

Y4 Working Scientifically

KS2 Y4 Science · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

Plan a fair test: does the temperature of a room change how fast a puddle dries?

Step 1 · What ONE thing will you change?

The place (and so the temperature): a warm classroom, a cool corridor, outside

Step 2 · What will you measure, and with what?

The time for the puddle to dry, with a clock; and the temperature with a thermometer

Step 3 · What will you keep the same?

The amount of water (100 ml), the type of tray, the start time

Answer: Change the place only, measure the drying time, and keep the water, tray and start time the same.

Check: One thing changed, one thing measured, everything else kept the same.

2. Now try one with the steps

Write a prediction for the puddle test.

Step 1 · Say what you think will happen

Step 2 · Give a reason using 'because'

Answer:

3. Practice

Have a go at each one. There is space underneath to work it out.

1. In a fair test, how many things should you change?

2. What is a prediction?

3. Which piece of equipment measures temperature?

4. What unit do we use for temperature?

5. Name a piece of equipment that can take readings automatically, even overnight.

6. Leo tests which ball bounces highest. What should he measure?

7. In Leo's test, name ONE thing he should keep the same.

8. Why do we put results in a table?

9. Ice lolly melting times: none 25 minutes, paper 40, foil 55, wool 80. Which wrapping was best at keeping it frozen?

10. Using question 9, how many minutes longer did wool last than foil?

11. On a bar chart of question 9's results, which bar would be the shortest?

12. Priya says, 'The thicker the wrapping, the longer the lolly stays frozen.' Is this a prediction, a result or a pattern?

13. Why is it a good idea to repeat a test?

14. Ben poured 100 ml of water on one tray and 200 ml on another, then put them in different rooms. Why is this not a fair test?

4. Before you hand it in

Changing two things at once, like the wrapping AND the size of the lolly.

Change only ONE thing. Keep everything else the same.

A conclusion that just says 'it worked'.

Use numbers from the results and describe the pattern, e.g. 'Wool lasted longest (80 minutes).'

Thinking a prediction that turned out wrong is a failure.

Say what really happened and what you have found out.

Leaving the units off, e.g. writing '80' instead of '80 minutes'.

Put the unit in the table heading or after every number.