

### Where and when:

**Date:** Monday, 16 January 2023

**Time:** 11:00

**Duration:** 30 minutes

**Location:** [bbc.co.uk/livelessons](https://bbc.co.uk/livelessons)

*This programme is available to view from home or school, and no sign-up is required.*

*Simply visit the website on the day and follow the instructions on the page to watch.*



### Curriculum links:

KS2 Science / KS2 PSHE/ Science Second Level / Science and Technology Progression Step 2 / KS2 The World Around Us

- 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 and lifestyle on the way their body's function.
- The importance of building regular exercise into daily and weekly routines.

### Setup:

This Live Lesson will be broadcast on the CBBC channel and simultaneously on the BBC Teach website at 11:00.

We will be running a live commentary page on BBC Teach during the broadcast to reflect contributions from children watching from home and school.

### How much space and equipment is needed?

The lesson can be viewed in a classroom or at home with a device (computer, tablet or mobile phone) linked to a reliable broadband connection or watched on a television on the CBBC channel. We will be asking children to get involved in activities throughout the lesson and have provided downloadable [activity sheets](#) to help guide them through this.

You may wish to hand these out in advance, along with stationery such as pens and pencils. Pupils will be able to follow the activities if they don't have printed activity sheets to hand.

## **Lesson content:**

This programme is designed to engage primary learners from ages 7 to 11. It covers the following objectives:

### **Section 1 - Introduction:**

Operation Ouch's Dr Chris and Dr Xand introduce the lesson from the Operation Ouch! Science Live Lesson studio. They then reveal the programme's main objectives - to learn all about the heart and the circulatory system, and what we can do to keep our hearts happy and healthy.

### **Section 2 - The heart:**

In this section we give students an introduction into the heart; how it works, what it looks like, and how it can react to different situations.

Dr Chris and Dr Xand begin by explaining where our heart is located within our body and how large it is. We then take a look inside a real human heart using a cardiac ultrasound.

Our presenters demonstrate how much blood your heart is capable of pumping within one minute, and Dr Chris takes a ride on a rollercoaster to see how our heart reacts to being scared.

In activity 1, we analyse the heart rate data from Dr Chris' ride on the rollercoaster and learn how to extract data from a line graph.

Download activity sheet 1 [here](#).

### **Section 3 - Circulatory system & blood:**

Section 3 introduces students to the circulatory system and the role the heart plays within it, the different types of blood vessels and how they deliver oxygen and nutrients around the body.

Dr Ronx and their team of helpers walk us through our circulatory system, showing us the route our blood cells take through our heart, arteries, capillaries and veins.

In activity 2, students are challenged to match up the correct labels to the relevant sections of the heart using an annotated diagram.

Download activity sheet 2 [here](#).

### **Section 4 - How to look after the heart and circulatory system:**

In this section we discuss how exercise and diet can affect our heart health and explain the differences between healthy and unhealthy arteries.

Dr Chris and Dr Xand explain how exercise is beneficial to our hearts, they illustrate how our hearts react to physical exercise with an in-studio demonstration using heart rate monitor straps and a trampoline.

Meanwhile, Dr Ronx talks us through the differences between a healthy and unhealthy artery and how this can place unnecessary strain on our hearts, we see a physical demonstration of this using pop-up tunnels and blankets.

Back in the studio, we introduce the idea that what you eat can affect the health of your heart and give some ideas of how to include heart-healthy foods within your diet.

In activity 3, students are challenged to write down or draw things which we can do to keep our hearts happy and healthy.

Download activity sheet 3 [here](#).

### **Section 5 - Recap:**

The episode concludes with a head-to-head quiz between Dr Chris and Dr Xand which touches on key learning objectives within the lesson, students are invited to play along at home or in the classroom.

### **Useful links:**

- [Here](#) is a BBC Teach video all about the circulatory system.
- This [BHF page](#) has information and resources for young learners with heart conditions.