Fairtrade** food production aims to provide fair prices and better working conditions for farmers and farm workers.
- **Farm assured** means that the farms and food companies meet high standards of food safety and hygiene, animal welfare and environmental protection.
- **Food miles** means the distance that food travels from where it is grown to where it is bought. This is an environmental concern because of the CO₂ emissions from transport.
- **Free range** is a method of farming where animals are allowed to roam freely.
- **Genetically modified** food is grown with genetic manipulation technology. Some people consider this a risk to the environment and choose GM-free products.
- **Organic** foods have been grown without the use of chemical fertilisers or pesticides.
- **Seasonal** foods mean foods that are in season. Choosing these reduces food miles.
- **Sustainability** is food production that aims to preserve the world's natural resources for future generations.

The cost of food transport

The realised environmental and social costs of the food industry in the UK are complex. The impact on the environment of increasing levels of motorised transport to retail and buy food is difficult to measure, but there are increasing concerns about global warming and the effect of pollution upon the global climate for both the consumer and for the Government. The social costs of supermarket retailing are perhaps easier to gauge, with many charity and independent organisations reporting an increasing dissatisfaction with the quality and choice of produce available, increasing prices and a growing inequity in food distribution and access for many consumers. All of which has an impact upon the health of the nation, especially if the general population are unable to access good quality, safe and healthy produce in a way that promotes active living rather than motorised transport.

However, there is no simple solution to this situation and to the development of a more sustainable food industry in the UK. The distance travelled by individual products is not the only factor that should be considered. Although buying local produce has the potential to greatly reduce the distance food is transported, this might be offset by the costs of increased road congestion in local areas if the methods of transportation are not efficient. Similarly, purchasing directly from organic and independent producers selling seasonally available foods may reduce the environmental impact of many pesticides and chemicals used in modern farming but the benefits may be vastly reduced depending on how the produce is transported to the consumer's home. Additionally, the benefit of international trade of food produce has the potential for real social and economic benefits for both developed and developing countries that cannot be realised through exclusive purchasing of locally grown produce.

There are many alternatives (e.g. internet buying and home delivery that will reduce the transport requirements for retail) that can be utilised to provide an environmentally and socially sustainable food industry but consideration of all of the factors, locally, nationally and internationally, must be taken into account when developing this.



Teacher Notes E: Food Hygiene and Infection

Associated lesson plans		
Primary Stage	Lesson	Title
3	3.5	Keeping Well and Preventing Illness
4	4.3 (1)	Being Careful with Food
4	4.3 (2)	Being careful with Food: Bugs in Food
6	6.3	Food Hygiene
Useful websites	www.food.gov.uk/ <i>Food Standards Agency information on food hygiene and safety. Information on food labelling.</i>	
	http://www.washyourhandsofthem.com/home.aspx <i>Full of materials and ideas to encourage children to make hand washing part of their everyday routine.</i>	

What's the difference between bacteria and viruses?

Bacteria are single celled living organisms that thrive in many different types of environment. Most bacteria cause no harm to people; indeed many are essential for life. Some bacteria live in our gut and help to digest food and some live harmlessly in foods like yoghurt. However, there are a few types of bacteria that can cause food poisoning, an illness caused by eating contaminated food.

A virus is the smallest of all micro-organisms. They require other living things to support them in order to survive such as people, plants or animals. They attach themselves to other living cells and invade them. There is a wide variety of virus; some that cause illness by directly invading cells in the body (e.g. influenza or chicken pox); and some that cause illness indirectly by invading cells in our food (e.g. shellfish) and can cause food poisoning.

How do we become infected?

The spreading of bacteria and viruses is called transmission and involves the following stages:

1. Escape from the host (the source of infection)
2. Transport to the new host
3. Entry to the new host
4. Escape from the new host

There are several potential routes of transmission including:

1. Person to person contact: eg shaking hands with someone who has a cold and has just wiped a dripping nose. Breathing in the infected particles emitted by a cough/sneeze of an infected person.
2. Food: can be contaminated at any point during the "plough to plate" process.
3. Water: drinking contaminated water.
4. Insects: responsible for spreading many diseases eg malaria.
5. Non-living organisms: eg towels, bedding, toys. Touching contaminated objects and transferring organisms to their mouth, nose or eyes.

Infection and symptoms; what's the link?

We may not always know that a bacterium or virus has infected us because there may not be a significant amount of the bacteria or virus transmitted to the body to cause any damage or to put the body under stress. In these instances the body's immune system will eliminate the infection without us being aware of it. If, however, the body is infected by a virulent strain of a bacteria or virus and the challenge of eliminating infection proves too difficult for the initial responses of the immune system, a secondary response will be stimulated and the body will begin to use methods of elimination that make us feel unwell.

The secondary immune responses often manifest 'symptoms of infection' by the effects that they have on the body. Symptoms indicate that the immune response is fighting infection. There are a variety of symptoms that can occur depending on the site of infection, type of bacteria or virus causing the infection and the virulence of the bacteria or virus. The table below illustrates some of the symptoms that can be experienced in the event of infection. Other less specific symptoms of infection can also be experienced, such as tiredness or general fatigue, these other symptoms help the body to realise that it is infected; it can then divert energy to the site of infection to eliminate the bacterium or virus.

Symptom of illness	Physiological reason for response
Temperature	Heats the body up to kill off the germ/virus which cannot survive in hot conditions.
Swollen glands	Indicates the body is producing immune cells to fight infection.
Vomiting	Vomiting gets rid of the germ/virus by expelling it from the body.
Diarrhoea	Diarrhoea gets rid of the germ/virus by expelling it from the body.
Runny nose	Mucus, the substance that comes out of the nose when it runs. Helps to trap germs/viruses to stop them getting further into the body. It contains infection fighting substances to fight off the illness.
Redness	Redness near the site of damage or infection usually means that the infection/damage is near the surface of the skin and the immune cells sent to heal the area are irritating it.
Swelling	After discovering an infection (or site of damage) the body increases blood flow and fluids to the site, carrying with it essential nutrients and cells to help heal the area. The increase in fluids is the cause of swelling and stretches the skin making it feel sore to the touch.
Mucus	Mucus is a substance produced by the body to trap bacteria and viruses before they get into our system. Once trapped in mucus, bacteria and viruses are expelled i.e. through the nose or mouth.
Pus	Pus is produced as a side-effect of the immune fight in an infected area. Toxins are sometimes produced during the immune response and these toxins are then pushed to the surface of the skin to be expelled as pus.
Tears	Tears contain chemicals that help to fight off infection by killing the bacteria and viruses that could enter the body through the soft tissue of the eye.
Sweat	Sweat is produced by the body to cool the skin down and help to expel heat when we are warm/hot (if your hands are clean, lick the back of your left hand wave both of your hands around – which one feels cooler?). Sweat also contains chemicals that can kill off bacteria and viruses and help to prevent them from entering the body through the pores in our skin.
Decay	Decay is a term most commonly used in reference to damage of the teeth by plaque bacteria.
Pain	When we cut or injure ourselves chemicals are released from the injured area which help the body to identify where the injury has occurred. The body can then send immune cells to prevent infection and help to heal the injury. The experience of pain also helps us to protect the injured area and to prevent further damage i.e. limping on a twisted ankle, holding a cut hand close to the body.

Ways to help prevent illness

There are many different things that we can do to help prevent illness from bacteria and viruses:

- Wash your hands regularly, particularly after going to the toilet and before handling food.
- Turn away from other people and cover your mouth with tissues when you cough or sneeze.
- Dispose of tissues immediately after use and wash your hands with soap and warm water.
- Use a liquid soap, bar soap is not recommended as it harbors micro-organisms.
- Wash towels, dish cloths and dish towels frequently and allow to dry before using again.
- Wash work tops before and after food preparation

Why is hand hygiene important?

The most common way germs spread is by people's hands. So washing our hands properly with soap and warm water is the single most important thing we can do to help reduce the spread of infections. Hands should be washed:

Before activities like:	After activities like
<ul style="list-style-type: none"> • Preparing food • Eating food • Before touching a sick or injured person or the elderly • Before visiting a hospital ward 	<ul style="list-style-type: none"> • Using the toilet • Handling rubbish • Changing a nappy • Touching animals or animal waste • Gardening - even if you wear gloves • Handling raw foods, particularly meat, fish and poultry • Touching a sick or injured person • Blowing your nose, coughing or sneezing • After visiting a hospital ward



(Adapted from Taylor, L (1978), An evaluation of hand washing techniques: Nursing Times, 12 January pp 54-55)

Food spoiling

Many foods contain natural bacteria. Usually, bacteria found on foods are in small quantity and are harmless. On fresh food and produce most bacteria do not affect the taste, appearance or smell of food. However, many raw and processed food produce (e.g. fruit, vegetables, meat or pre-prepared meals) provide bacteria with the conditions that they need to multiply. Bacteria multiply quickly in moist, warm conditions where they have access to energy (food) and oxygen. The presence of salt and sugar in foods will make the surroundings more conducive to bacterial multiplication. In order to release energy from food to multiply, a bacterium must break down the food. This causes a change in appearance and smell of the food that is commonly known as 'spoiling' e.g. red meat may turn brown, fleshy fruit may brown or discolour, vegetables may soften.

