

Year 2

# Science: The Human Body

## Resource Pack



**Core Knowledge<sup>®</sup>**  
The official partnership in the UK

### Body Systems

- **Skeletal system**– the skeleton is made up of bones that support our bodies.
- **Muscular system**– muscles wrap around bones and stretch from one bone to another. They help us to move.

### Body Systems II

- **Digestion**– our bodies break down food and use the nutrients to keep us moving around.
- **Circulation**– circulating means going round and round. The circulatory system moves blood around our bodies.
- **Nervous System**– nerves carry messages around our body to our brain and back again.

### Germs, Diseases and Preventing

#### Illness

- Hygiene
- Exercise
- Medicine
- Healthy Eating
- Edward Jenner and Louis Pasteur

Core Knowledge

### Science Unit Overview– Year Two

#### The Human Body

### Application of knowledge

- Create a split pin skeleton
- Look at some images of different animals skeletons and compare them to images of human skeletons.
- Draw around a child lying on the floor. Children can draw bones onto the outline, labelling them as an extension.
- Children face each other and place their arms out in front of them, holding hands. Child A ‘contracts’ by pulling Child B’s hands towards them– Child B ‘relaxes’ and extends their arms. Child B then pulls or ‘contracts’ and Child A relaxes.

- The Journey of my Sandwich– independent extended writing
- Drama activity for circulation or nervous system– children can act as blood vessels or as ‘messages’ being carried around the body.
- Match reaction cards to the correct situation

- <http://www.bbc.co.uk/learningzone/clips/why-we-take-medicine/62.html>
- <http://www.bbc.co.uk/learningzone/clips/eating-a-varied-diet/2290.html>
- Create a ‘healthy living’ display, class book or individual information book.
- Include information about Jenner (small pox vaccination) and Pasteur (heating liquids to kill germs– pasteurisation)



## Year 2 Science- The Human Body

This is a template for planning your unit with some suggested activities- please adapt for the needs of your class  
 Page numbers refer to *What Your Year 2 Child Needs to Know*

Lesson	Learning Objective	Core Knowledge	Activities for Learning	Related Vocabulary	Assessment Questions
Lesson One- The Skeletal System (page 302) Resource A	To know that our skeleton is a hard frame made up of many bones.	<ul style="list-style-type: none"> <li>-Our skeleton is inside our body</li> <li>-Our skull is a collection of hard bones that protect our brain</li> <li>-We have a backbone called a spine</li> <li>-The place where two bones come together is called a joint</li> <li>-Our bones hold our bodies up and protect our organs</li> </ul>	<ul style="list-style-type: none"> <li>- Label and put together a skeleton made of paper/card from a template (Resource A)</li> <li>-Some children can go further and independently draw bones to make their skeleton</li> <li>-Some children can find out names of other bones in our skeleton and label them</li> </ul>	skeleton, bones, skull, backbone, rib, finger bones, hip bone, toe bones, kneecap, muscle, organs, protect, joint, x-ray	<p><i>What is a skeleton?</i></p> <p><i>Why do we have skeletons?</i></p> <p><i>Describe what would happen if we did not have a skeleton?</i></p> <p>Tell your partner as many names of bones in our bodies as you can.</p>
Lesson Two- The Muscular System (page 303)	To know that our muscles help us to move.	<ul style="list-style-type: none"> <li>-Muscles wrap around bones and stretch from one bone to another</li> <li>-We use our muscles to move including running, jumping, yawning, laughing and even winking</li> <li>-Muscles are only able to pull, or contract. They work in pairs, so one can pull the other.</li> </ul>	<ul style="list-style-type: none"> <li>-Explain that muscles work in pairs and demonstrate muscles contracting and relaxing: children face each other in pairs, touch hand to hand. Child A pulls child B's hands towards them- child A is contracting, B is relaxing. Repeat in reverse- child B pulls child A's hands towards them.</li> <li>-Children to draw two muscles working in a pair and write an explanation.</li> </ul>	muscle, pairs, bend, stretch, contract, relax, biceps, triceps	<p><i>What do we use our muscles for?</i></p> <p><i>How do our muscles help us move?</i></p>

