

How hot is my drink?

ACTIVITIES

- Build an NXT robot with a temperature sensor.
- Encourage them to build a stand to hold the temperature sensor.
- Make a hot drink and set the data logging to run for 10 minutes, taking 2 readings every second.
- Ensure pupils are supervised when using hot liquids.
- Repeat for the other two types of cup you are investigating ensuring the amount of drink is the same.

EXTENSION

- Which is the fastest way to cool your drink? Explain why.
- Which is the slowest? Explain why.
- Think of three other ways to cool your drink.
- Predict the shape of your graph prior to running the experiment under these conditions.
- What do you think the effect of leaving a metal spoon in a hot drink would be?
- Test your prediction.
- Repeat the experiment with a chilled drink and explore materials to keep your drink chilled for longer.

OVERVIEW

Investigate various methods for cooling down a cup of hot chocolate.

PROJECT

Explore the cooling effect of various types of cup, including different materials such as cardboard, polystyrene and ceramic

CURRICULUM TOPICS COVERED

SUBJECTS

Maths: Data representation and interpretation, Linear and non-linear relationships, patterns and algebra, fractions and decimals

Science: Physical sciences, Chemical sciences, Processing and analysing data and information

TOPICS

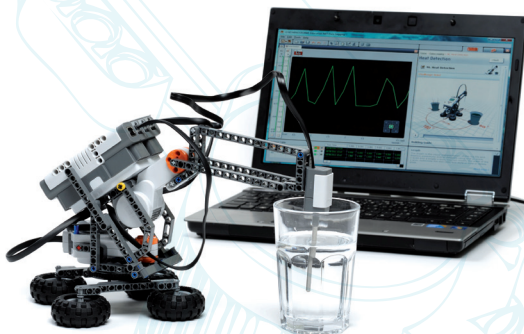
Interpreting data, Graphing data, Using decimal numbers and fractions, Data gathering, Data logging, temperature and heat, energy transfer, materials

YEAR

6–10

EXAMPLE OF CURRICULUM REFERENCES

'Forms of energy can be transferred in a variety of ways through different mediums' – Year 9, Science, Physical sciences



RESOURCES NEEDED FOR THIS ACTIVITY

- LEG9797-2** LEGO MINDSTORMS EDUCATION BASE SET
LEG20080 LEGO - NXT SOFTWARE V2.1
LEG9749 TEMPERATURE SENSOR