Food storage

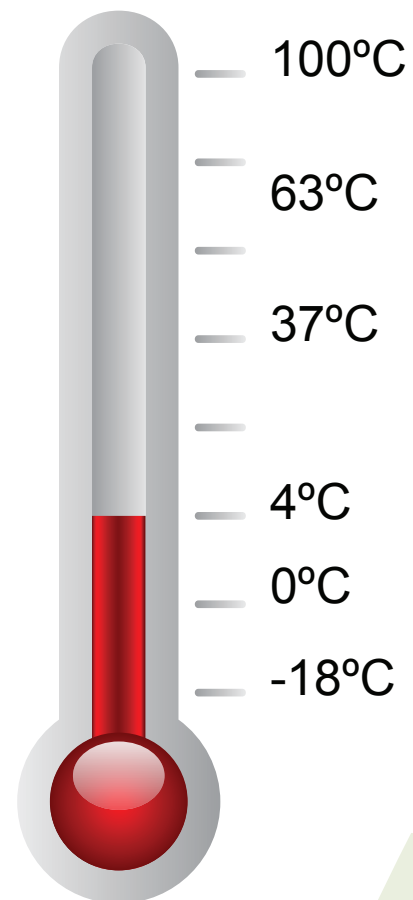
In order to prevent spoiling and food poisoning and to ensure that we preserve our food and stop waste, food has to be stored properly. There are three main rules for safe food storage, food should be stored:

- In the correct place
- At the correct temperature
- For the correct length of time

Bacteria multiply quickly in moist and warm conditions, therefore temperature control is an effective way to slow down and limit bacterial multiplication. This is the basic principle of chilling and freezing food. The diagram below shows what happens to germs at different temperatures

The germ thermometer: source Education Scotland (Home Economics Acc3- Technology in the Kitchen)
<http://www.educationscotland.gov.uk/>

At 100°C all bacteria are dead
Above 63°C the spread of bacteria begins to slow down as conditions get hotter
Between 4°C and 63°C bacteria begin to slow down as conditions get hotter.
Bacteria are at their most comfortable at the ideal temperature of 37°C. This is the same temperature as our own bodies. Our stomachs make an excellent home for bacteria. The stomach is like an incubator which keeps a new born baby's temperature at the correct level.
A refrigerator works at 4°C keeping food chilled but not frozen. Bacteria do not react to the chilly temperatures and remain inactive.
Below 0°C bacteria become dormant.
At an even lower temperature of -18°C the deep freeze preserves food safely as the bacteria are inactive due to the extreme cold.



It is important that food is stored correctly at all times and that storage instructions are followed (see Teacher notes C "Food Labelling" for more information on standard storage instructions).

What is food poisoning?

Food poisoning is a generic term for an infection acquired through ingestion of food containing or infected by a bacteria or virus. Table 1 provides some examples of bacterial causes of food poisoning. The symptoms of food poisoning may vary depending on the type of bacteria or virus that has caused the infection. However, the route of transmission of food poisoning is constant for all infections (i.e. ingestion into the stomach and/or intestines) and the symptoms are usually very similar. When an individual contracts food poisoning the symptoms usually last between 24-48 hours and most commonly include abdominal pains, diarrhoea, vomiting and nausea. Depending on the type of food poisoning, symptoms can develop within one hour or days after eating contaminated food. Most people get better without the need for treatment, however if symptoms persist it is recommended that the individual contact their doctor. Although symptoms such as diarrhoea and vomiting are most commonly associated with food poisoning they can also be as a result of infection from a source other than food; for example, hand to mouth transmission of sewage matter or pet handling. If symptoms can be unequivocally linked to food poisoning from a food retail outlet, a local Environmental Health Officer should be alerted (i.e. if there are outbreaks in multiple consumers eating food from a retail outlet in a local area). Occasionally, food poisoning can have more serious effects on a person's health, particularly if they are vulnerable to infection. People who fall into this category include, babies, the elderly and individuals with a condition that weakens the immune system, such as HIV or cancer.

Causes of food poisoning

Food can become contaminated at any point during its production, processing and cooking. Food poisoning can occur as a result of:

- not cooking food thoroughly (particularly poultry, pork, burgers, sausages and kebabs)
- not storing food that needs to be chilled at below 5°C correctly
- keeping cooked food unrefrigerated for more than an hour
- eating food that has been touched by someone who is ill with diarrhoea and vomiting
- cross-contamination (the spread of bacteria, such as E. coli, from contaminated foods)
- Cross contamination is a cause of food poisoning that occurs when harmful bacteria are spread between food, surfaces and equipment. Cross contamination can occur when raw meat is stored above and juices from the meat drip onto other foods below and contaminate it.

Table 1

Name of Bacteria or Virus	Risky Foods	Comments
Campylobacter	Found in raw and uncooked meats (particularly poultry). Undercooked chicken liver and liver pâté are also common sources	Most common cause of bacterial food poisoning
Escherichia coli (E. coli)	Undercooked beef (particularly mince, burgers and meatballs) or drinking unpasteurised milk	Most strains are harmless but some strains can cause serious illness
Salmonella	Raw meat and poultry. Can also be passed into dairy products such as eggs and unpasteurised milk	The second most common bacterial cause of food poisoning
Listeria	Found in pre-packed sandwiches, pâté, soft cheeses, such as brie, camembert, cooked sliced meats, smoked salmon	Important that all these foods are eaten by their use by date

How can we avoid food poisoning?

Although it is not possible to completely eliminate the risk of food poisoning there are many things that we can do to reduce it and avoid becoming ill as a result.

Wash your hands	Wash your hands thoroughly with soap and hot water and dry them before handling food, after handling raw foods including meat, fish, eggs and vegetables, as well as after touching the bin, going to the toilet, blowing your nose, or touching animals, including pets.
Wash worktops	Wash worktops before and after preparing food, particularly after they've been touched by raw meat, including poultry, raw eggs, fish and vegetables. You don't need to use antibacterial sprays: hot soapy water is fine.
Wash dishcloths	Wash dishcloths and tea towels regularly and let them dry before you use them again. Dirty, damp cloths are the perfect place for bacteria to breed.
Use separate chopping boards	Use separate chopping boards for raw food and ready-to-eat food. Raw foods can contain harmful bacteria, that spreads very easily to anything they touch, including other foods, worktops, chopping boards and knives.
Keep raw meat separate	It's especially important to keep raw meat away from ready-to-eat foods such as salad, fruit and bread. This is because these foods won't be cooked before you eat them, so any bacteria that gets on to the foods won't be killed.
Store meat on the bottom shelf	Always cover raw meat and store it on the bottom shelf of the fridge, where it can't touch other foods or drip onto them.
Cook food thoroughly	Cook food thoroughly and check that it's piping hot all the way through. Make sure poultry, pork, burgers, sausages and kebabs are cooked until steaming hot, with no pink meat inside.
Keep your fridge below 5°C	Keep your fridge temperature below 5°C. By keeping food cold, you stop food poisoning bugs growing.
Cool leftovers quickly	If you have cooked food that you're not going to eat straight away, cool it as quickly as possible (within 90 minutes) and store it in the fridge or freezer. Use any leftovers from the fridge within two days.
Respect 'use-by' dates	Don't eat food that's past its "use-by" date label. These are based on scientific tests that show how quickly harmful bugs can develop in the packaged food.

Information sourced from: <http://www.nhs.uk/Livewell/homehygiene/Pages/Foodpoisoningtips.aspx>

Teacher Notes F: Special Diets; Religion, Belief, Allergy and Intolerance

Associated lesson plans		
Primary Stage	Lesson	Title
4	4.4	What do I Like?
Useful websites	www.nutrition.org.uk <i>Provides links through the information section of the site to section about food allergy/intolerance and diet and disease.</i>	
	www.vegsoc.org <i>Vegetarian Society site, resources for teachers, parents and young people. Provides information and recipes.</i>	
	www.coeliac.co.uk <i>Coeliac UK site with information on the disease and how to live a gluten-free life.</i>	
	www.diabetes.org.uk <i>UK site with information on the disease and how to manage the condition.</i>	

Choosing a special diet

The decisions that people make when choosing to eat and not to eat certain foods are affected by a myriad of factors and influences. There are many moral, personal, ethical, religious, social, medical factors and influences that determine our choices. In the case of some dietary choices, there are specific attributes that can be associated with the factors and influences related to peoples food choices. For example, some religious groups have belief systems that influence the foods the followers of the religion adhere to. Other people may make a personal, moral, ethical, social or medical decision to follow a particular type of diet. There are many different types of diet that could be explored here but we have chosen a few of the special diets that people may choose to follow according to their religion, beliefs, choices or as a result of medical advice.

There are many religions that have celebrations, traditions, or rituals centred on preparation of and consumption of foods.

Judaism

Kashrut is the name given to the body of Jewish law dealing with food preparation, foods that can and cannot be eaten, and how foods should be eaten. 'Kashrut' comes from the Hebrew "kaf-shin-resh" meaning fit, proper or correct. The word "kosher" is used to describe ritual objects (including food) that are made or prepared in accordance with Kashrut Jewish law and are fit for ritual use. Kosher food preparation practices are very sanitary.