<p>Lesson Three- The Digestive System (page 303) Resource B</p>	<p>To understand that our bodies digest our food.</p>	<p>-Digestion means breaking down the food we eat -Our bodies take things we need out of the food we eat -The leftover waste leaves our body</p>	<p>-Show children a diagram of our bodies with the digestive system highlighted. Ask children to tell you anything they know about digestion- pitch lesson accordingly (<i>resource 1</i>). -Children to read and order statements (<i>see Resource B</i>). -Children to write independently- The Journey of my...' choosing a food e.g. The Journey of my Sandwich.</p>	<p>digestion, stomach, small intestine, large intestine, mouth, chew, blood, energy, waste</p>	<p><i>Why do we need to eat?</i> <i>What happens to our food in our mouths?</i> <i>What happens to our food in our bodies?</i> <i>Can you describe what digestion means using only once sentence?</i></p>
<p>Lesson Four- The Circulatory System (page 303) Resource C</p>	<p>To know that our heart pumps blood around our body.</p>	<p>-The heart is a muscle inside our body -The heart pumps blood around our body -Our blood circulates around our body which means it goes around and around -Our lungs give oxygen to our blood, which carries it around our body</p>	<p>-Feel pulse (or place hands on chest), look at wrists, identify veins, explain circulatory system and the main elements e.g. heart, lungs, blood cells. -Do some exercise e.g. jog around the playground before feeling pulse again. -(Optional) Split class into groups for heart, lungs, legs, arms and blood cells. Heart children tell blood cells to keep moving, lung children take blue cells from child and give them red cells, blood cell children move to either legs or arms giving them a red cell, legs or arms give children blue cells. Blood cell children then return to heart and repeat circulation. At each stage clarify vocabulary and ensure</p>	<p>circulate, circulation, blood cells, heart, lungs, veins, arteries, oxygen, pump  (teachers-veins carry blood to the heart whilst arteries carry blood away from the heart)</p>	<p><i>Why do we need our blood?</i> <i>What important job does the heart do?</i> <i>If someone has bad circulation, what might this mean?</i></p>

			<p>understanding (<i>Resource C</i>).</p> <p>-Children can complete written task and their answers can be used to assess understanding (<i>Resource C</i>).</p>		
<p>Lesson Five- The Nervous System (page 304) Resource D</p>	<p>To understand that our nerves carry messages around our body.</p>	<p>-Our brain sends messages all over our body -Our nerves carry messages all over our body -Our senses gather information about the world around us</p>	<p>-Using a diagram: show children how messages are carried all over our body by nerves. -Match the reaction cards to the correct situation and then design own (<i>Resource D</i>). -Talk about voluntary and involuntary reactions: some reactions are so fast we don't think about them, especially when we are in danger of hurting ourselves.</p>	<p>Brain, information, sense, message, communicate, response, react, reaction, danger</p>	<p><i>What important job does our nervous system do? Explain what would happen if we accidentally touched something very, very hot.</i></p>
<p>Lesson Six- Germs, Diseases and Preventing Illness (page 305-306) Resource E</p>	<p>To understand that we need to take care of our bodies.</p>	<p>-We need to take care of our bodies through exercising, keeping clean, eating a balanced diet and resting -Germs can make us unwell -Our bodies can fight germs -Sometimes we need medicines to help our bodies fight germs but medicines can be dangerous if they are not used properly</p>	<p>-Demonstrate how germs spread by asking a child to put their hands in a plate of glitter, and then shake hands with each child in a row of around 5 children. The glitter should spread along the row of children. -Sort the healthy living cards into two groups (<i>Resource C</i>). -Create a guide to staying healthy as a class book- each group creates a different section e.g. exercise, keeping clean etc. Extension- learn about at the lives and work of scientists- Edward Jenner and Louis Pasteur. Jenner</p>	<p>germs, unwell, illness, exercise, diet, healthy, balanced, rest, fight, bacteria, spread, wash, clean</p>	<p>Describe how we can keep our bodies healthy. <i>Why must we wash our hands before we eat? What are medicines and why can they be dangerous?</i></p>

			invented smallpox vaccination and Pasteur discovered heating liquids would kill germs. (page 330-333)		
--	--	--	---	--	--

Links:

