





- Attach the Bunsen burner to a gas tap but DO NOT turn on the gas tap until ready.
- Make sure the air hole is in the closed position.
- Light a splint and hold it over the top of the chimney.
- Carefully open the gas tap.
- Once lit, open the air hole to adjust the flame.

### 3. Types of flames:

- Safety flame: Yellow, used when not heating.
- Blue flame: Hotter, used for heating substances.
- Roaring flame: Very hot, for strong heating.

## Page 22: Presenting Data

### 1. Eye Colour Data:

- Draw a bar chart with "Eye Colour" on the x-axis and "Frequency" on the y-axis.
- Label the bars for brown, blue, green, hazel, and grey.

### 2. Monthly Average Temperatures:

- Draw a line graph with "Month" on the x-axis and "Temperature (°C)" on the y-axis.
- Plot points for each month and connect them with a smooth line.

## Page 30: Shell Measurements

### 1. What is the length of the shell above?

- The length of the shell is **40 mm**.

### 2. What was the most common range of lengths of shells Jay collected?

- **21–25 mm**.

## Page 31: Bar Chart and Conclusions

### 1. Add the missing numbers to the side of the bar chart:

- Add increments of **1** for the number of shells (0, 1, 2, 3, etc.).

### 2. Draw the bar for shells measuring 16–20 mm:

- The bar height should correspond to **3 shells**.

### 3. True/False/Cannot Tell Conclusions:

- The oldest snails have the darkest shells: **Cannot tell**
- He did not find any shells longer than 30 mm: **True**
- He found a total of eight snails: **True**
- All the snails he found are the same type: **Cannot tell**

## Page 32: Volume Measurement

### 1. What is the new reading on the measuring cylinder?

- **60 cm<sup>3</sup>**.

### 2. What is the volume of the steel ball?

- **10 cm<sup>3</sup>**. (60 cm<sup>3</sup> – 50 cm<sup>3</sup>)

## Page 33: Object Measurements

### 1. Which object is the heaviest?

- **Lead weight (800 g)**.

2. Which object takes up the most space?
    - Wood puzzle (500 cm<sup>3</sup>).
  3. Give one reason why aluminium is a suitable material for the bike frame:
    - Aluminium is **lightweight** and **resistant to rust**.
  4. What is the name of the force between the tyres and the road?
    - **Friction**.
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#### Page 34: Mass and Weight Graph

1. Plot the point for 150 g on the graph:
    - Plot at (150 g, 1.5 N).
  2. Draw a line of best fit:
    - Draw a straight line connecting the points as closely as possible.
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#### Page 35: Analyzing the Graph

1. Circle the point that does not fit the pattern:
    - The point at (300 g, 3.8 N).
  2. Use the graph to predict:
    - (i) The mass of an object weighing 6.5 N: **650 g**.
    - (ii) The weight of an object with a mass of 50 g: **0.5 N**.
  3. Why is it more useful to present the results as a line graph rather than a table?
    - A line graph shows trends and patterns more clearly, making predictions easier.
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#### Page 36: Plant Growth Investigation

1. Draw lines to match equipment to measurements and units:
    - Stopwatch → Time → Seconds (s).
    - Thermometer → Temperature → Degrees Celsius (°C).
    - Ruler → Length of plant → Centimetres (cm).
    - Scale → Mass of plant → Grams (g).
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#### Page 37: Choosing the Best Measuring Container

1. Which is the best container to use to measure 15 cm<sup>3</sup> of water? Write the letter.
  - **C**.
2. Why did you choose this container?
  - Container C has a scale that allows precise measurement of 15 cm<sup>3</sup>.