The details of kosher rule are extensive but the main rules are:

1. Certain animals may not be eaten at all. This restriction includes the flesh, organs, eggs and milk of the forbidden animals.
2. Of the animals that may be eaten, the birds and mammals must be killed in accordance with Jewish law.
3. All blood must be drained from the meat or broiled out of it before it is eaten.
4. Certain parts of permitted animals may not be eaten.
5. Meat (the flesh of birds and mammals) cannot be eaten with dairy foods. Fish, eggs, fruits, vegetables and grains can be eaten with either meat or dairy. According to some views, fish may not be eaten with meat.
6. Utensils that have come into contact with meat may not be used with dairy and vice versa. Utensils that have come into contact with non-kosher food may not be used with kosher food. This applies only where the contact occurred while the food was hot.
7. Grape products made by non-Jews may not be eaten



The Torah is the Jewish text that is referred to in order to define foods that are forbidden and those that are kosher for Jewish people. The Torah has been interpreted to define kosher animals as being those that “have cloves, hooves and chews its cud”. This includes sheep, cattle, goats and deer but does not include camel, rock badger, hare or pig, as these animals do not fulfil one or more points of that requirement. For fish to be eaten it must “have fins and scales”; meaning that fish such as tuna, carp, salmon, and herring are all considered to be kosher but shellfish (e.g. crab, lobster, oysters, clams) are not. There are a number of birds that are mentioned specifically as being ‘forbidden’; these are birds of prey and so interpretation has led to all birds of prey being considered ‘forbidden’ whilst birds such as turkey, chicken, geese and ducks are kosher. The Torah has also been interpreted to exclude the consumption of all rodents, reptiles, amphibians and insects. All of these foods mentioned above, although termed ‘kosher’ because they are not forbidden, are only considered fit for consumption and therefore truly kosher if they are prepared in accordance with Kashrut law.

Kosher slaughter is known as “Shechitah” and the person performing the slaughter the “Shochet”. Shechitah is a quick, deep stroke across the throat with a sharp blade with no nicks or unevenness (non-serrated). The animal should not be stunned prior to the slaughter but this method of slaughter renders the animal unconscious quickly and is considered humane for this reason. As a part of Shechitah, the blood of the animal must be drained. The Torah states that the life of the animal is contained in the blood and for this reason all blood must be drained from an animal prior to consumption (this does not apply to fish blood); any blood remaining in the animal following slaughter should be broiled, soaked or salted out of the carcass. The “Shochet” should be well trained in Jewish law, particularly Kashrut law in order to carry out the Shechitah. Often in small rural communities the rabbi and the Shochet were the same person but it is not necessary for the Shochet to be a rabbi.

Islam

In Arabic-speaking countries, the term ‘Halaal’ is used to describe anything that is permissible under Islamic law. In contrast, the term ‘Haraam’ is used to describe that which is forbidden under Islamic law. Under Islamic law, a number of foods and drinks, and also methods of slaughter are considered to be haraam, including: pork, blood, animals slaughtered in the name of anyone but God, carrion, carnivorous animals with the exception of most fish and sea animals, and all intoxicants (specifically alcohol).

‘Thabiha’ is the method of slaughter permissible under Islamic law; it is Halaal (permitted). The Halaal method of slaughtering all animals, excluding fish, is to cut through the large arteries in the neck with one swipe of a non-serrated blade and drain all blood and impurities from the animal, the consumption of blood itself is forbidden. The action of slaughtering an animal is a ritual religious act that is preceded by a message of spoken praise e.g.

“In the name of God, most gracious, most merciful” (الرحيم الرحمن الرحيم الله بسم) bismillāh, i-rahman, i-rahīm). Prior to the slaughter, the animal’s eyes and ears are checked to ensure that the animal is healthy and suitable for slaughter. If the animal is deemed to be healthy, it is first given water to drink (in order to quench its thirst) and is then pointed towards Mecca to be slaughtered. Muslims consider this method of killing the animal to be cleaner and more merciful to the animal. Stunning is forbidden in Islam since Halaal slaughter requires the animal to be conscious and not contaminated by anaesthetics or intoxicating materials.

Rastafarian

Ital is food approved of in the Rastafari movement. Ital means it is natural, pure and clean food. The word derives from the English word vital, with the initial syllable replaced by ‘I’. This is done to many words in the Rastafarian vocabulary to signify the unity of the speaker with all of nature.

There are different interpretations of Ital regarding specific foods, but the general principle is that food should be natural, or pure and from the earth. Rastafarians avoid food which is chemically modified or contains artificial additives (e.g., colour, flavourings, and preservatives). Some also avoid added salt in foods. In strict interpretations, foods that have been produced using chemicals such as pesticides and fertiliser are not considered Ital.

In common with religions such as Judaism and Islam, Rasta prohibits the eating of pork. Some Rastafarians also avoid eating shellfish because, in common with pigs, they are considered to be scavengers.

Most Rastafarians consider the Ital diet to forbid the consumption of all red meat, many do not eat fish or fish over twelve inches in length, and some are strict vegetarians. More strict interpretations would also avoid food that has been preserved by canning or drying and may even prohibit the use of metal cooking utensils. In this case, only clay and wood cooking pots, crockery and cutlery would be used. Few adherents of Ital follow the strictest interpretation.





Buddhism

In accordance with the teachings of the Buddha, a Buddhist believes that all living beings are of equal value. Therefore, most Buddhists adhere to a strictly vegetarian diet so as not to cause harm to any other living being. However, it is also of great importance to a Buddhist to be able to serve all living beings through a long and fruitful practice of the Dharma (Buddha's teachings). Therefore, if no alternative food is available, Buddhists will eat a non-vegetarian meal or diet in order to survive. For example, in some remote regions of Tibet where it was difficult to grow plants for food the people survive by farming animals.

Hindu

The Hindu compassion for all living beings, lead Hindus to embrace a strictly vegetarian diet, avoiding all forms of meat, fish and eggs. Hindus offer food to God first before eating it and believe that the food can have profound impact on one's life.

Vegetarian

People follow a vegetarian diet for a variety of personal, philosophical, ecological and economic reasons. Variations in strictness of vegetarianism are largely dependent on the person's reasons and beliefs. Some understanding of these reasons is important when considering nutritional status and also when preparing meals for vegetarians; it may be necessary to use entirely separate utensils to prepare acceptable vegetarian dishes.

All vegetarians restrict to varying degrees or exclude meat from the diet. There are a number of different types of vegetarian diets:

- Semi-vegetarian: only eat meat occasionally, or doesn't eat meat from mammals but eats poultry or fish.
- Ovo-lacto vegetarian: will eat milk, dairy produce and eggs.
- Lacto-vegetarian: will eat milk & dairy products but not eggs.
- Ovo-vegetarian: will eat eggs but not dairy products.
- Vegan: strictest sub-category of vegetarianism, do not eat any meat, dairy or egg products.
- Fruitarian (fructarian): will eat only the fruit of plants not the plant itself.

Diabetic

Diabetes occurs where there is a shortage of, or an inability to respond to, insulin. Insulin is a hormone produced by the pancreas, which is needed to transport glucose (sugar) obtained from food, from the bloodstream into the body's cells where it is converted into energy. This results in a build-up of glucose in the blood. It is important that insulin works properly because both low and high levels of blood sugar are harmful to the body. A low blood sugar level is termed hypoglycaemia (described as a hypo) and a high level is called hyperglycaemia. There are two main types of diabetes.

- **Type 1:** the body completely stops producing any insulin, People with Type 1 diabetes require daily administration of insulin injections. This form of diabetes usually develops in people under the age of thirty, often in childhood, although it can occur at any age.
- **Type 2:** the body does not produce enough insulin or the insulin produced does not work properly to convert food into energy. This form of diabetes usually occurs in people who are over 40 and is linked to obesity and lack of physical activity. However it is becoming increasingly more prevalent in children and young people, especially children and young people from black and ethnic minority communities. Type 2 diabetes can commonly be controlled by a carefully balanced diet.

People with diabetes usually have a treatment regime that is specifically designed for them depending on the type of diabetes that they have, the amount of exercise they are regularly involved in and the typical diet they consume.





People with Type 1 diabetes usually control their blood sugar levels by injecting insulin and eating a healthy diet. Type 1 diabetics will monitor their blood sugar at regular intervals during the course of a day. Insulin injections, blood glucose monitoring and dietary requirements will be agreed and monitored by a health care professional and will be tailored to the needs of the individual.

In the majority of cases, people with Type 2 diabetes are able to control their blood sugar through a healthy diet and regular physical activity. However, as Type 2 diabetes is a progressive condition, some people may eventually need medication to keep blood glucose at normal levels. Dietary guidance for people with Type 2 diabetes is exactly the same as for the general population i.e. follow the framework set out by The Eatwell Plate. Meals should be based on starchy foods, particularly those with complex carbohydrates such as whole-grain foods (these are broken down into their component sugars more slowly which is important for people with diabetes), with plenty of fruit and vegetables and should be low in fat, salt and sugar. Normal sugar-intensive foods can be eaten as part of a healthy diabetic diet. Diabetic sweets, cakes and snacks usually contain high levels of fat and are of no particular benefit.

It is particularly important for people with diabetes to consume a balanced diet as this will help them manage their diabetes and help protect their long-term health. A healthy balanced diet can help to prevent experience of some of the short-term complications such as hypoglycaemia and presence of acidic by-products in the bloodstream (which can lead to fatal coma). Likewise it can also prevent the long-term often irreversible damage that can occur in the eyes, kidneys, nerves, heart and major arteries as a result of high levels of blood glucose, high blood pressure and abnormal cholesterol levels (all characteristics of mismanaged or poorly treated diabetes).