Lesson 1: <http://www.childrensuniversity.manchester.ac.uk/interactives/science/bodyandmedicine/theskeleton/>

Lesson 2: <http://www.childrensuniversity.manchester.ac.uk/interactives/science/exercise/muscles/>

Lesson 3: <http://www.childrensuniversity.manchester.ac.uk/interactives/science/bodyandmedicine/digestivesystem/>

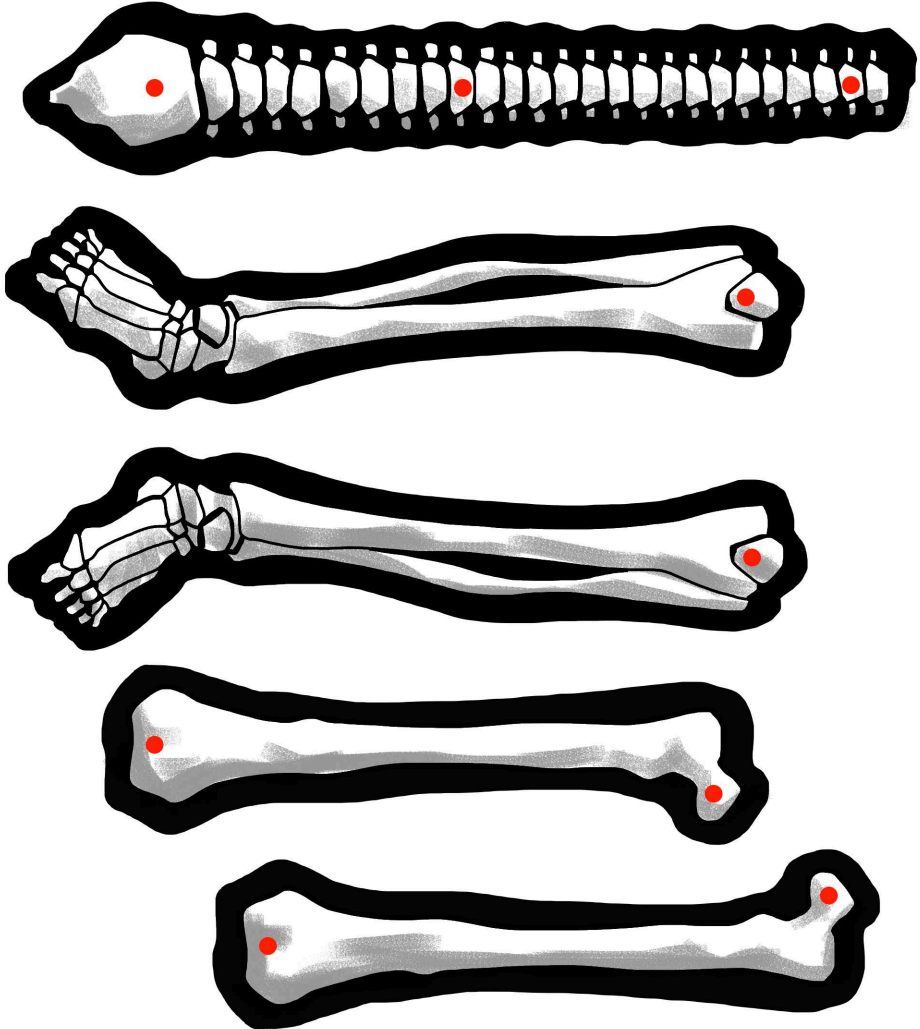
[http://www.coreknowledge.org.uk/images/imagelibrary/y2sci\\_digestivesystem.jpg](http://www.coreknowledge.org.uk/images/imagelibrary/y2sci_digestivesystem.jpg)

Lesson 4: [http://www.bbc.co.uk/schools/gcsebitesize/science/21c/keeping\\_healthy/heartdiseaserev2.shtml](http://www.bbc.co.uk/schools/gcsebitesize/science/21c/keeping_healthy/heartdiseaserev2.shtml) (use as animation only from 00.04 seconds to show blood flow)

