

### Food and Nutrition

**Subject:** Activities to Support the Food and Nutrition unit in the SPHE Curriculum

**Grade:** Primary School 3<sup>rd</sup> and 4<sup>th</sup> Classes

**Duration:** 4 x 40 minutes + field trip

**Number of students:** 20-25

This eLearning Resource has been developed by the Local Government Management Agency within the Europeana Food and Drink Project, demonstrating the value and potential of food and drink-related content sourced through Europeana.

The project is funded by the European Commission under the ICT Policy Support Programme part of the Competitiveness and Innovation Framework Programme.





## PART A

### Introduction

The lessons provide open educational resources supporting four lessons relating to “Food and Nutrition”. The lessons and accompanying resources are developed by the Local Government Management Agency in Ireland and in collaboration with a local farmer’s market. The initiative forms part of the [Europeana Food and Drink](#) project, which is cofunded by the European Commission under the ICT Policy Support Programme, part of the Competitiveness and Innovation Framework Programme. These lessons illustrate the value of the partnership approach of local cultural heritage and the Irish food and drink sector in supporting children’s education.

Libraries Development, Local Government Management Agency collaborates with other national bodies in Ireland in the development of services as part of public library service. The current focus includes RFID technology, eBooks, open and linked data and digital preservation. Libraries Development, LGMA also liaises with teacher training colleges to tailor content and content applications to the requirements of the teacher and offers professional development courses for primary and secondary teachers on library resources for schools at the regional education centres throughout the country.

### Overview

The current lesson plans have been developed to support the primary school curricula for SPHE for 3<sup>rd</sup> and 4<sup>th</sup> class pupils. Content has been prepared by teachers. The content offers a wide variety of content to an inquiry-based



learning approach and provides pupils with authentic materials to support class projects. The strong interactive element encourages pupils to learn through exploration and discovery and especially supports the development of critical thinking skills.

The aim of these lessons is to develop children's knowledge of food and nutrition in addition to the development of research skills. The unit is designed to develop children's knowledge of healthy eating, unhealthy foods, becoming healthy adults, and food hygiene.

### Topic of the lesson

This is a lesson on the theme of food and nutrition. The lesson begins with a series of questions to explore the children's understanding of the food they eat. The factors which influence their decisions around food they buy and eat are examined. The children's attitudes and choices regarding healthy and unhealthy foods are discussed. This leads to the concept of a balanced healthy diet. This is progressed by grouping foods 1) meat, poultry, fish (nuts and seeds are also in this group) 2) fruit and vegetables 3) dairy 4) sugary and fatty foods 5) grain-based foods (cereals), potatoes, rice and pasta. Visual concepts of the balanced diet such as the food pyramid are examined. The lesson then focuses on each food group individually analyzing their health benefits and the recommended quantity of servings for different ages and genders. There is a special focus on sugary and fatty foods and drinks. This section details the unhealthy effects of these foods. It also considers the role of food hygiene in healthy eating. Throughout the lesson there are various activities to provide opportunities to engage with the content and in particular to educate and inform healthier attitudes to food.



## Prior knowledge

From engagement with the second class SPHE curriculum (curriculum in Ireland) the students will have covered a strand unit called “Taking care of my body” which includes balanced diet and food and nutrition and a strand unit called “Media education and advertising”.

## Learning target

The children will learn about the main food groups and the recommended quantities for different ages and genders. They will be able to understand visual concepts such as the food pyramid. They will be able to associate specific health benefits with the food groups and the specific negative health impacts of sugary and fatty foods. They should be informed of how the media influences decisions and attitudes concerning foods we eat.