Food allergies and food intolerance

Food reactions are common but most are caused by a food intolerance rather than a food allergy. However it is important to consult a doctor to be diagnosed correctly.

Food Allergy

Having a food allergy means that a person's immune system reacts to a protein as a harmful invader and sets the body's defences against it. Each time the person comes in contact with this protein, the immune system attacks the protein by releasing histamines and other chemicals. These set off the symptoms of an allergic reaction ranging from hives to life-threatening anaphylaxis. Even a tiny amount of the offending food can cause an immediate and severe reaction.

The most common food allergies are:

- Shellfish
- Peanuts (not really a nut but a legume!)
- Fish
- Tree nuts (walnuts, pecans, etc.)
- Soy
- Milk; contains a protein called lactose (lactose intolerance).
- Eggs
- Wheat: contains the protein 'gluten' (coeliac sufferers are allergic to gluten).

Food Intolerance

Food intolerance is not the same as a food allergy. The symptoms of food intolerance generally come on gradually and don't involve an immune system reaction like food allergies. Often the symptoms can occur many hours after eating the problem food and can include bloating and stomach cramps. Unlike an allergy, a food intolerance is not life threatening.



Teacher Notes G: Food and the Impact of Waste on the Environment

Associated lesson plans		
Primary Stage	Lesson	Title
5	5.4 (1)	Waste Management and Health
5	5.4 (2)	Waste Management and Health
Useful websites	<p>http://www.keepsotlandbeautiful.org/sustainable-development-education/eco-schools <i>Eco-Schools is an international programme designed to encourage whole-school action on sustainable development education issues.</i></p> <p>www.wascot.org.uk <i>National Waste Aware campaign site (reduce, reuse, recycle) with links to campaigns in local areas across Scotland.</i></p> <p>www.planetpal.com <i>Site containing helpful and useful supporting resources and activities for children on all aspects of waste minimisation.</i></p> <p>www.wastewatch.org.uk <i>Waste watch site with activities for children and a teaching zone.</i></p> <p>www.recyclezone.org.uk <i>Registered UK charity site campaigning for reduce, reuse recycle.</i></p>	

What is waste?

Waste is what we dispose of because we no longer have a use for it. Waste includes materials that have no inherent value, but also materials that are disposed of despite the fact that they contain valuable resources and have not come to the end of their useful life.

Household waste is part of a larger waste production matrix, involving industrial and commercial waste products. The variety of waste produced in modern society includes items such as food packaging, white goods, packing used in the transport of consumable goods and industrial chemicals. The variety of waste and the large amount of waste produced poses a significant challenge for waste management. An additional challenge comes when communicating the large amounts of waste produced every year as it is difficult to conceptualise such a vast quantity into a meaningful term, especially for domestic households.

How much waste do we produce?

For waste management purposes, waste production is measured in tons (a male adult elephant weighs approximately 7 tons) and recycling rates are measured using the same factor. However, the volume of waste produced can be more striking, especially since the composition of waste has altered from heavy, more compacted items such as glass and metal towards lighter but more bulky items such as plastics.

Scotland currently produces around 12 million tons of waste each year, of which around 2.5 million tons is produced by households.

What do we throw away?

The change in the composition of waste has been largely affected by lifestyle changes that have occurred over the past century:

- In the 1930's post-war Britain was re-building the economy, people had been used to rationing and were more conserved in their spending on 'luxury' items such as textiles (these were re-used and recycled both domestically and industrially during the war and this practice continued for some time after the war ended). Plastic was virtually unknown as a food packaging material and indeed was still very much in experimental production. Plastics mainly appeared as a waste product in industrial and commercial waste. Liquids and foods were packaged in papers or in glass; people tended to buy food fresh from local suppliers. Many glass containers would have a deposit on them for return and refill systems, those that did not would be used within households for storage of home-made or home-baked goods. Additionally, most people had coal or wood burning fires that were used to burn some organic materials and paper.
- By the 1960's, and following severe smog experienced in the city's and towns across the UK in the 1940's and 50's, many people had converted their home fire to gas or oil fired central heating systems. Plastics were more developed and could be applied to a greater number of uses as the variety of plastics available expanded. Supermarkets began to arise, with a following reduction in the numbers of local shops selling fresh produce. Glass deposit and return systems were slowly reduced as the use of plastics became greater. Plastics began to appear in greater quantities in household waste.
- In the 1990's very few people, even in rural areas, had a coal or wood burning fire as their main source of heat. Gas became increasingly accessible and therefore more readily used as a source of heating within households. The range of plastics has increased and a wide variety is now used to package a large range of different products, including food. The spread of supermarkets as the main source of people's food shopping has resulted in greater transport of foods from around the UK and the World, and this has also resulted in an increase in the use of packaging to preserve and protect foods during transportation. Households reuse less items than previously e.g. clothing and other textiles, and glass packaging. Additionally, with the decrease in the traditional gender roles (e.g. 'housewife') people are relying upon pre-made foods and are cooking less from raw materials in the home which in turn results in a greater amount of waste from packaged foods (which would previously have been made within the home). As households have become greater financial entities the amount of waste in tonnage and volume and increased by approximately 2% per annum since the beginning of the 1980's.

What Happens To The Waste We Produce?

There are four main methods of waste management:

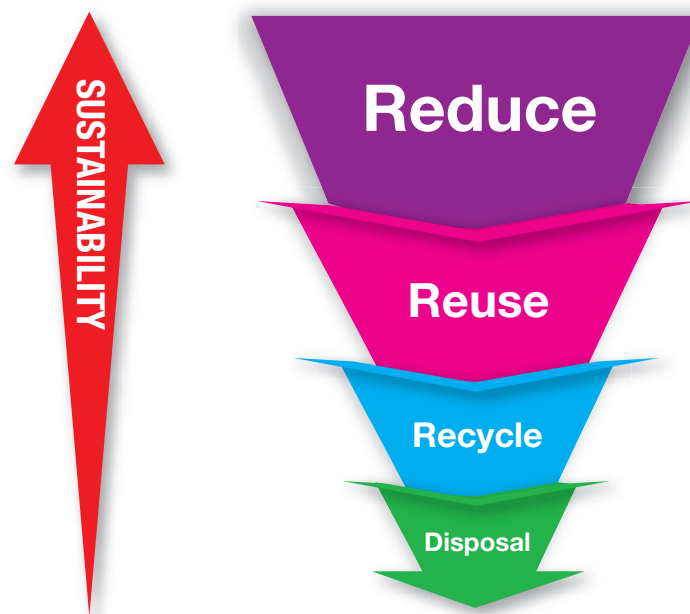
Landfill sites	Waste is gathered up (e.g. waste collections from household bins), dumped into huge man-made cavities in the earth and eventually covered over. The waste is then left to decompose, for some waste products this can take thousands of years.
Incineration	Waste is gathered up (e.g. waste collections from household bins) and burnt. Incinerators are usually used in large urban areas to supplement the use of landfill or where there is a lack of available landfill sites. Industrial incinerators used for waste management collect the heat generated through the burning process and use it to generate electricity or district heating.
Recycling	Collecting similar products and reforming them into a new, similar product or a new use of the raw material. Recycling usually involves some form of manufacturing process. It is more expensive to recycle plastics and metals than it is to recycle glass or paper packaging. Not all of the waste collected for recycling is actually recycled due to high costs of recycling some waste products.
Reuse	Reusing products from their original form or turning them into some other product, not requiring substantial manufacturing.



The method of waste management used most frequently in Scotland is landfill. Landfill is not a sustainable method of managing our waste in the long term, as the space available for landfill in Scotland is finite. Landfill sites are a source of greenhouse gases, which contribute to climate change. They can also pollute surface and ground water through the production of leachate and cause problems with odour, vermin and flies. The way that we manage our waste, including disposal, has a direct and significant impact on our environment. There are also environmental impacts associated with making new products to replace the things that we dispose of, including extracting more resources and the processes of manufacture and distribution. Living in a non-sustainable way impacts on future generations, as our lifestyles will affect the environmental quality and resources available for the future. We need to increase rates of recycling and reuse to recover more value from our waste to reduce the environmental harm caused by waste management, especially through using landfill sites and to conserve resources for future generations.

Waste items can often be repaired and reused or recycled into new and useful products. However, all of the options available for waste management have some kind of negative impact upon the environment. Whether this is pollutants in water i.e. liquids from landfill sites that have to be captured and treated before they are released into natural watercourses), landfill gases (methane and carbon dioxide) that have to be captured and burnt off, emissions of pollutants from incinerators, recycling plants and manufacture of products, and those from transport of waste around the country to different sites.

Ultimately, the most sustainable option with the greatest environmental benefits is waste reduction at source. Minimising the amount of waste that we produce means that less waste has to be sent for reuse, recycling or disposal, thus minimising its environmental impact.



Scotland could achieve more environmentally friendly and sustainable waste management if we all learn to reduce waste by choosing products that have no or less packaging (e.g. loose fresh fruit and vegetables instead of packaged) or by choosing products that are packaged in paper or glass rather than in plastics or metal (e.g. aluminium); to reuse what waste we can (e.g. using plastic bags more than once to carry shopping; give old clothes and spectacles to charities for reuse in other countries); and recycling that which cannot be reduced or reused will contribute to an overall reduction in waste production.

