

# **MANCHESTER UNITED MUSEUM & TOUR**

## **EDUCATION SESSIONS KEY STAGE 2**



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**SCIENCE: KEEPING  
HEALTHY.**



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## Science: Keeping Healthy FOLLOW-UP LESSONS

Year group: KS2	Time: 1 hour
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Curriculum area: Science	Unit of work: Keeping Healthy (lesson 1)
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<b>Learning Objective(s):</b> <ul style="list-style-type: none"><li>To be able to understand how a scientific idea can be tested and the evidence used to support the idea.</li></ul>
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SESSIONS TAKEN AND ADAPTED FROM QCA SCHEMES OF WORK.

### Introduction

Review the work the children have already done about growth and diet- as a class, create a mind map of the children's knowledge about balanced diet, importance of diet in terms of activity, growth and staying healthy.

### Main activity

Talk to the children about inadequate diets and problems they can lead to. For example, sailors developing scurvy because their diets were deficient in vitamin C. Explain that this puzzled doctors at the time because they didn't know about vitamins. Talk about how the doctors thought it may be because they weren't getting enough fruit and vegetables and tested this by giving some sailors limes. For example, babies from well-off families were surviving less well than poorer families in Paris. Doctors thought that this could be because their diet consisted of bread and butter and boiled milk, whereas poorer babies were fed on potatoes and gravy, which contained some vitamin C. Explain that doctors tested this by asking people to give their children cooked potato, lemon juice or fresh milk.

### Plenary

Ensure the children understand that these scientific ideas were tested to provide evidence to support ideas. Ask the children for each example to explain what factors would have needed to keep the same for each test.

<b>NC/NLS references:</b> Unit 3A 'Teeth and eating' Unit 4A 'Moving and growing'.	<b>Cross curricular links:</b> Units 2D, 3C and 5C, PSHE and PE.
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<b>Assessment against the learning objective(s):</b>	<b>Notes to inform future planning:</b>
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## Science: Keeping Healthy FOLLOW-UP LESSONS

Year group: KS2	Time: 1 hour
Curriculum area: Science	Unit of work: Keeping Healthy (lesson 2)

### Learning Objective(s):

- To be able to understand that to stay healthy we need an adequate and balanced diet.
- To be able to represent information about health and diet.

SESSIONS TAKEN AND ADAPTED FROM QCA SCHEMES OF WORK.

### Introduction

Write the words FATS and STARCHES AND SUGARS (CARBOHYDRATES), PROTEINS and VITAMINS and FIBRE. Ask the children to give some foods that they think go in each food group, record correct and incorrect contributions.

Discuss the importance of having some of each food type.

### Main activity

Give the children Balanced Diet sheet. Discuss any misconceptions about the children's ideas. Ask the children to use this to create a day's menu containing food from each food type. Ask the children to consider that foods with large amounts of fats and large amounts of sugars shouldn't be eaten too much.

### Plenary

Ask several children to show their menus. Does it show a balanced diet? Have foods from each group been included? Ask the children to justify their responses.

Look at the Balanced Diet sheet and look at the column Why you need this Food Group. Ask the children what they think each group is for. Establish that:

Carbohydrates and fats are for energy.

Proteins for cell growth and repair.

Vitamins and Minerals are for healthy cells.

Fibre to help food move through the gut.

Water is important because 70% of the body is water.

Children to complete the table.

<b>NC/NLS references:</b> Unit 3A 'Teeth and eating' Unit 4A 'Moving and growing'.	<b>Cross curricular links:</b> Units 2D, 3C and 5C, PSHE and PE.
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<b>Assessment against the learning objective(s):</b>	<b>Notes to inform future planning:</b>
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## Science: Keeping Healthy FOLLOW-UP LESSONS

<b>Year group:</b> KS2	<b>Time:</b> 2 hours
<b>Curriculum area:</b> Science	<b>Unit of work:</b> Keeping Healthy (lessons 3-4)

### Learning Objective(s):

- To be able to understand that we need exercise to stay healthy and to maintain our muscles.
- To be able to understand that when we exercise, our muscles work harder.
- To be able to measure their pulse rate and relate it to heart beat.
- To be able to repeat measurements of pulse rate.
- To be able to represent data about resting pulse rate in a bar chart and say what this shows.

SESSIONS TAKEN AND ADAPTED FROM QCA SCHEMES OF WORK.

### Introduction

#### Lesson 1

Review information on balanced diet covered last week. Ask the children to give the 7 food types, what they are food and examples of them. Ask the children what we need to do to keep healthy as well as eat a balanced diet.

Establish the importance of exercise.

#### Lesson 2

Review the children's knowledge from the last lesson:

What do our muscles need when we exercise?

How does our body provide more food/oxygen to the muscles?

What is the relationship between heartbeat and pulse rate?