## Educational aims, objectives and expected results

The outcomes of the lesson are:

From *S.P.H.E. Curriculum*

*Taking care of my body*

The child should be enabled to

- understand and appreciate what it means to be healthy and to have a balanced lifestyle having energy, being in good form, feeling enthusiastic, having a positive outlook, having a balanced diet, having friends, having good posture
- realise the importance of caring for and treating his/her own body, and that of others, with dignity and respect
- understand the physical changes taking place in both the male and female body growing height and weight, increasing strength growing from boy to man, growing from girl to woman
- realise that these changes do not occur at the same time but nonetheless are predictable and natural and that being different is normal accepting his/her own body image being sensitive to the patterns of growth and development in himself/herself and other people
- recognise and practise good personal hygiene, know how it is maintained and understand its importance in social interaction



### Food and nutrition

The child should be enabled to

- differentiate between a healthy and an unhealthy diet and appreciate the role of balance and moderation identifying the nutrients that are necessary in a balanced diet exploring how diet promotes growth, performance and development
- recognise the wide choice of food available and categorise food into the four main food groups and their place on the food pyramid bread, potatoes, cereals fruit and vegetables milk, cheese, yoghurt meat, fish and alternatives
- examine the dietary needs of his/her own age group and other groups in society
- explore some factors that influence the consumption of different food products presentation and packaging, shelf life, advertising, imported or home-produced, price, consumer demand
- discuss and examine the importance of proper food hygiene.

## Educational methods and approaches

Approaches and methodologies from S.P.H.E. curricular guidelines

- Pictures, photographs and visual Images
- discussion
- written activities
- the media and information and communication technologies

Approaches and methodologies from Science curricular guidelines

- the investigative approach
- the teacher-directed approach.

These approaches and methodologies are exemplified by the use of visual concepts, surveys and analysis, topic led discussions and debates, self reflective questions, project type activities and science experiments etc.



## Approaches in developing activities inside and outside the classroom

Whole class activities involving team work, team games and interactive activities will be used to support children's learning of the new content and concepts presented to them throughout the lesson. The activities will also promote discussion, idea sharing and the development of both communication skills and critical thinking skills related to the topic of food and nutrition.

## Supervising and educative tools

Educative tools required for the lesson include:

Interactive Whiteboard

Power Point presentation

PCs for pupils

Internet access

Work sheets

## Homework

Homework is assigned as part of each lesson. See the end of each lesson for the homework task.

## Students' assessment framework

The assessment of the pupils' progress will be based on performance in team games, interactive activities, work sheets and the teacher's feedback to pupils at the end of each session.



## PART B

### Teaching timeline, process and implementation framework of the teaching methods and approaches

#### Duration:

Each lesson planned for a 40 minute class with a group of 3<sup>rd</sup> and 4<sup>th</sup> class pupils (approximate age range: 9-10 years)

#### **Part 1: Choosing food and staying healthy**

##### Preparation:

- 1) For the healthy and unhealthy foods pictogram the teacher will need to have sheets prepared for the tally sheets using the following headings (a) meat, poultry, fish (b) fruit and vegetables (c) dairy (d) sugary and fatty foods (e) grain-based foods (cereals), pasta, potato.
- 2) When teaching content on 'Getting the balance right' the teacher should use the website [www.safefood.eu](http://www.safefood.eu) to access images of the Food Pyramid to display on the interactive board or print out pictures for each child.
- 3) Adequate paper triangles and food magazines (for photographs and images of food) will be required for the exercise on the food pyramid.
- 4) The teacher will need to devise sheets with the headings: Food Group, Example, Number of servings across the top and each of the food groups listed at the side. This will be needed for the activity on designing your own food chart to accompany the food pyramid.

##### Classroom Activities Instruction:





### 1) Food choices- 5 mins

Who chooses the food that you eat in your family? Who does the grocery shopping? Who cooks the meals? Who makes your lunch?

If you could choose the food that you and your family eat **how** would you choose the food?

When choosing, put the following in order of importance from 1-5. **Taste** – does the flavour of the food matter? **Healthiness**- does it matter if the food is good for your brain and body? **Colour**- Does the colour of the food matter? **Smell**- does the smell of the food matter? **Texture**- (Texture is what food feels like when you touch it or when it is in your mouth) - Does the texture of the food matter?

### 2) Short food quiz- 5 mins

Can you think of any foods that are good (healthy) for you but don't taste very nice? Can you think of any foods that are bad (unhealthy) for you and taste really nice? Name some foods that are good for you and taste really nice. Do you know why they are good for you?

