



How My Body Works KS2 duration: 30 minutes

Active demonstrations involve students exploring the effect of exercise on the lungs, using a model heart to pump fake blood, acting as opposing muscle pairs and investigating how our bodies know when it's time to use the toilet!

Key Words:

Human body, Exercise, Energy, Health, Organs, Heart, Lungs, Circulation, Muscles, Blood.

Learning objectives

Understand how and why the human body responds to exercise.

Learn about the structure of the heart, muscles, and lungs in humans and how this relates to the function of each.

Recognise that the human body requires energy and that the energy of food can be measured in calories.

Appreciate that oxygen is required by the body and that carbon dioxide is exhaled.

Appreciate that the surface area of the lungs is large in order that sufficient oxygen can be absorbed, and carbon dioxide exhaled.

Understand that the heart is a non-stop, double pump and how it works.

Understand that muscles work in (antagonistic) pairs to make body parts move.

Understand how nerve impulses are sent to and from the brain along neurones.

Content

Consider some effects of exercise on their own bodies.

Be introduced to the calorie as a unit of energy via the One Calorie Challenge.

Observe the dramatic release of energy from burning glucose.

See how an indicator solution can be used to show the difference between gases breathed in and out.

Take part in a visual demonstration of the surface area of one human lung (70m²).

Watch volunteers working together to pump fake blood around a model heart.

See volunteers acting as a pair of antagonistic muscles —pulling in opposite directions to produce movement.

Become neurones in the spinal cord and transmit the message that our model bladder is full.

Curriculum Links:

Working scientifically

Asking simple questions and recognising that they can be answered in different ways

Using their observations and ideas to suggest answers to questions

Year 3: Animals, including humans

Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat

Identify that humans and some other animals have skeletons and muscles for support, protection and movement

Year 6: Animals, including humans

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 exercise on the way their bodies function

Describe the ways in which nutrients and water are transported within animals, including humans

Potential Hazards and accessibility

Students will be sprayed with water and observe a demonstration of icing sugar being set on fire.