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Teacher Notes H: The Impact of Food Trade on Global Health

Associated lesson plans		
Primary Stage	Lesson	Title
6	6.4	Global Health; Fairtrade
Useful websites	<p>www.fairtrade.org.uk <i>Fairtrade foundations website. Details about campaigns, producers, suppliers in the UK, and news about fair trade. Contains a pack looking at raising the profile of fairtrade within the school.</i></p> <p>www.co-operativefood.co.uk <i>'Make your school Fairtrade friendly' is a resource pack, produced for primary schools by the Cooperative food retailer, which examines where our food comes from and how fair trade can make a difference to producers and their communities.</i></p> <p>www.globalhealth.org <i>Global Health Council site; alliance of professionals and organisations working together to ensure health for all.</i></p> <p>www.who.int/en <i>English language version of the World Health Organisation site that provides information and links to a variety of global and international health issues.</i></p>	

Global Trade

Food import and export around the world provides us with more variety and choice in our shops and supermarkets, enabling us to eat a wide variety of fresh fruit and vegetables all year round. However, the availability of this produce all year round does not necessarily mean that the people who farm and produce them benefit from increased wealth or wellbeing. As a result of the structure of many global trade agreements and legislations, the farmers and producers in the poorest countries are often unable to afford an adequate or healthy diet for themselves and their dependents.

Import versus Export

There has been a considerable expansion in export crops from countries South of the equator in the last two decades; why then are these countries still experiencing difficulties in developing as healthy nations and economies if they are receiving significant or equal financial gain for their exports in relation to the equivalent for richer, northern countries?

Many of the poorer southern countries have large debts to the Northern countries that they are obliged to pay off. Therefore, these countries must earn foreign currency from the export of goods in order to pay off these debts and also to import necessary provisions they are unable to produce themselves such as fuel and machinery.

In order to maximise the revenue that they receive from the export of goods, many Governments in the poorer Southern countries have cut the subsidies that they give their farmers and domestic companies for the production of staple food crops such as rice. Instead these Governments have invested in increasing the production of goods and products to be exported. However, this is not always a sound investment because all too often such cash crops do not achieve an adequate price for the growers, as the trade in export foodstuffs is controlled by the wealthier countries of the North. Therefore, making the decision to shift the focus of farming away from domestic produce towards exports can threaten a country's ability to feed its people. For example, in Bangladesh subsistence farmers who used to be able to grow rice and family foods have been turned off their land to make way for shrimp farms; shrimp are exported to other countries for the revenue they achieve in the trade markets.



Is the Global Market a Fair Market?

On the surface global trade systems and legislation appear to operate in a free global market, allowing each country in the world to participate and trade with all other countries. However, exports from the Southern, developing countries usually face a daunting array of tariff barriers (taxes) and non-tariff barriers (such as quotas) which make their products more expensive or limit the amount they are allowed to sell in the Northern countries. This can then limit the ability of farmers and producers in the South to dictate their own terms on the global market and to challenge the power of the Northern-based companies and supermarket chains who buy their products. In this way, the systems and legislation are inherently unfair as the locus of power remains with the wealthy countries and does not take into account the development required in the Southern countries before they could actively participate as equals in the global market.

The inequalities in the global market are played out in our own shopping baskets and can be illustrated by comparing the profit that the supermarkets and shops make from selling the produce in Britain, to the price the farmers and growers in the exporting countries are paid for their goods. For example, less than 10 per cent of the price of a jar of coffee will go back to the grower or producer. Most of the profit will be made by the retailer and the middle-men who have processed, transported or packaged the product.

So what does Fairtrade mean?

Campaigns led by various charitable and political organisations, as well as those led by dominant public figures (e.g. musicians/pop stars, actors and others) have been raising awareness of the inequities of global trade and the plight of many Southern countries. Awareness-raising in the population within wealthy, Northern countries is a key aspect to the success of these campaigns and has resulted in increasing the demand for fairly traded products, including food products. More and more people want to know that the tea, coffee, honey or sugar they buy has been produced without exploitation, and that the farmers who grew or processed the product received a fair price for their work.

Providing farmers and producers in Southern, developing countries with a fair price for their produce will allow them a dependable, regular income that provides a better quality of life, a greater influence over the value of their goods and a greater ability to challenge the inequities of the global trade market. The proliferation of fairly traded produce not only has an impact upon the farmers and the producers, but on the whole community involved in the industry in question. As the farmers are given a fair price they find it easier to expand their businesses and so can become employers for the local community. This in turn ensures that other families in the area benefit from the regular income that fairly traded produce can provide. Many communities have been able to make a real difference to the local infrastructure, housing and sanitation as a result of receiving a fair price for their produce.



Teacher Notes I: Physical Activity and Children

Associated lesson plans		
Primary Stage	Lesson	Title
4	4.2	Physical Activity; Keeping Fit
5	5.2	Physical activity; Staying Healthy
7	7.2	Leisure Choices
Useful websites	http://www.takelifeon.co.uk/ <i>Scottish Executive site on eating well and getting active.</i>	
	http://www.pathsforall.org.uk/pfa/health-walks/walking-and-young-people.html <i>Paths for all for young people.</i>	
	http://www.bhf.org.uk/publications/children-and-young-people.aspx <i>The British Heart Foundation have resources around healthy eating and physical activity.</i>	
	www.activescotland.org.uk <i>Provides information on where to get active in your area.</i>	

What is physical activity?

Physical activity can be defined in a number of different ways and is a term that encompasses a wide variety of different movements and activities that require the use of skeletal muscles and energy expenditure. Due to the variety of movements that can be termed as physical activity, professionals have found it useful to categorise these movements by the amount of energy used and the type of activity that is being done. In this way, although exercise and sport are forms of physical activity, they have their own sub-definition:

Physical activity is bodily movement caused by contractions of the muscles and resulting in energy expenditure. The term physical activity includes activities diverse as walking, housework such as vacuuming, climbing stairs, active transport, swimming and taking part in yoga or aerobics class.

Exercise is a form of physical activity. The term is usually used to describe planned, structured and repetitive movements that are done to improve an individual's fitness levels, for example, weight training, sit ups or push ups.

Sport is a form of physical activity and a form of exercise. The term is usually used to describe planned, structured activity that is undertaken competitively or in a social group for the purpose of improving fitness, forming social relationships or for performance in competitions at any levels.

Physical activity for children and young people naturally occurs throughout most days and in numerous settings. This ranges from active travel to school, outdoor play in the park, indoor play in dedicated play centres, physical education, school playtime, participation in sports and dance clubs, swimming or cycling, outdoor and adventurous activities (e.g. girl guides/scout groups) or martial arts clubs.

Younger children begin their active lives through play. This is important for their physical, cognitive and social development and is largely dictated by the opportunities that parents and carers give them. Young people become independent of their parents through the teenage years and are more influenced by friends and external role models.

Activity can be structured or unstructured. Unstructured activity can be described as informal or free play and activities with little input or direction from parents or carers. Structured activity might include elements of formality or facilitation by adults.

Examples of activities are given in the table below.

Types of activity	Examples
Unstructured (children)	Indoor or outdoor play, active travel.
Unstructured (young people)	Social dancing, active travel, household chores, temporary work.
Structured (children and young people)	Organised, small-sided games with equipment that maximises success (large racquets, low nets, big balls etc). Educational instruction (through teaching and coaching) that promotes skill learning and development. Sport and dance.
Muscle strengthening and bone health (children)	Activities that require children to lift their body weight or to work against a resistance. Jumping and climbing activities, combined with the use of large apparatus and toys, would be categorised as strength promoting exercise.
Muscle strengthening and bone health (young people)	Resistance type exercise during high intensity sport, dance, water-based activities or weight (resistance) training in adult-type gyms.

Why should we be doing physical activity?

The many benefits of leading a physically active life have been widely researched. Numerous studies have been conducted and have found similar results that strongly suggest that the benefits of physical activity can be felt both in terms of physical wellbeing and in mental or psychological wellbeing. When children and young people are active, their bodies can do the things they want and need them to do. Regular exercise provides these benefits:

Physical benefits	Psychological benefits
<ul style="list-style-type: none"> • strong muscles and bones • promotes growth and maintenance of healthy bones, joints and muscles • weight control • decreased risk of developing Type 2 diabetes • better sleep • a better outlook on life • are better able to handle physical and emotional challenges — from running to catch a bus to studying for a test 	<ul style="list-style-type: none"> • Increased self confidence • Increased self esteem • Increased positive mood • Increased cognitive functioning • more likely to be academically motivated, • alert and successful

Overall, individuals who lead physically active lifestyles have been found to report a better quality of life than individuals who are not physically active. Adopting a physically active lifestyle at any age can incur both physical and psychological benefits. Research has also shown strong links between the adoption of a physically active lifestyle and a reduction in risk factors for a variety of diseases, particularly cardiovascular disease. If an active lifestyle is adopted at an early age and sustained throughout life, the risk factors for disease can be significantly reduced. Additionally, if children and young people are physically active they are more likely to become physically active adults and to maintain their involvement in physical activity to a greater extent than those who are physically inactive as children.