Activity:

Foods can be put into groups such as (a) meat, poultry, fish (b) fruit and vegetables (c) dairy (d) sugary and fatty foods (e) grain-based foods (cereals), pasta, potato. Make a list of five foods that you like. These should be individual foods not meals e.g. pasta not spaghetti Bolognese. State whether they are a) meat, poultry, fish (b) fruit and vegetables (c) dairy (d) sugary and fatty foods (e) grain-based foods (cereals), pasta, potato. State whether they are healthy or unhealthy.

e.g.

apple- fruit/vegetable (healthy)

milk- dairy (healthy)

chocolate- \*dairy and sugary/fatty (unhealthy)

\*Chocolate is a mixture of food groups. It is dairy and is also sugary/fatty!





Does your list have more of one type of food than another, e.g. more fruit/vegetable than dairy? Are there more healthy or unhealthy foods on the list? Compare your list with pupils sitting next to you. Do a survey of 'favourite foods' for the class or in groups.

a) Do a tally for healthy and unhealthy foods. Make a pictogram.

b) Do a tally of the types of foods chosen. Use this list-1) meat, poultry, fish 2) fruit and vegetables 3) dairy 4) sugary and fatty foods 5) grain-based foods (cereals), pasta, potato. Tip- if something is dairy and sugary/fatty like chocolate give it a tick in the tally for both groups. Make a pictogram of you results.

c) Discuss the results of both pictograms. Discussion points- Does your class choose healthy or unhealthy foods? Which food group is the most popular and why? Which is the least popular and why? Is the most popular food group a healthy choice or an unhealthy one?

### 3) Getting the balance right- 5 mins

Getting the balance right means choosing a lot more healthy than unhealthy foods. From your surveys do you think you got the balance right? Has the class got the balance right?

Read together the 'Getting the Balance Right' text

Can you think of some examples of healthy savoury meals that you like?

Can you think of any sweet but healthy foods that you like?

Do you want to choose healthy foods? With so much food to choose from how can we know what is healthy and what is not healthy? We can use the food pyramid to find out!

### 4) Food Pyramid- 5 mins

Read the 'Food Pyramid' text together

Which food group do you think is the most unhealthy? Yes, sugar and fatty foods and that is why they are at the top of the pyramid in the smallest section. We should eat less from this group. What foods can you see in this





section? What have they got in common? Which is the biggest section? Yes, Cereals, bread and potatoes section. You can eat more from this section. The numbers beside the sections show how many servings you can eat. For example you should eat five servings of fruit or vegetables a day.

5) Activity: Making your own Food Pyramid- 20 mins

Cut out photographs similar to the foods in the food pyramid. The photographs should be gathered under these headings 1) meat, poultry, fish (nuts and seeds are also in this group) 2) fruit and vegetables 3) dairy 4) sugary and fatty foods 5) grain-based foods (cereals), potatoes, rice and pasta. Divide a triangular shape to match the sections shown on the food pyramid. Draw lines to show each section. Paste photographs to match the food group in each section. The sections should be divided in the same way as the five sections in the food pyramid photo.

Time permitting, pupils present their pyramid to the class and explain their choices. They compare their ideas with other children. Are there any similarities?

Homework: Activity: Create a chart to accompany your own food pyramid showing exactly what food you eat under the headings below and then state how much you would eat of each food you mention.

Example of chart headings:

<b>Food Group</b>	<b>Example</b>	<b>Number of servings</b>
<i>Fruit and vegetables</i>		
<i>Cereals, bread, rice, potatoes pasta</i>		
<i>Dairy</i>		
<i>Meat, fish, poultry</i>		
<i>Fatty or sugary foods</i>		



## Part 2: Food that helps us grow and become healthy adults

### Preparation:

The experiment on how carbohydrates are an energy food requires a large potato, two zinc-plated nails, two copper coins, four lengths of copper wire and a small light bulb.

The activity on designing a promotion campaign for the food groups 'Fruit and vegetables', 'Cereals, bread, rice, potatoes and pasta', 'Dairy' and 'Meat, fish and poultry' will need groups of four, five or six children to be created. This depends on the class size. It is worth ensuring that these are mixed ability groups.

