# Question: What's inside us and what helps us stay alive?

## National Curriculum Link

**Science Y6: Animals, including humans**
KS2 Science Working Scientifically

**IB Learner Profile Links**

Inquirers – Nurture skills for research and curiosity

Knowledgeable – Develop conceptual understanding and engage with issues and ideas

Caring – Show empathy, understanding, compassion and respect for all life

| Prior Skills – Y4 | Prior Skills – Y5 | New Skills – Y6 |
|---|---|---|
| • Identify and name the basic parts of the human digestive system<br>• Describe the function of the organs of the human digestive system<br>• Identify the different types of teeth in humans and their simple functions<br>• Compare the teeth of herbivores and carnivores<br>• Explain what a simple food chain shows<br>• Construct and interpret a variety of food chains, identifying producers, predators and prey<br>• Take measurements using different equipment and units of measure and record what they have found in a range of ways<br>• Explain their findings in different ways (display, presentation, writing)<br>• Make a prediction based on something they have found out and apply science knowledge for further investigating.<br>• Make accurate measurements using standard units<br>• Plan and carry out a fair test<br>• Record and present what they have found using scientific language, drawings, labeled diagrams, bar | • Describe the changes as humans develop to old age.<br>• Create a timeline to indicate stages of growth in humans<br>• Explain what puberty (non statutory)<br>• Conclude that all animals will eventually die<br>• Explain why different animals have a different life expectancy<br>• Make predictions with reasons<br>• Use test results to make further predictions and set up further comparative tests<br>• Present a report of their findings through writing, display and presentation<br>• Take measurements using a range of scientific equipment with increasing accuracy and precision Record more complex data and results using scientific diagrams, classification keys, tables, bar charts, line graphs and models | • Name and locate the major organs in the human body<br>• Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood<br>• Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function<br>• Describe the ways in which nutrients and water are transported within animals, including humans.<br>• Ask a variety of scientific questions<br>• Choose and plan the appropriate scientific enquiry method to answer questions<br>• Make predictions based on scientific knowledge<br>• Select appropriate measuring equipment, take measurements, repeat readings and find averages<br>• Record data and results using scientific diagrams, tables, bar and line graphs.<br>• Report and present findings from enquiries, conclusions, explanation of results in oral and written forms<br>• Use results and graphs |

| | | |
|---|---|---|
| charts and tables.<br>• Use results to draw simple conclusions and suggest improvements | | to identify patterns/trends in results<br>• Draw conclusions using patterns in results and relate conclusions to scientific knowledge and understanding |

## Knowledge, Skills and Understanding for topic area

- Name and locate the major organs in the human body
- Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
- Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
- Describe the ways in which nutrients and water are transported within animals, including humans.

## Knowledge, Skills and Understanding for Working Scientifically

- Ask a variety of scientific questions
- Choose and plan the appropriate scientific enquiry method to answer questions
- Make predictions based on scientific knowledge
- Select appropriate measuring equipment, take measurements, repeat readings and find averages
- Record data and results using scientific diagrams, tables, bar and line graphs.
- Report and present findings from enquiries, conclusions, explanation of results in oral and written forms
- Use results and graphs to identify patterns/trends in results
- Draw conclusions using patterns in results and relate conclusions to scientific knowledge and understanding

## Challenge

- Can they explore the work of medical pioneers, for example, William Harvey and Galen and recognise how much we have learnt about our bodies?
- Can they compare the organ systems of humans to other animals?
- Can they make a diagram of the human body and explain how different parts work and depend on one another?

## Resources

- timers/stopwatches - timing devices with an appropriate degree of accuracy (seconds not hundredths of seconds), possibly digital pulse meters
- sources of information about drugs eg local health education authority
- balloon pump or bicycle pump
- video/other secondary sources illustrating the function of the heart
- data loggers to be used for temperature, pulse rate monitoring etc.

## Suggested Quality Texts

Body science by Miles Kelly

Reference books, CD-ROMs, the internet, leaflets about food from supermarkets, health centres and pharmacies,

## Website/Apps

www.getinthezone.co.uk Practical science ideas exploring the body in motion (links to teacher lessons guide in school for ideas)
http://www.smm.org/heart/heart/top.html

## Extended Writing Opportunities

Write a non chronological report in the form of a leaflet about all aspects of keeping healthy including, diet, exercise and the effects of drugs etc.

## Numeracy Skills

Use a graphing/spreadsheet program to record and analyse resting pulse rate, after exercise pulse rates. Use Data Logging sensor thermometer sensor or thermometers to compare pre-exercise and post-exercise temperatures. Display results for temperature/time in a line graph. Measure pulse rate b.p.m, record and interpret line graphs on pulse rates.

## Wow starter/experience

Invite a local athlete/footballer or sports coach into school. E.g. Jack Get children to complete a circuit training activities and ch to observe changes in their bodies.

**Cross Curricular Links/ enquiry time activities:**

**Art:** Make a paper heart or a model of a heart with paper mache. Colour, cut out and make paper heart with flaps. Philosophy: Use a science based stimulus information about drugs and photographs to stimulate children's thinking about the effects of drugs on the body and health. Children to look at creating a self-portrait but using small pieces of coloured paper to capture accurate colour and proportion.

**ICT/PE/Music:** Plan and create a healthy eating/fitness movie on how to keep you bodies healthy. (adding suitable sounds and music)

**ICT:** Working as a team, in small groups, can you put together a presentation which shows the relationship between the heart, blood and breathing. Exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.