

## Fast Five

- 1) What does a conductor of electricity do?
- 2) What does an insulator of electricity do?
- 3) Can you name an everyday object which is a conductor of electricity?
- 4) Can you name an everyday object which is an insulator of electricity?

# Fast Five Answers

- 1) Allow electricity to flow through it.
- 2) Does not allow electricity to flow through it.
- 3) Paper clip (or another item made from: silver, gold, copper, aluminum, steel or iron)
- 4) Eraser (or another item made from: rubber, wood, plastic or glass)

**Can I identify thermal  
conductors and insulators?**

# How does heat travel?

Heat travels from warmer materials to colder ones. This is the main way that warm things lose heat.

Think about when you put a cold spoon in a hot cup of tea. The heat in the tea travels to the spoon and warms it up.



# Conductors

Conductors of heat - thermal conductors - allow heat to pass through them easily. Metals tend to be good thermal conductors.

Can you think of any everyday items which are thermal conductors?

# Insulators

Insulators of heat - thermal insulators - do not allow heat to pass through them. Materials like wood are good thermal insulators.

Can you think of any everyday items which are thermal insulators?

## Question

If we wanted to keep something warm, would we use a thermal conductor or a thermal insulator?

## Answer

If we wanted to keep something warm, would we use a thermal conductor or a thermal insulator?

A thermal insulator because it will not allow the heat to pass through it. This means we will not lose heat from our item as easily.



# Experiment

You are going to test whether some everyday materials are thermal conductors or insulators.

You will see how each item affects the temperature of hot liquid in a mug.

# Experiment

You will wrap your virtual mug, containing hot liquid, with the different materials and measure how the temperature changes over time.

Before you start, choose your activity and copy out a table.

# Experiment

<https://www.sciencekids.co.nz/gamesactivities/keepingwarm.html>

- Click the red arrows to find the polystyrene. Drag it over the beaker to begin the experiment.
- Choose your material and start the timer.
- Pause the timer every 5 minutes and use the grid on the next slide to take note of the temperature.
- Stop after 20 minutes. Reset. Choose a new material.

	<b>Temperature (°C)</b>		
	Polystyrene	Metal Foil	Cardboard
5 minutes			
10 minutes			
15 minutes			
20 minutes			