### Main activity

#### Lesson 1

Explain that when we exercise our muscles need more oxygen and food. Continue to explain that our hearts beat faster and we breathe faster to get the food and oxygen to our muscles. Finally, explain that when we stop exercise our heart rate starts to decrease and go back to normal.

Ask the children about the relationship between heart beat and pulse- discuss. Explain to the children that pulse rate is measured in beats per minute.

Show the children how to locate their pulses and ask them to record their own pulse rate several times (children will need to keep this for next lesson.)

#### Lesson 2

As a class, create a table to all the children's pulse rates in the class. Children to then transfer this information into a bar chart where the data is grouped. Discuss different ways in which this could be done.

### Plenary

#### Lesson 1

Discuss why they didn't get the same result each time and why it's important to make several measurements.

#### Lesson 2

Discuss results. Which was the most common range for pulse rate? What were the highest/lowest pulse rates?

<b>NC/NLS references:</b> Unit 3A 'Teeth and eating' Unit 4A 'Moving and growing'.	<b>Cross curricular links:</b> Units 2D, 3C and 5C, PSHE and PE.
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<b>Assessment against the learning objective(s):</b>	<b>Notes to inform future planning:</b>
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## Science: Keeping Healthy FOLLOW-UP LESSONS

**Year group:** KS2

**Time:** 2 hours

**Curriculum area:** Science

**Unit of work:** Keeping Healthy (lessons 5-6)

### **Learning Objective(s):**

- To be able to identify facts which could affect pulse rate and make predictions about the changes.
- To be able to plan what evidence to collect including the number of measurements of pulse rate to take and the number of children to use.
- To be able to present results in a line graph and explain what these show and whether they support their predictions.

SESSIONS TAKEN AND ADAPTED FROM QCA SCHEMES OF WORK.

### **Introduction**

#### **Lesson 1**

Recap on the relationship between heart beat and pulse rate.

Ask-

What factors do you think could change pulse rate? (e.g. exercise)

What sort of exercise do you think raises pulse rate the most?

Ask the children to make predictions about what will happen after exercise.

#### **Lesson 2**

Ask the children about their predictions. Encourage the children to justify their predictions using their current knowledge.

### **Main activity**

#### **Lesson 1:**

Children to make a prediction in pairs. Children then, in their pairs, to plan an investigation to test their prediction(s).

Children to use normal planning format.

Children to prepare a way of recording their data.

#### **Lesson 2**

Children to carry out their investigation (children need to be taken into the hall or outside.)

Children to represent their data as a line graph and draw conclusions.

### **Plenary**

#### **Lesson 1**

Ask the children about how they are keeping the test fair. What do you need to keep the same each time you test?

Discuss why it is important to investigate the effect on several children, not just one.

#### **Lesson 2**

Question the children about what their graphs show.

Was your prediction correct? If not, how was it different?

Discuss the limitations of the investigations- i.e.) have some group only tested girls?

### **NC/NLS references:**

Unit 3A 'Teeth and eating'

Unit 4A 'Moving and growing'.

### **Cross curricular links:**

Units 2D, 3C and 5C, PSHE and PE.

**Assessment against the learning objective(s):**

**Notes to inform future planning:**



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## Science: Keeping Healthy FOLLOW-UP LESSONS

<b>Year group:</b> KS2	<b>Time:</b> 2 hours
<b>Curriculum area:</b> Science	<b>Unit of work:</b> Keeping Healthy (lessons 7-8)

### Learning Objective(s):

- To be able to understand that the heart and lungs are protected by the ribs.
- To be able to understand that the muscle in the walls of the heart contracted regularly, pumping blood around the body.
- To know that blood vessels carry blood around the body.
- To be able to label the major organs in the body and know their functions.

### SESSIONS TAKEN AND ADAPTED FROM QCA SCHEMES OF WORK.

#### Introduction

##### Lesson 1

Review information on what happens when we exercise from the previous lesson-

How is our pulse/heart rate affected?

How is our breathing affected?

##### Lesson 2

Ask the children to give the major organs of the body. Ask the children about the role of the lungs and heart.

Tell the children that today we are going to look at the roles of the other organs in the body.

#### Main activity

##### Lesson 1:

Show the children a model of the heart and lungs, if available. Explain that the muscle in the walls of the heart contracted regularly to pump blood around the body. Ensure that the children understand that the heart pumps blood to all parts of the body where it is needed, e.g.) muscles, brain lungs. Explain to the children that the heart and lungs are protected by the ribcage.

Children to look at the 'BBC Revisewise' site to look at the major organs in the body, under Science-Living Things-Animal-Bones and Organs. Children to draw a picture of the body into the centre of their page and label to major organs of the body.

##### Lesson 2

Children to annotate the body explaining the roles of the major organs.

#### Plenary

##### Lesson 1

Ask the children: What is the job of the heart? Ask the children to name of other major organs in the body.