Physical activity has particular benefits for children and young people. During the early life stages, physical, social and psychological developments are occurring at a high rate. Physical activity plays an important role in the developmental stages of a child's growth; for example, through movement, a child learns the potential and limitations of its body and how it moves to enable healthy mobility throughout life, weight bearing activity can help to promote bone density in young people and hence reduce the risk of osteoporosis in later life, and the use of games and physically active play can help children to develop healthy social skills. As well as the benefits to individuals, increasing the nations physical activity levels will reduce the cost to the National Health Service (especially for palliative care and management of diseases like coronary heart disease), and will reduce the cost to the wider local and national economies from sickness and sickness absences.

How much physical activity should we do?

The recommendations for physical activity are different for children and adults. Recommendations for physical activity place an emphasis on accumulating activity levels over the course of a day and strongly support the idea of active living; incorporating active versions of tasks that we perform on a daily basis (e.g. active transport; walking to school or work instead of driving).

Physical Activity Guidelines for children and young people aged 5 – 18 years

1. All children and young people should engage in moderate to vigorous intensity physical activity for at least 60 minutes and up to several hours every day.
2. Vigorous intensity activities, including those that strengthen muscle and bone, should be incorporated at least three days a week.
3. All children and young people should minimise the amount of time spent being sedentary (sitting) for extended periods.

There is a great deal of variation in physical activity behaviour between the ages of 5 and 18, with the pattern of physical activity changing from short bursts of high intensity activity in childhood to more adult patterns of physical activity and sedentary behaviour in late adolescence. Between the ages of 5 and 7, these guidelines build on those for early years, while the behaviour of older teenagers is likely to be more similar to that of adults.

Physical Activity Guidelines for adults aged 19 – 64 years

1. Adults should aim to be active daily. Over a week, activity should add up to at least 150 minutes (2½ hours) of moderate intensity activity in bouts of 10 minutes or more – one way to approach this is to do 30 minutes on at least 5 days a week.
2. Alternatively, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or a combination of moderate and vigorous intensity activity.
3. Adults should also undertake physical activity to improve muscle strength on at least two days a week.
4. All adults should minimise the amount of time spent being sedentary (sitting) for extended periods.

Moderate Physical Activity will raise your heart rate and make you breathe faster and feel warmer. One way to tell if you are working at a moderate intensity is if you can still talk, but you can't sing the words to a song. Vigorous intensity activity means you are breathing hard and fast, and your heart rate has gone up quite a bit. If you're working at this level, you won't be able to say more than a few words without pausing for a breath. In general, 75 minutes of vigorous intensity activity can give similar health benefits to 150 minutes of moderate intensity activity. Vigorous intensity activity can bring health benefits over and above that of moderate intensity activity.

Muscle-strengthening exercises are counted in repetitions and sets. A repetition is one complete movement of an activity, like lifting a weight or doing a sit-up. A set is a group of repetition.

The available evidence supports a recommendation on limiting sedentary behaviour to manage overweight and obesity and metabolic markers of health in children and young people. However, there is currently insufficient evidence to quantify this precisely in terms of a time limit for sedentary behaviour. Therefore, based on available evidence, reducing total sedentary time and breaking up extended periods of sitting is strongly advised.



Are we doing enough activity?

Although including physical activity into daily life can be as simple as walking every day, as a nation, Scotland has developed an inactive lifestyle. A number of factors have played a part in the development of inactive lifestyles. For example, long working hours, the use of individualised forms of transport (e.g. cars) and a greater reliance on these, urban sprawl, building on green-site areas, changes in diet, and increased availability and affordability of fast foods have all played a part in our changing lives and contributed to people doing less activity in their life.

Physical Activity Levels in Scotland – Scottish Health Survey 2011

- 45% of men and 33% of women met the recommended physical activity guidelines.
- 76% of boys and 70% of girls met the recommended physical activity guidelines (including school based activity). This drops to 69% for boys and 62% for girls when school based activity is excluded. This underlines the case for school based physical education.

Physical inactivity carries serious health risks that have become increasingly evident. Research has shown that when compared to those who lead active lifestyles, people living physically inactive lifestyles:

- double their risk factors for coronary heart disease (CHD).
- have increased blood pressure; a risk factor for CHD.
- have a higher risk of colon cancer.
- have a higher risk of developing Type II diabetes.
- are more likely to be overweight or obese; leading to an increased risk of other types of cancer, osteoarthritis, back problems and other health complaints.
- have a lower bone density; a risk factor for osteoporosis, fractures and falls particularly in older women.
- have a greater number of sickness absences from work.

Perhaps most worrying is that physically inactive lifestyles are already established in young people before they leave secondary school. For some children even before they have even left primary school they could be failing to meet national recommendations for activity levels. Physically inactive lifestyles of children and young people have been linked to:

- Decreased likelihood of being a physically active adult.
- Increased likelihood of illegal drug use, smoking and alcohol use.
- Poorer self-esteem.
- Higher anxiety and stress levels.

Encouraging people to be more physically active

The recommendations for physical activity are easy to understand, and the link between risk factors for disease and other health problems are well evidenced. Indeed, many people report to being aware of the health benefits associated with an active lifestyle and to having a desire to do more physical activity. However, the majority continue to lead relatively inactive lifestyles. Therefore, it would appear that physical health benefits alone are not enough motivation to encourage people to lead active lifestyles. It is necessary to consider the barriers that people perceive preventing them from being physically active if we are to encourage them to do more.

There has been a wide variety of research and investigation into the perceived barriers that prevent engagement in physical activity and many of the barriers to physical activity that are perceived by adults are common to all. However, the individual's economic status and gender may affect the priority of weighting of perceived barriers. Children report slightly different barriers to adults, however, and perhaps surprisingly, many of their perceived barriers are similar to those perceived by adults.



Perceived barriers to exercise	
Adults	Children
<ul style="list-style-type: none"> • Lack of time • Lack of energy • Bad weather • Lack of facilities • Lack of motivation • Cost • Don't have correct equipment • "not sporty" • Not enjoyable • Childcare problems • Workload 	<ul style="list-style-type: none"> • Lack of own/parental time • Maturation or body changes • Safety concerns (own or parental) • Poor facilities • Lack of motivation • Expense • Self-conscious/ lack of confidence • Image among peers • Non enjoyable activities • Body image/weight concerns • Lack of choice in PE

The barriers to physical activity that adults and young people perceive can be categorized into four main types:

1. Biological: age, gender, weight/body image and fitness level.
2. Psychological: motivation, perceived barriers, competence to perform, self-efficacy, and knowledge.
3. Social and cultural: parental influences, significant others, socio-economic status.
4. Physical: weather, season, day of the week, access to facilities or equipment, promotion of activity.

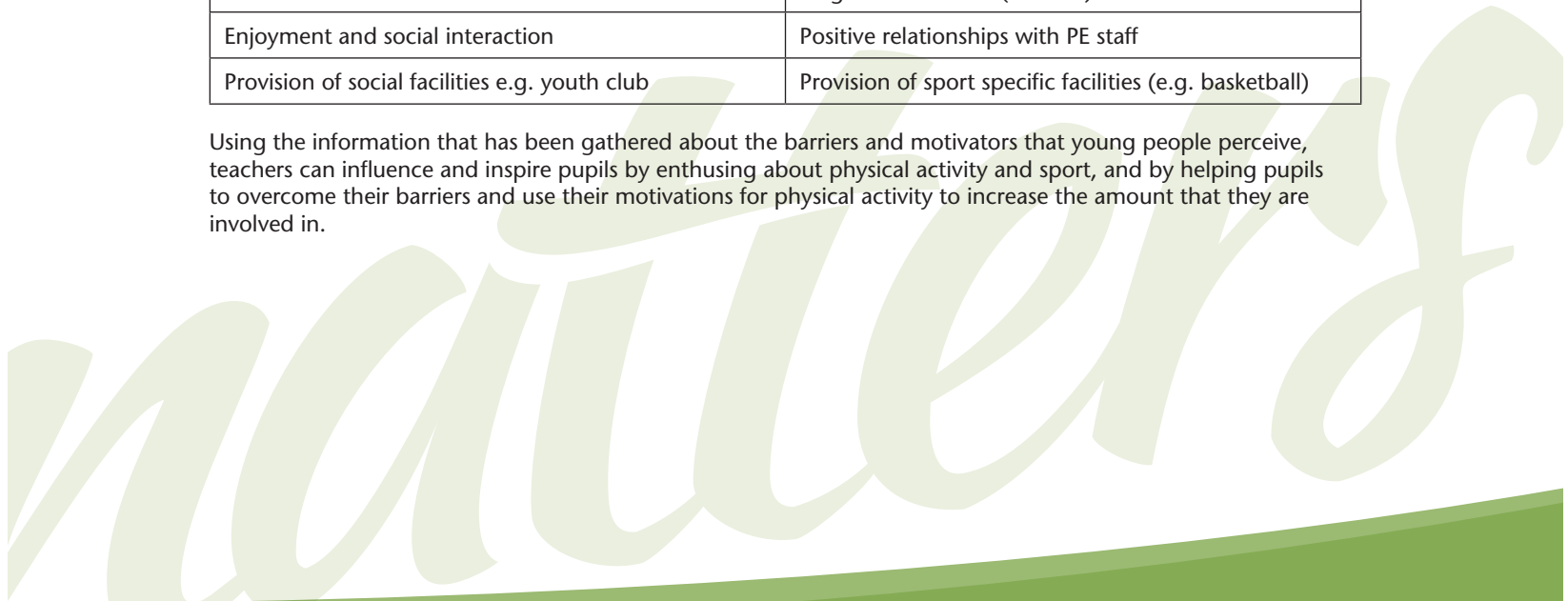
Some of these perceived barriers are easier for an individual to overcome than others but there is much that Governments and organisations can also do to reduce the perception of barriers that are outside of the individual's control and thereby encourage more frequent participation.