The teacher will need to make small booklets (folded A4 sheets) to make simple daily food diaries using the main food groups as headings. The diary will need to be organised to allow children to record the number of servings they have eaten of each item they mention.

### Classroom Activities Instruction:

- 1) Cereals, breads, potatoes, pasta and rice- 10 mins

Discuss the 'cereals, breads, potatoes, pasta and rice' text together

- 2) Experiment on how carbohydrates are an energy food- 15 mins

This is an experiment to show how energy is stored in a carbohydrate such as a potato. You will need the following:

- A large potato
- Two zinc-plated nails A and B.
- Two copper coins
- Four lengths of copper wire
- A small light bulb

### Method:

Cut the potato into halves. Wrap a length of copper wire around each coin a number of times. Push the copper wire wrapped coins into each half, one coin



into each half. Leave part of these wires sticking out from the coins. This extra wire is important. (Potato half A and potato half B). Now wrap one end of the third copper wire around nail A. Push nail A into potato half A. Wrap one of the fourth copper wire around nail B. Push nail B into potato half B. Now connect the extra wire from the coin in potato half A to the extra wire from nail B. Get the wire which is sticking out from the coin in potato half B and connect it to the bulb. Get the extra wire from nail A and connect it to the bulb also.

Result:

When this is done the light should brighten.

What is happening?

A potato is made of sugar, water and acid. When they become in contact with a metal like copper an energy called electricity is created. Sugar is a source of energy!

3) Fruit and vegetables- 5 mins

Read and briefly discuss the text together

4) Milk, yoghurt and cheese- 5 mins

Read and briefly discuss the text together

5) Meat, poultry, fish, eggs, beans and nuts- 5 mins

Homework: Daily food diary- 10 mins daily over the week

Make a daily food diary using the following headings –

Cereals, breads, potatoes, pasta and rice

Fruit and vegetables

Milk, yoghurt and cheese

Meat, poultry, fish, eggs, beans and nuts

Fatty and sugary foods and drinks

Write down what you have eaten under the headings and write how many servings you have eaten of each item (a rough guess is fine).





### Part 3: Food that can make us unhealthy

#### Preparation:

When devising the attitude survey on sugary and fatty foods the teacher should use these headings a) when, b) where and c) who (buys sugary and fatty foods) and why (they are bought) over the period of a week.

#### Classroom Activities Instruction:

- 1) Fatty and sugary foods and drinks- 10 mins

This is the food group that is unhealthy for you. The problem is these foods are available in shops everywhere, in takeaways, newsagents, petrol stations and supermarkets. Can you list any of these foods? How often do you eat these foods?

Read and discuss the text together.

- 2) Activity: class survey of foods and drinks from fatty and sugary foods group- 10 mins

Do a class survey of foods and drinks from this group. Organise it as follows: Each child is given a sheet to fill in for the week.

Example:

<b>Name of food</b> (suggest a list)	<b>Quantity consumed per week</b> (state unit)
Mars bar	3 bars
Pack of crisps	2 packs
Total	5 units

Repeat this survey in a month's time and see if attitudes have changed to eating from this food group.



- 3) Problem food groups: Fatty and sugary foods and drinks 10 mins  
Read and discuss the related text.

Discussion point: The government is talking about making foods from the sugary and fatty food group much more expensive. Is this a good idea?

- 4) Activity: Match up game- 10 mins

Each child is given a card with two parts. One part has a name of a food item. The second part has information about the health and nutritional value of another food item. It will describe it in terms of shape, colour and texture. It will state any unique quality it might have. Finally it will say what food group it belongs to.

The task is to match the information to the name. The activity continues as pupils pass the cards along the group.

Example:

BANANA: it is a liquid. It contains calcium. It is good for your bones and nails. It is white. It is a member of the dairy food group. The next child who has a card with 'MILK' written on it shouts out 'Milk'. He/she then proceeds to call out the descriptions for the next child to match with. This continues until it returns to 'banana'.