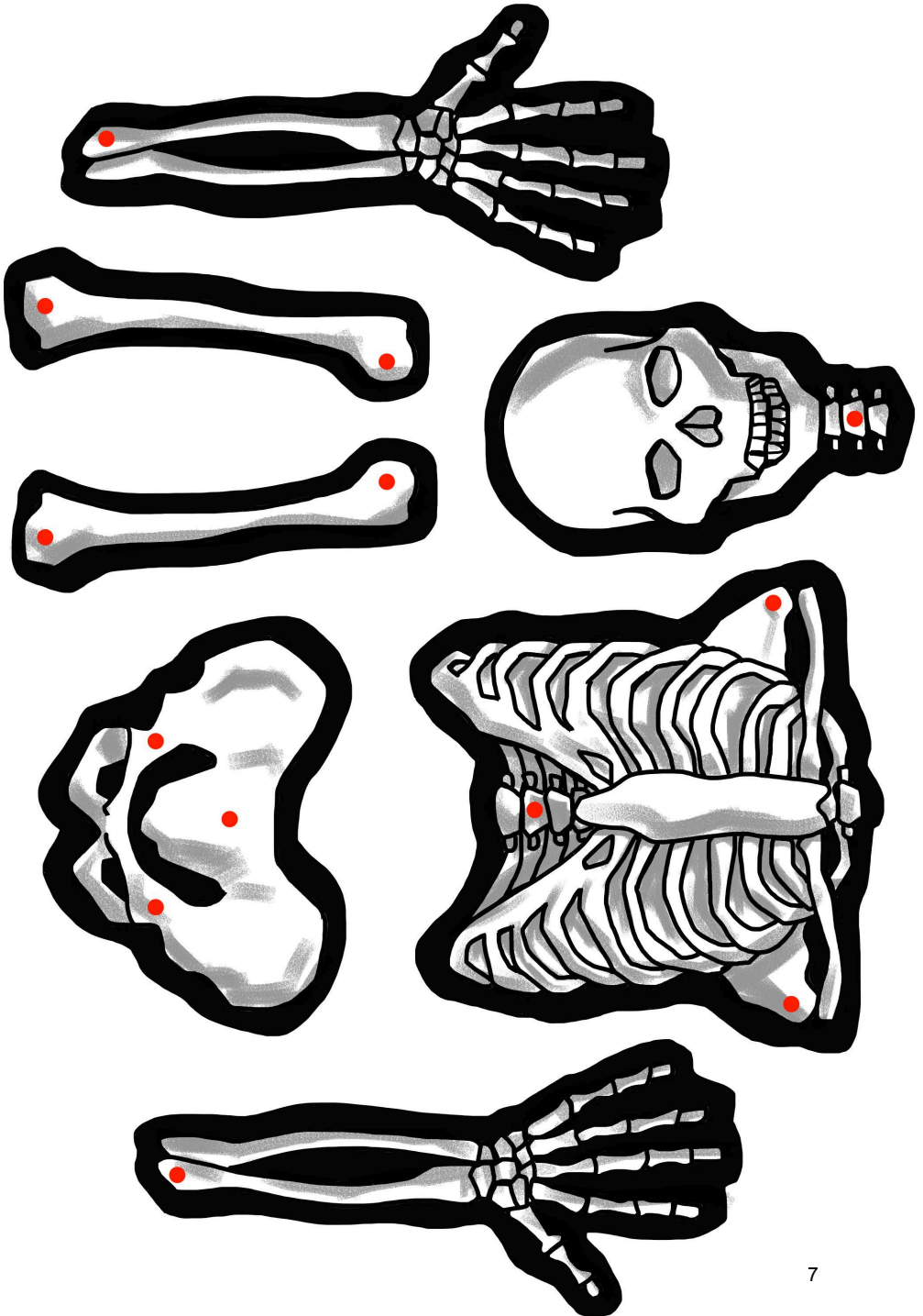
Lesson 5: <http://www.childrensuniversity.manchester.ac.uk/interactives/science/brainandsenses/connections/>

Lesson 6: <http://www.bbc.co.uk/learningzone/clips/bacteria-and-healthy-living/13334.html>

**Year 2**  
**Science: The Human Body**



Year 2  
Science: The Human Body





# The Digestive System



# Our Digestive System

Pre-cut the statements for the children to order.

We **chew** our food to break it into small bits.



Our food goes to our **stomach**.



