Chocolate Bridge

SEN FOCUS

Observation skills and comparative testing

ACTIVITY OVERVIEW

Pupils explore how heat travels by building foil bridges and looking at how quickly different types of chocolate buttons on the bridges melt.

Key Vocabulary/symbols required: chocolate, melt, time, heat, conductor, metal, solid, hot, cold, candle, flame

Description of Activity

- Cut three pieces of foil, approximately 40cm in length and fold the foil into a strip.
- Secure the foil strip onto two containers to create a bridge.
- Equally space chocolate buttons across the bridge: one bridge for each chocolate type.
- Place one lit candle under each bridge, ensuring these are in similar positions and placed at the same time, and set the timer.
- Allow pupils to poke the buttons to see how quickly they melt. Observe which chocolate melts the quickest.

Health and Safety: Activity leader to light candles and lead discussion with pupils about safety with candles.

RESOURCES

- Milk chocolate buttons
- Dark chocolate buttons
- White chocolate buttons
- Aluminium foil
- Matches
- Tea light candles
- Containers/cups to make bridge
- Lollipop sticks

QUESTIONS/FURTHER LEARNING

- Which chocolate melts the quickest?
- Does the size of the chocolate button affect the melting rate?
- What would happen if you placed two candles at the start of the bridge?
- What would happen if you increased the thickness of the aluminium bridge?

KEY FACTS/SCIENCE

Metals like aluminium are very good conductors of heat, so heat travels throughout a heated strip very easily. As aluminium foil is also very thin, heat will travel quickly and melt the chocolate buttons resting on the bridges.

The reason why chocolate melts easily is because it contains cocoa butter. Cocoa butter melts (changes from solid to liquid) when exposed to a temperature around 37°C (warmer than normal room temperature but below body temperature).

Links online: Explorify's Ice lollies https://explorify.wellcome.ac.uk/en/activities/mission-survive/ice-lollies and Melting ice cubes https://explorify.wellcome.ac.uk/en/activities/whats-going-on/melting-ice-cubes