**Science Skills**

**Bar Graphs Level 3
Book 2**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Bar Graphs Layout**

When you draw a bar graph, you **must** include **all** of the following:

This is a **bar graph**. All the bars are separated from each other.

The bars must be **evenly spaced**.

The bars must be the **same width**.

This is the **Y axis**.
It has a **scale**.

The numbers should start at 0 at the bottom and go up **evenly** in 1s, 2s, 5s 10s etc.
This one goes up in **2s**.

The graph ***must*** have a **heading**.
The whole point of a graph is that you understand **instantly** what it is about.

The **Y** axis is where you put the ***aspect*** of the things you are comparing. Here it is the **storage life** of the batteries.

This is the **X axis**.
This is where you put the **things being compared**.

It must have a **title**. Here the title is ***Types of Battery***.

Each **bar** must have its **name** under it.

Both axes must have a **label.**

The label should explain what the numbers on the scale mean.

You must write the **units** used.
The units used here are **years**.

The bar graph should be **big** enough to more or less fill the size of the graph paper.

It should **not** be tiny and squeezed into a corner.

**Histograms**

A **histogram** is like a bar graph except that the bars are **not** **separated**.

Histograms are sometimes called bar graphs.

Histograms are easier to draw than bar graphs because you do not have to measure out the spaces between the bars.

**Drawing a Bar Graph Example**

|  |  |
| --- | --- |
| **Type of Battery** | **Storage Life** |
| Alkaline | 5 years |
| Silver oxide | 2 years |
| Zinc chloride | 2 years |
| Lithium | 10 years |

1. Decide on a **Title** for the graph by combining the headings in the table.
The aspect should be mentioned first in the title.
***“Storage Life of Batteries”***

2. Decide what is being compared. This goes in the X axis (along the bottom).
In bar graphs this is usually the data with **words**.
Four things are being compared. You will need **four bars** and **spaces** between them.
These have to be evenly spaced. Start with a space.

3. Write in the name under the bars.

4. Now look at the numbers in the other set of data. Look at the lowest and the highest to decide on the **scale**. Look for a pattern.
Decide what they should “go up in” in the Y axis. At Level 3 this will usually be 2s, 5s, 10s or 20s.
In the example below it “goes up in” 5s.

 15-

10-

 5-

0**-**

5. Fill in the scale on the Y axis. Make sure it goes up evenly spaced.

6. Look back at the data in the table. Draw the bars to the correct height according to the scale.

7. Label the X axis. (***Types of Battery***)

8. Label the Y axis. Remember to put in the units. (***Storage Life in Years***)

11 Use the information in the table to complete a **histogram**.

|  |  |
| --- | --- |
| Source | World’s Energy obtained (%)  |
| Solid Fuel | 30% |
| Nuclear Fuel | 4% |
| Hydro-Electric | 8% |
| Natural gas | 23% |
| Liquid Fuel | 35% |



12. The table below shows the Sulphur Dioxide emitted by the European Union in 1992.
Use the information in the table to complete a **bar graph**.

|  |  |
| --- | --- |
| Source of Sulphur Dioxide | Emissions (millions of tonnes)  |
| Homes | 2 |
| Heavy Industry | 6 |
| Refineries | 7 |
| Power Stations | 19 |



13.



14.



15.



16.



17.





18. Samples of water from various sites in a river were taken and tested for their
 oxygen content.





19.



20. The table shows the percentage of aluminium used by various industries.

|  |  |
| --- | --- |
| Industry | Aluminium Used (%) |
| Transport | 26 |
| Packaging | 22 |
| Construction | 20 |
| Electrical engineering | 9 |