Homework: Children should write their answer to each of the two questions below and write down three reasons explaining their answer.

- 1) Should sweets be banned from all schools? Why/why not?
- 2) Should all fatty food advertising be banned? Why/why not?

## **Part 4: Food hygiene**

Preparation:



The experiment on “How germs and bacteria spread” requires some brightly coloured glitter. It is applied to the door handles on either side of the entrance and exit doors to the class. This must be done without the knowledge of the children and before they arrive into class. For an extension exercise different coloured glitter could be used at different doors in the class. This will allow the class to discover where the “germs” originated.

### Classroom Activities Instruction:

- 1) Read the associated texts together. 15 mins  
Answer the questions within.
- 2) Experiment: How germs and bacteria spread 25 mins

Get some fine brightly coloured glitter. Place the glitter on the door handles (on either side of the door) at entrance and exit to the class room in the morning before children enter the class.

Five minutes before lunch time ask the children to look at their hands. Do not mention the glitter at this point.

Ask the following:

How many people think their hands are clean? Record the answer on the board.

Look at your hands. Do you notice anything unusual on your hands? Give a hint- anything shiny? Hands up who has something shiny on their hands. Record the number.

Where do you think the shiny material came from?

Tell them where the glitter was put. How did it get onto your hands?

Recap on the germ/bacteria content in previous section.

Ask the following:

How did the glitter spread around the room? Who is responsible? Can it travel from one person to another? How?

What can we do to stop it travelling around the room? Pretend the glitter is bacteria or germs, are your hands clean now? Record this answer beside the original answer. Discuss the results.



### Field trip to a small farmer's market locally

During this field trip, pupils will research and promote benefits of various food groups

Note: The research for this activity could be partly done prior to the trip as a classroom activity

For each of the food groups 'Fruit and vegetables', 'Cereals, bread, rice, potatoes and pasta', 'Dairy' and 'Meat, fish and poultry' create a group of four, five or six children. These groups need to research the food group at the farmer's market.

Prior research using the following websites should be conducted:

<http://www.safefood.eu/Healthy-Eating/What-is-a-balanced-diet/The-Food-Pyramid/IMG-class-alt-header-image-alt-Cheese-src-Globa.aspx>

<http://health.gov.ie/blog/publications/your-guide-to-healthy-eating-using-the-food-pyramid/>

[http://www.fooddudes.ie/Healthy\\_Eating\\_for\\_Children.pdf](http://www.fooddudes.ie/Healthy_Eating_for_Children.pdf)

<https://www.healthpromotion.ie/hp-files/docs/HPR00901.pdf>

<http://www.bordbia.ie/consumer/aboutfood/pages/default.aspx>

[https://www.healthpromotion.ie/health/inner/3\\_week\\_menu\\_plan](https://www.healthpromotion.ie/health/inner/3_week_menu_plan)

[http://www.nutritionandhealth.ie/Sectors/NHF/NHF.nsf/vPages/Eat\\_Smart-food-diary?OpenDocument](http://www.nutritionandhealth.ie/Sectors/NHF/NHF.nsf/vPages/Eat_Smart-food-diary?OpenDocument)

<http://www.irishheart.ie/media/pub/charts/foodpyramid.pdf>

The purpose of this field trip is to achieve the following outcomes:

- 1) Identify a number of food items for the food group. Eg Dairy- milk, butter, cheddar cheese, yoghurt.
- 2) Find out what the health benefits are of food items in the food group by discuss with local suppliers at the market.

Following the field trip, the following activity can be undertaken in groups







Develop a marketing campaign for display at the local farmer's market to promote the healthy food groups. Design posters for display at the market. Design a logo and slogan for these healthy food groups.

## **PART C**

***Appendices attached in separate files***

### **Appendix a**

*PowerPoint presentation – Lesson Part 1*

### **Appendix b**

*PowerPoint presentation – Lesson Part 2*

### **Appendix c**

*PowerPoint presentation – Lesson Part 3*

### **Appendix d**

*PowerPoint presentation – Lesson Part 4*

