**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:**

**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.

**Related activities**
**Workshops** Choose Health, Digest This!
**Theme Days** Brain and Body (includes How My Body Works)