##### Lesson 2

Ask the children to explain the jobs of the major organs. Discuss basic functions of each organ.

#### NC/NLS references:

Unit 3A 'Teeth and eating'

Unit 4A 'Moving and growing'.

#### Cross curricular links:

Units 2D, 3C and 5C, PSHE and PE.

#### Assessment against the learning objective(s):

#### Notes to inform future planning:



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## Science: Keeping Healthy FOLLOW-UP LESSONS

<b>Year group:</b> KS2	<b>Time:</b> 2 hours
<b>Curriculum area:</b> Science	<b>Unit of work:</b> Keeping Healthy (lessons 9-10)

### Learning Objective(s):

- To be able to understand that substances like tobacco, alcohol and other drugs can affect the way the body functions and that these effects can be harmful.

SESSIONS TAKEN AND ADAPTED FROM QCA SCHEMES OF WORK.

### Introduction

#### Lesson 1

Ask the children to recap on ways of keeping healthy that we have learnt about so far, i.e.) balanced diet and exercise.

Ask the children if they can think of anything that we shouldn't do if we want to keep healthy. Record the children's ideas on the whiteboard. Focus the children on tobacco, alcohol and drugs.

#### Lesson 2

Create two columns on the board- What should we do to stay healthy? What should we avoid? Ask children to provide ideas for each column.

### Main activity

#### Lesson 1

Explain to the children that they are going to use the topic books to help them to create an information sheet about the effects of smoking, drugs or tobacco.

Explain to the children that they must to ensure that they include factual information about the effects. Children to use the information books to make notes about their chosen area.

#### Lesson 2

Children to use their notes from last lesson to create their information sheet about their chosen area.

### Plenary

#### Lesson 1/Lesson 2

Ask the children to share any information that they have

<b>NC/NLS references:</b> Unit 3A 'Teeth and eating' Unit 4A 'Moving and growing'.	<b>Cross curricular links:</b> Units 2D, 3C and 5C, PSHE and PE.
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<b>Assessment against the learning objective(s):</b>	<b>Notes to inform future planning:</b>
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## Science: Keeping Healthy FOLLOW-UP LESSONS

<b>Year group:</b> KS2	<b>Time:</b> 2 hours
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<b>Curriculum area:</b> Science	<b>Unit of work:</b> Keeping Healthy (lessons 11-12)
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**Learning Objective(s):**

- To be able to answer test questions about the topic keeping healthy.

SESSIONS TAKEN AND ADAPTED FROM QCA SCHEMES OF WORK.

**Introduction**

**Lesson 1**  
Tell the children that we are going to create a mind map about what we have learnt about during the topic. Ask the children what major areas we need to cover and record on the board.

**Main activity**

**Lesson 1:**  
Children to create a mind map of their knowledge about the topic, covering all the aspects looked at.

**Lesson 2**  
Children to complete the end of topic test, see attached sheets.

**Plenary**

**Lesson 1**  
Create a mind map on the board asking the children to contribute ideas from their own mind maps.

**Lesson 2**  
Go through the test as a class, encourage children to justify their answers.

<b>NC/NLS references:</b> Unit 3A 'Teeth and eating' Unit 4A 'Moving and growing'.	<b>Cross curricular links:</b> Units 2D, 3C and 5C, PSHE and PE.
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<b>Assessment against the learning objective(s):</b>	<b>Notes to inform future planning:</b>
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# A Balanced Diet

Food group	Why you need them	Which foods have them
Carbohydrates (starches)		Bread Pasta Cereals Rice Potatoes
Carbohydrates (sugar)		Biscuits Cakes Sweets
Proteins		Fish Meat Eggs
Fats		Milk Cheese Butter Cooking Oil
Vitamins and Minerals		Fruit Vegetables Dairy products
Fibre		Wholegrain bread Cereals Fruit Vegetables
Water		Drinks Some foods

# Slump Busting

## Beating The Winter Blues

### Fruits and Vegetables

### 5 - A - Day

Fruits and Vegetables provide the body with essential sources of vitamins, minerals and other natural substances that help protect you from disease.

#### What Counts?

- Fresh, frozen, dried and canned fruit and vegetables all count. As well as 100% fruit or vegetables juices and pure fruit smoothies.

#### Portions

- Aim for five different portions per day
- One portion is approximately 80 grams:



1 Apple



1 Bowl of Salad



16 Grapes



1 Smoothie



1 Canned Fruit



3 Broccolis



7 Strawberries

#### These foods provide:

**Vitamin C:** needed for healthy skin and tissue, also to aid the absorption of iron

**Carotenes:** required for growth and development

**Folate:** needed for red blood cells

**Fibre:** keeps the gut healthy and helps prevent constipation

**Carbohydrate:** a source of energy

**Phytochemical:** may help protect against some diseases