As a population group, children tend to perceive the physical barriers as the most limiting and report positive experiences of social, cultural and psychological factors as motivating influences for physical activity. Therefore, if the physical factors (e.g. provision of facilities, fun opportunities, competent and professional staff) can be altered or influenced to reduce the perceived barriers, children are more likely to have motivation to increase their physical activity than their adult counterparts. As previously mentioned, physically active children are more likely to become physically active adults. Therefore, encouraging children to become more physically active will increase the likelihood that the future adult population will be more physically active.

The factors that children and young people report as motivating them to participate are:

Perception of physical activity to be fun	Cheaper cost of organised activities
Previous positive experience	Choice and consultation in PE
Confidence	Single-sex activities (females)
Enjoyment and social interaction	Positive relationships with PE staff
Provision of social facilities e.g. youth club	Provision of sport specific facilities (e.g. basketball)

Using the information that has been gathered about the barriers and motivators that young people perceive, teachers can influence and inspire pupils by enthusing about physical activity and sport, and by helping pupils to overcome their barriers and use their motivations for physical activity to increase the amount that they are involved in.





Teacher Notes J: Oral Health

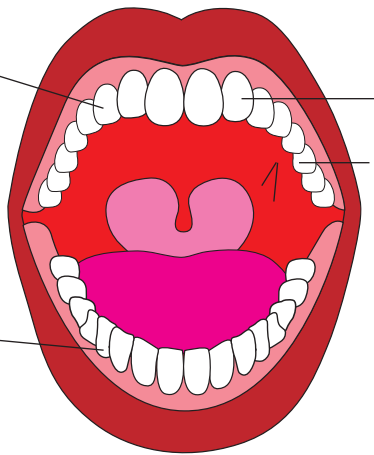
Associated lesson plans		
Primary Stage	Lesson	Title
3	3.3	Oral health
4	4.1 (2)	Food Groups; What Helps My Teeth and What harms Them"
5	5.3	Teeth and Decay
Useful websites	www.child-smile.org.uk <i>Provides resources, fact and information for professionals working in health, education, community, voluntary sectors who work together to improve child oral health</i>	

What are teeth for?

There are four types of teeth: Incisors, Canines, Premolars and Molars. There are different types of teeth to perform different functions during the chewing process:

Canines: the teeth in the corners of the mouth. These teeth have very long roots and pointed tips because they are meant for tearing and ripping food.

Premolars: located immediately behind the canines. They are for crushing food.



Incisors: the teeth at the front of the mouth. Their function is to cut food.

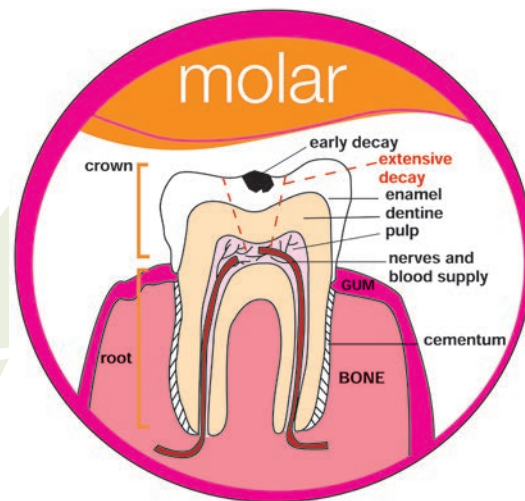
Molars: these teeth make up the rest of the teeth in the mouth. Molars are bigger than the premolars, with larger, flatter chewing surfaces. These teeth chew and grind food into smaller pieces, mixing it with saliva.

What is a tooth?

A tooth can be divided into two parts; the crown that sits above gum level (this is the part that is seen in a smile or when the mouth is opened) and the root that sits below gum level and anchors the teeth in the jawbones (this part accounts for 2/3rds of a tooth's total length).

The core of the tooth is made up of dentine, some of which is in the crown and the majority is in the root. In the centre of the dentine is pulp which is made up of blood vessels, which convey nutrients to the dentine, and nerves which carry impulses to the brain. The dentine in the crown of the tooth is covered by enamel, the hardest substance in the body. The root of the tooth is covered in cementum, a substance that helps to hold the tooth in its place in the jawbone.

Teeth do not have to be straight, bright and shiny white to be healthy and strong. However, we do need to look after our teeth to keep them healthy, strong and to prevent them from becoming unhealthy, weak and decayed.





We get two sets of teeth; we have 20 baby teeth (milk teeth) and 32 adult teeth (permanent teeth). Our adult teeth replace baby teeth in stages from about the age of 6 when the first adult tooth erupts behind the existing baby teeth. Between the age of 6 and 12, children have a mixture of baby teeth and adult teeth. Baby teeth maintain the space required for the adult tooth to erupt and grow into. It is important to look after both our baby and adult teeth as they are required for eating, speaking and smiling.

Dental health in Scotland

The introduction of preventative oral health programmes have resulted in significant improvements in children's oral health over years. However, the concerted efforts of health, education and parents must continue if we are to see further improvements in children's oral health. Childsmile Core is a Scotland-wide initiative to help improve the health of children's teeth, with Childsmile School providing clinical prevention programmes offering twice-yearly fluoride varnishing, through community and primary care dental services for children attending priority primary schools. In 2012 all Scottish Health Boards reached their national oral health targets.

% of Dental Disease in Scottish Children

- 33% of Scottish School Children have dental disease by age 5 (NDIP, 2012)
- 40% of Scottish Primary 7 children have dental disease (NDIP 2012)

Tooth Decay: the process

The environment in the mouth holds the enamel of the teeth in a constantly changing balance between demineralisation by acid (produced by dental plaque) and remineralisation (through the nutrients brought to the teeth in the saliva).

Dental plaque is a sticky white film, composed almost entirely of bacteria that constantly form on the surfaces of teeth. If left undisturbed (i.e. through lack of dental hygiene and toothbrushing) it accumulates thickly around the gums and between teeth.

When sugars enter the mouth bacteria in plaque on the surfaces of the teeth rapidly absorb them. Inside the bacterial cells, the sugars are converted into acids, which then accumulate in the plaque layer. When the pH of the plaque coating on teeth falls to approximately 5.5 (the critical pH) minerals are dissolved out of the enamel; this process is known as demineralisation. If no further sugars enter the mouth to be converted by plaque, the plaque will return to its normal pH level after 20-30 minutes. When this happens minerals from the saliva flow into the tooth and remineralisation occurs. Frequent exposure to foods and drinks that contain sugars will increase the frequency and duration of the demineralisation period and will subsequently decrease the opportunities for remineralisation.

The first signs of decay from the effects of plaque-induced acid attack are chalky white spots on the teeth. At this stage the damage can be reversed if the frequency of sugar consumption is reduced and the teeth are brushed regularly with a fluoride toothpaste. Toothbrushing with a fluoride toothpaste acts to remove plaque from the surface of the teeth (reducing the potential for acid attack) and to coat the teeth in fluoride to allow remineralisation to occur.

Later decay can be seen as staining and discolouration of the enamel, which can further progress to damage the underlying dentine causing a cavity to form in the tooth. At this stage the tooth will probably be sensitive to hot and cold stimuli. The damage to the tooth can be halted at this stage by a visit to the dentist for a filling. Untreated decay of the dentine can become severe and can result in damage to the pulp. If the pulp becomes affected painful dental abscesses can form. If this happens, the tooth is dead and may require more complex treatment (root treatment) or extraction.

Plaque + Sugar > Acid
Acid + Tooth > Decay





Dental disease (caries) causes:

- Pain, discomfort and suffering
- Speech difficulties
- Difficulty eating
- Embarrassment, low confidence & self-esteem
- Absence from school
- Hospital admission for tooth extraction under General Anaesthetic

Dental Erosion

Dental erosion is the loss of tooth enamel caused by acid attack. It is thought that the increased consumption of acidic soft drinks, including carbonated drinks, fruit juices, diet drinks and sports/energy drinks are linked to dental erosion.

Sugar in the diet

The Scottish population consumes too few fruit and vegetables, fish and starchy carbohydrates and conversely eats too many foods high in fats, sugars and salt. The dietary imbalance increases the risk of developing chronic diseases such as obesity, heart disease, certain cancers as well as tooth decay. The main source of these sugars in children include: soft drinks (including fresh fruit juice), cereals and cereal products, confectionery, preserves and sweet spreads.

To maintain good oral health, dietary advice should include the following:

- Reducing the amount and frequency of food and drink containing sugar
- Sugary food and drinks should only be consumed at mealtimes, if at all, rather than between meals
- Avoid sugar-containing foods and drinks at bedtimes

Fresh fruit and vegetables naturally contain sugars, they have an important place in the nutritional content of our diet; for this reason fruits are not included in the 'fats and sugars' group of the Eatwell plate and their consumption is not restricted to the same extent as other foods containing sugars. Fruit juice and dried fruit are best taken as part of a meal. All fizzy drinks, including diet/light and energy/sports versions, can have a damaging effect on teeth as they contain acid and/or sugar.

