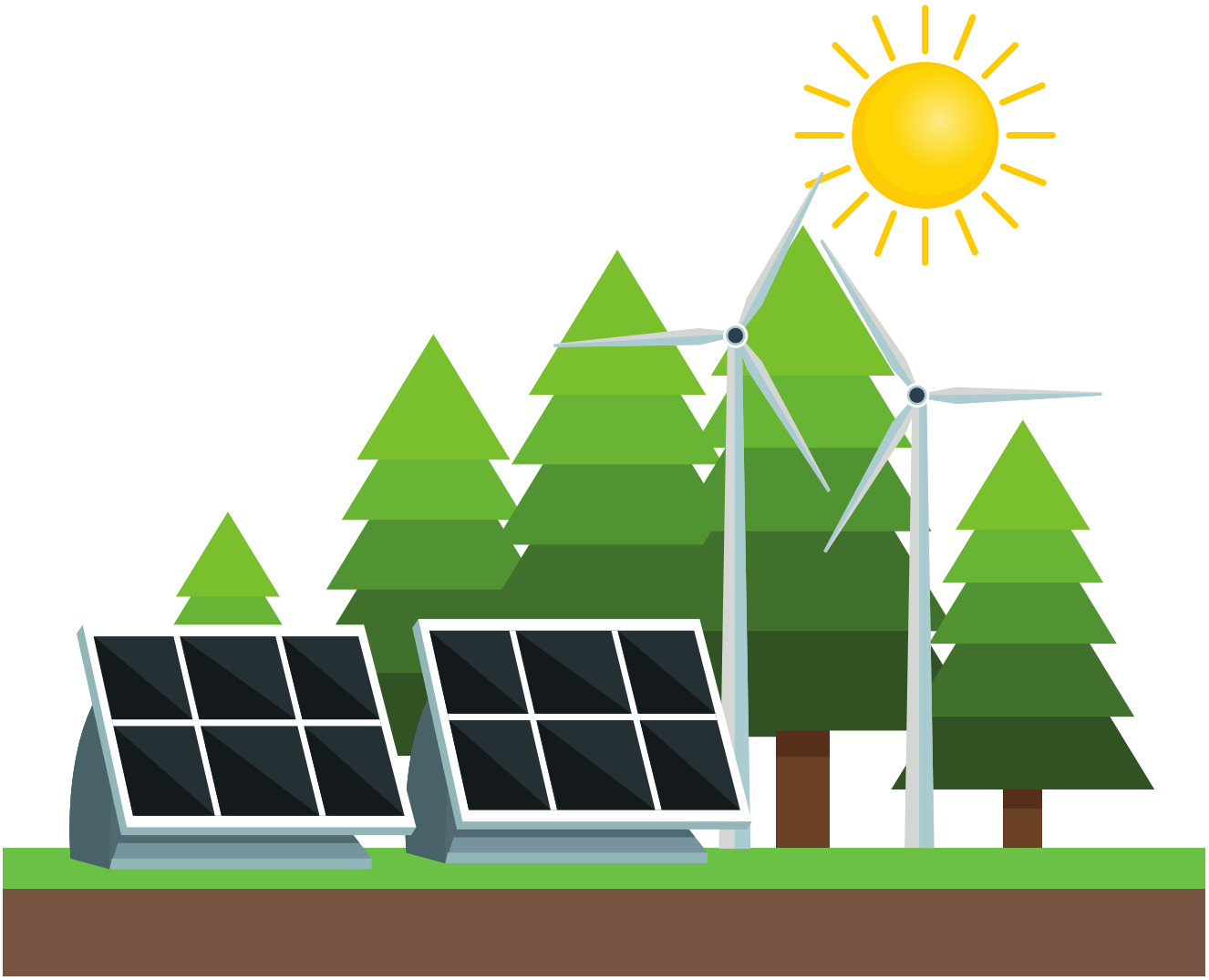
Energy inquiry:

Solar heat experiment

Solar heat is heat that comes from the sun. We can harness this energy to Why are solar panels and solar hot water pipes always black or dark coloured?



Solar energy is a renewable energy source, which means it won't run out. Although we do still use non-renewable (cannot be renewed) resources to create solar panels, it is still far better for the environment than using traditional energy sources, such as burning coal and oil, which contribute greatly climate change.

Solar heat experiment

In this experiment, you will find out the effect of colours on heat absorption.

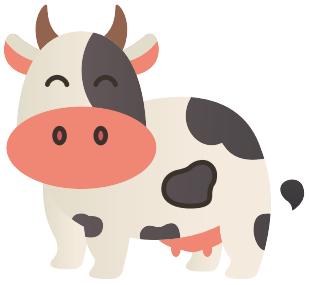
Equipment:

- 4 x empty tin cans from your recycling bin, washed and the labels peeled off
- Matte paint in white, black, yellow and blue
- Clear reusable plastic wrap
- A thermometer
- Water
- Measuring jug

Method design:

Remember, to make this a fair test:

Cows
Moo
Softly

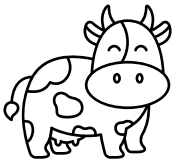


We **C**hange one thing
Measure one thing and
Keep everything else the **S**ame

Method design:

Cows/ Change

The one thing we are changing is the:



Colour

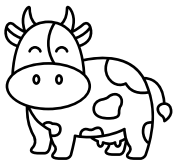
of each tin

Moo / Measure

The one thing we are measuring is the:

temperature

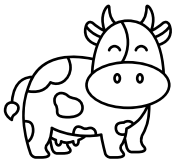
of each tin over time



Softly / Same

We are keeping the:

tin size
amount of water
thermometers
position and time in the sun



the same

Method:

1. Paint the inside of each cup a different colour. Let them dry- this might take a couple of hours
2. Using the measuring jug, fill each can with 200 mL of water.
3. Cover the cans with plastic wrap
4. Place all the cans in a sunny position, not too close together.
5. Record the temperature of each can every half hour (30 minutes) for three hours. Make sure you leave a few minutes between measuring the different cans so the thermometers reading goes back to room temperature.
6. Compare the temperature increase of each can.

Hypothesis: what do you think will happen?

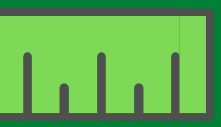
We have a range of four colours from light to dark in each can. Do you think one can will heat up more, if so which? Do you think any cans will stay cool, if so, which? Why do you think these things will happen? Write your hypothesis below.

My hypothesis:

Results:

	Colour			
Time	White	Black	Yellow	Blue

Results:



Did one can heat up more than the other? If so, which one?

Which can was the coolest?

What was the relationship between colour and temperature?

Did this support your hypothesis? (Was it what you predicted would happen?)

My conclusion:

Explain in your own words the results, and explain why this happened. Remember to start with whether or not the results supported your hypothesis.