

Centre of the Cell's 'STEM Pod' Challenge

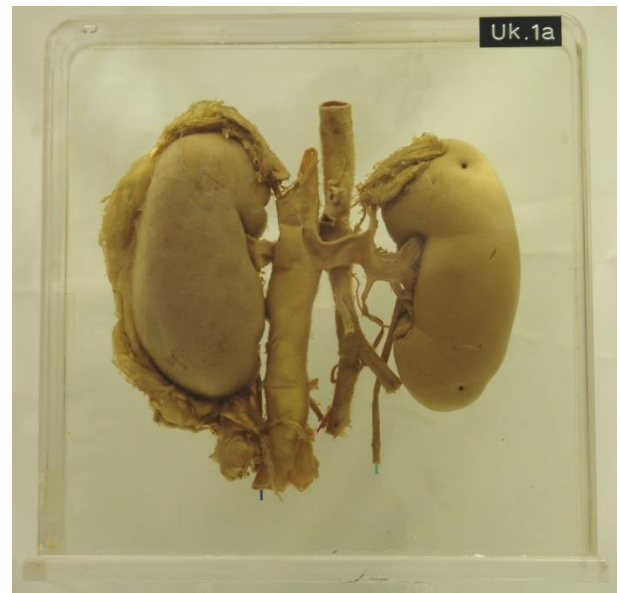
The Kidneys

What do our kidneys do?

The kidneys are responsible for making sure our blood stays nice and clean. It acts as a filter, and takes out the waste from our blood. The kidneys also make urine (pee), which is a combination of excess water from our body and dissolved waste taken out from the blood.

What happens if our kidneys aren't working properly?

People with faulty kidneys may suffer from symptoms such as swelling of the hands and feet, headaches, itchy skin and change in how the urine looks. It's important to keep healthy so our kidneys can function properly. You can do this by staying hydrated, exercising regularly and eating healthy foods!



Did you know...

Kidneys usually come in pairs. However, some people are born with only one working kidney! Don't worry - these people are usually still able to live healthy and active lives.

Let us know how your
challenge goes on social media
@CentreoftheCell!

The Structure of the Kidneys

The kidneys are a reddish-brown colour, and are found in your lower back. Each kidney is approximately 10-15cm long and weighs between 40-90g. Each kidney is about the size of a clenched fist!

Renal Artery

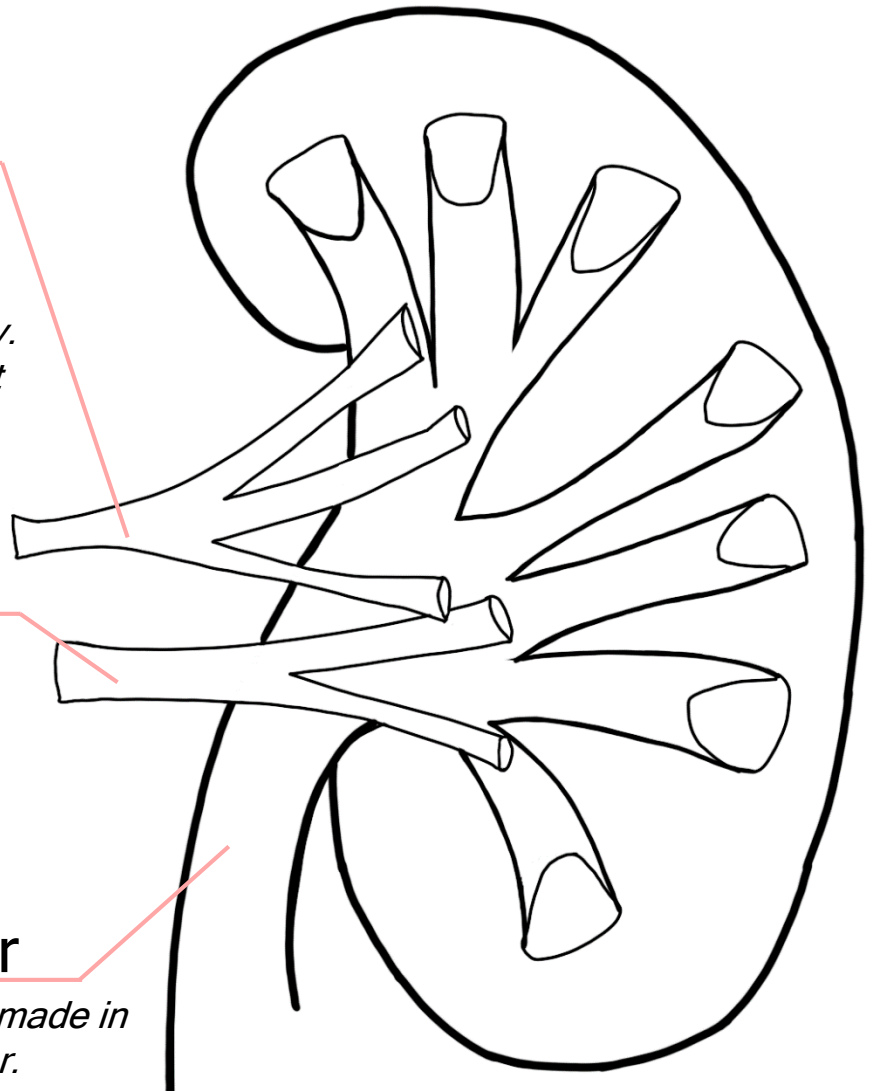
A blood vessel which sends blood full of nutrients and waste products into the kidney. The kidney will filter out the waste.