Often we are not aware of the amount of sugar that is within many of the foods and drinks that we consume.

matters



Approximate sugar content of some common foods:

Food portion	Sugar content (tsp)	Food portion	Sugar content (tsp)
1 chocolate digestive	1 ¾	1 glass lemon squash	2 ¼
1 digestive	½	1 glass orange squash	2 ½
1 gingernut	1	1 glass lucozade	7 ¾
1 jaffa cake	1 ½	1 glass ribena	5
2 custard creams	1	1 glass pure fruit juice	0
1 bar crunchie (50g)	3 ½	1 glass plain water	0
1 tube fruit gums(52g)	3	1 glass plain milk	0
2 fingers kit kat	3 ¾	2 teaspoons jam	2
1 tube polo mints (34g)	5	2 teaspoons chocolate spread	2 ¼
Jelly Babies (215g pack)	34	6 tablespoons cornflakes	¼
1 mars bar(54g bar)	9	6 tablespoons rice crispies	¼
Chocolate Buttons (32g bag)	32/3	6 tablespoons sugar puffs	2 ¼
1 tube rolos (100g)	8	1 apple	0
1 can coca cola (330ml)	7	1 pear	0
1 can Irn Bru (330ml)	7	1 banana	0
Volvic Touch of Fruit (500ml bottle)	5 ½	1 carrot	0

Hidden Sugars in the diet

Some sweet-tasting foods don't have the word 'sugar' in the ingredients list on their packaging, but still have sugar in them – it's just labelled in a different way. Some alternative names for sugar to look out for include:

Beet sugar	High fructose glucose syrup
Brown sugar	Hydrolysed starch
Cane Sugar	Invert sugar
Corn Sweetener	Invert sugar syrup
Dextrose	Icing sugar syrup
Fruit Juice Concentrate	Isoglucose
Fructose	Levulose
Glucose	Maltose
Glucose syrup	Molasses
Fructose glucose syrup	Sucrose
Glucose fructose syrup	Sucrose syrup
Granulated sugar	sugar
High fructose corn syrup	syrup

If you see one of these near the top of the ingredients list then the product is high in sugars. Many food products labelled 'healthy', 'low sugar' or 'no added sugar' or 'herbal' may still contain sugar. These sugars are still damaging to teeth and should be limited and restricted to mealtimes.



High sugar is more than 15 g sugars per 100 g of the food

Medium sugar is between 5 g and 15 g sugars per 100 g of the food

Low sugar is 5 g sugars or less per 100 g of the food

Toothbrushing

Regular daily brushing with a fluoride toothpaste is highly effective in preventing dental decay. A toothbrush is effective in removing the plaque from teeth, particularly from the gum line and between the teeth where plaque is likely to accumulate. A toothbrush cannot reach all of the surfaces of the tooth but if the toothbrush is used as a tool to coat the teeth with fluoride toothpaste, the fluoride applied to the teeth and the saliva circulating around the mouth can act to transport fluoride to all of the surfaces of the teeth. Fluoride has a protective effect on teeth and increases their resistance to decay by:

- Enhanced remineralisation – Fluoride in the mouth can alter the chemical balance between demineralisation of enamel and remineralisation. The effect favours the remineralisation process, allowing the early carious attack on enamel to be reversed and new mineral crystals with better structure and greater acid resistance, to be deposited. This is the mechanism by which fluoride toothpaste is thought to work.
- Reduced acid production – Fluoride is concentrated in the plaque layer on the surfaces of the teeth and reduces the conversion of dietary sugars into acid.

Children under 6 years should use a toothpaste containing 1000 ppm (parts per million) fluoride (this is written on the toothpaste tube) and be assisted by an adult until at least 7 years old. Children over 7 and adults should use a toothpaste containing over 1350–1500 ppm fluoride. The benefits of brushing with a fluoride toothpaste is maximised if toothpaste is spat out and not rinsed with water, which will wash away the fluoride and reduce the benefits. Regular visits to a dentist will help to maintain oral hygiene practice.

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Teacher Notes K: Body Image, Self-esteem and the Media

Associated Lesson Plans		
Primary Stage	Lesson	Title
6	6.5	Body Image, Self-Esteem and the Media
Useful websites	www.childline.org.uk/ <i>Provides information on body image.</i>	
	www.b-eat.co.uk <i>Provides helplines, online support and a network of UK-wide self-help groups to help young people in the UK beat their eating disorders.</i>	
	www.youngscot.org/ <i>Provides information on girls and boys body changes.</i>	

What is body image?

“Body image is what you think about your own body and how you feel about the way you look. Some people are happy with how they look and some people are not.” (Childline Website 2013)

Body image plays a huge role in modern society and is undeniably linked to an individual’s self-esteem. People with high self-esteem know themselves well, they are realistic, feel more in control of their lives and are able to recognise their own strengths and weaknesses. Having a positive body image means that an individual feels comfortable and happy with the way they perceive their own body including their physical appearance and attractiveness to others. To have a negative body image usually means that an individual feels uncomfortable, awkward or has a distorted and inaccurate perception about the way they look and feel in their own body. Someone who experiences a negative body image can feel self-conscious about their body shape or can be ashamed of a particular aspect.

How do we develop a negative body image?

There is an increasing body of research evidence that highlights the view that children and young people are developing negative body images at earlier ages and these numbers seem to be constantly increasing. Many specialists in this field believe that the media plays an important role in this increase as they promote a particular body stereotype e.g. tall, thin females or tall muscular males. As children and young people are becoming more aware of celebrities and media images there are the opportunities for comparisons to be made which are not all realistic to everyday lifestyles. The consequences of this can result in more children and young people having a negative body image. However, the media is only one influence surrounding this concept, but when combined with a wider range of emotional, psychological and social factors the issues surrounding body image increase resulting in a negative effect. These include:

- Personal perception of themselves and how they are perceived by others.
- The need for acceptance from others and comparing themselves to how other people look.
- Pressured relationships from home, with friend/peers or at school which result in a young person questioning how they see themselves.
- Negative comments about particular eating patterns or habits.
- Constant exposure of others comparing and self-criticising their bodies or the way they look.
- Exposure to healthy messages regarding diet and physical activity.

When discussing body image with children and young people, especially those who are near puberty, it is important to remember the wider variety of experiences and influences that they will be presented with in their everyday lives and what emotions they may be faced with during this time.



Body image and Self-esteem

As body image and self-esteem go hand in hand it is important to remember that to effectively improve a young person's body image we should aim to boost their self-esteem. Developing healthier attitudes allows children and young people to explore aspects of growing up such as developing good friendships, becoming more independent and challenging themselves physically and mentally which will result in increased self-esteem and self-belief.

Children and young people gain perceptions about their own values and worth through their environmental and social experiences, including the responses of the significant people in their lives e.g. parents, carers, teachers and peers.

Tips for improving Body Image and Self-Esteem

- Recognise that your body is your own, no matter what shape or size it comes in. Encourage the children and young people to focus on staying strong, keeping healthy and look to the positive things they can personally do and what makes them happy.
- Identify which aspect of your appearance you can realistically change and which you cannot. Humans, by definition, are imperfect and that is what makes us all unique and original. Children need to discover that everyone has this. They cannot change but need to accept things like their height or shoe size.

***“Real people aren't perfect and perfect people aren't real (they're usually airbrushed!)”
Kidshealth website 2012.***

- If there are things about yourself that you want to change and can, do this by making goals for yourself. Exercising and healthy eating are some examples which can make a positive change to a person's appearance. Setting personal goals allows for progress to be tracked until it is complete. Meeting personal challenges is a great way of boosting self-confidence and self-esteem.
- When you hear negative comments coming from within, tell yourself to stop. Encouragement should be given to children to appreciate each other for more than just how he or she looks. As our bodies are complex and constantly changing, we should all try and focus on what is unique and interesting about ourselves and each other.

Positive media influences

The media plays a variety of different roles in the daily lives of children and young people. Although in some instances the influence of the media can be deemed negative, it does have a number of useful and positive objectives. Ikeda and Naworski (1992) suggested that there were four settings in which the media can have a positive influence on self-esteem.

<p>A sense of connectedness The media allows children and young people a feeling of togetherness and allows them to have strong links with people in the world around them, which may provide them with a sense of security and belonging.</p>	<p>A sense of uniqueness This enables children and young people to accept the way they look and to be confident and happy with the fact that they are a little different from everyone else.</p>
<p>A sense of power Encouraging children and young people to have a positive body image will allow them to feel capable, strong and in control of their own lives.</p>	<p>A sense of role models Role models represent the principles and values children and young people need to help them make sense of the world and develop their own self-worth and responsibility. Some children and young people, such as those who are overweight or who are living with a disability, may find it difficult to identify appropriate role models. Resources and discussion materials should be taken from a wide variety of sources which represents abilities, cultures, sizes and gender to allow children and young people to identify with their own particular role models.</p>





It is important to involve children and young people in a discussion about the mixed messages sent out by the media and equip them with the skills to make their own informed choices and decisions which will not hinder their self-esteem or the positive way they feel about their body.

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