Our body takes the good bits of food out.

We get rid of the food we do not need when we go to the toilet.

# Our Digestive System

Pre-cut the statements for the children to order.

**Chewing** our food breaks it down into little pieces. **Saliva** in our mouths also breaks down the food.



Our food then goes on a journey to our **stomach**.



All of the good things in the food, called **nutrients**, are taken out for our body to use.

Our bodies cannot use everything that we eat. We get rid of the food we don't need when we use the toilet.

# Our Digestive System

Pre-cut the statements for the children to order.

When we **chew** our food, our teeth break the food down into little pieces, small enough to swallow. A liquid called **saliva** also helps to break down the food.



Our food travels down our throat and into our **stomach** where the food is broken down even more. The food then travels to our **intestines**.



All of the good things in the food, called **nutrients**, are taken out and are **absorbed** into our blood. The nutrients are then carried around the body.

Our bodies cannot use everything that we eat. We get rid of the **waste** food when we use the toilet.

### Instructions for circulatory system activity

You will need: Labels (heart, lungs, leg) a bucket of red balls and a bucket of blue balls.

1. Choose three children to come to the front.
2. Assign them roles: heart, lungs, leg.
3. Give them a labelled hat or large label stuck to the jumper. The lung also needs a bucket of red balls and the leg needs a bucket of blue balls.
4. Choose a fourth child to be a blood cell (start with one child as a blood cell so the others can see what is happening – but if space allows, you could have more of them...)
5. The blood cell should start at the heart.
6. The heart 'high fives' the blood cell and it runs to the lungs.
7. The lungs give the red blood cell some oxygen (a red ball).
8. The blood cell runs back to the heart.
9. The heart 'high fives' the blood cell and it runs to the leg.
10. At the leg, the blood cell delivers the oxygen (red ball) and the leg hands over some carbon dioxide (a blue ball).
11. The blood cell runs back to the heart where it gets another 'high five' and runs to the lungs.
12. At the lungs it hands over the carbon dioxide (blue ball) which the lungs can throw away (health and safety alert!). The lungs give the blood cell more oxygen.
13. The blood cell goes back to the heart.
14. Repeat from steps 5-13 until tired.

Throughout the teacher can be explaining what is happening, and ensuring the children are able to use the correct vocabulary. If the blood cell makes a mistake, press PAUSE and use this as a discussion point with the class.

This activity works particularly well in a sports hall!

Name:

Date:

## Our Circulatory System

1. What does **circulate** mean?

---

---

---

---

2. What does the **heart** do?

---

---

---

---

3. What do the **lungs** do?

---

---

---

---

4. Describe the special job that **blood cells** have.

---

---

---

---

---

A blue circle with a thin dark blue outline, containing the text "No Oxygen" in black font.

No Oxygen

A blue circle with a thin dark blue outline, containing the text "No Oxygen" in black font.

No Oxygen

A blue circle with a thin dark blue outline, containing the text "No Oxygen" in black font.

No Oxygen

A red circle with a thin dark red outline, containing the text "Oxygen" in black font.

Oxygen

A red circle with a thin dark red outline, containing the text "Oxygen" in black font.

Oxygen

A red circle with a thin dark red outline, containing the text "Oxygen" in black font.

Oxygen

# The Nervous System

Pre-cut the cards and ask children to match the pairs

A spider crawls onto your foot.



**There is something on my foot!**

Shake foot and reach down to brush the spider off with hand.

A cold wind is blowing in the playground.



**It is cold!**

Rub arms, jump around and then walk back inside to pick up coat.

You trip over a toy that was left on the ground.



**Help! I am falling!**

Hold out arms in front of you to stop you from hitting the ground with your body.

Your tummy rumbles really loudly.



**I am hungry!**

Look in the fruit bowl, reach out and choose a snack, eat it all up.

Someone shouts hello!



**Someone is talking to me!**

Turn around and look at who is behind you. Recognise your friend and say hello back.



# The Nervous System

Extension Task: Children write their own cards.

## Healthy Living– What helps to keep us healthy?

Pre-cut the words for the children to sort

swimming

walking

sweets

fighting

washing

water

fizzy drinks

TV

laughing

sleeping

fruit

late nights