Renal Vein

A blood vessel which sends clean blood full of nutrients (no waste) out of the kidney. This blood is now sent around the body!

Ureter

A tube that sends urine made in the kidney to the bladder.



You can print out this worksheet, or trace the image to colour in the kidneys!

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Kidney Filtration Activity

This activity will demonstrate how our kidneys filter our blood. Whilst you are doing this activity, think about which of the materials used represent the...

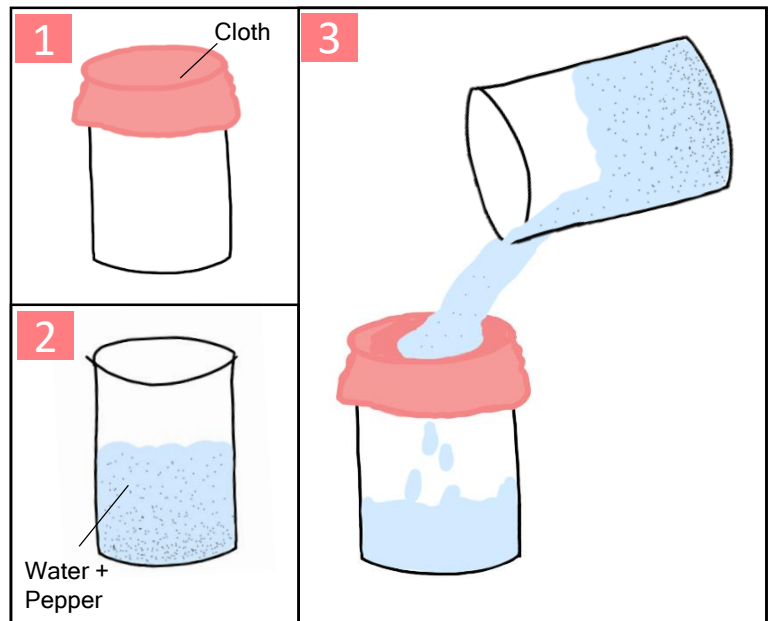
- Kidneys
- Blood
- Waste

What you will need:

Glass of water, empty glass, pepper, old towel or cloth.

Instructions:

1. Place the towel/cloth on top of the empty glass.
2. Add one tablespoon of pepper into the glass with water and mix well.
3. Pour the water and pepper mixture through the towel/cloth, into the empty glass.



What should you see? The pepper won't be able to pass through the cloth so it will just gather there. The water that passes through is now nice and clean.

Have you worked out what the materials represent?

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