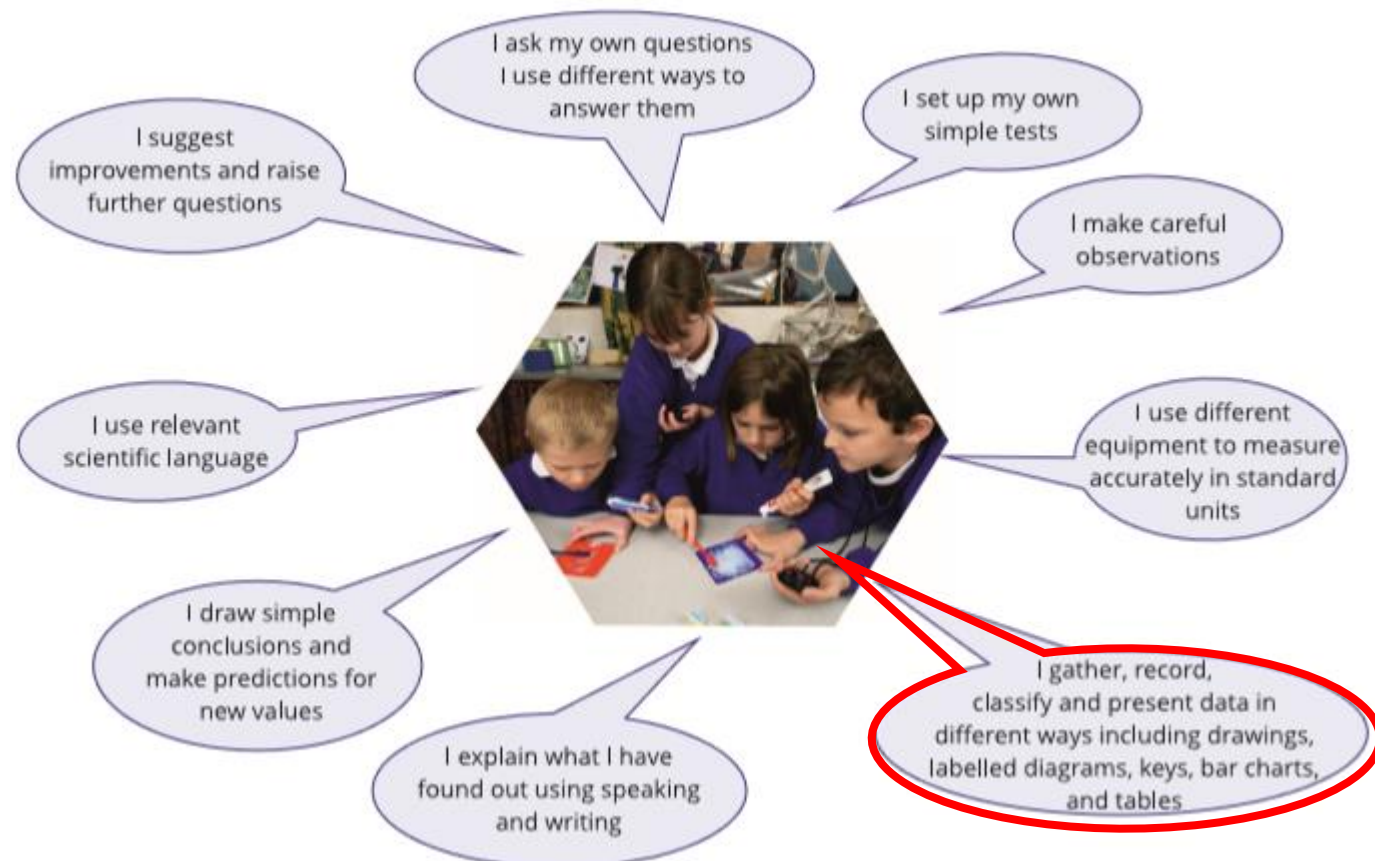


Summer 2 Lesson 4

LO: To work scientifically – To present data in different ways

This picture below shows some of the important things we need to do to be a scientist. This half term we are going to practise **working scientifically**. How many of these skills do you already use?



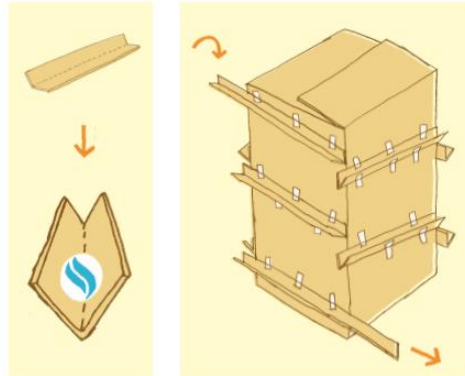
Data is another way of saying **information you have gathered**. As scientists, we gather lots of information and findings from our investigations. It is important to present this information clearly so that other people can understand it too. Choosing the best way of presenting our data depends on what we want to show.

This lesson you are going to be making a **marble run!**

You will be adjusting your marble run to make the marble take exactly 60 seconds to get from top to bottom. How will you present your work?

Task:

Follow the instructions below to make your own marble run. You will need to practice accurate measuring as you time the marble (recapping our skill from last week) and you will need to present your work in a clear way.



What method of presenting your investigation will be best?

Will you use a table to record how long the marble takes each time?

Will you draw and label a diagram of your final 60 second marble run?

Is a graph a good way of presenting your data for this investigation?

Have fun! We look forward to seeing how you get on!

The brief

Use a cardboard box and cardboard struts to create a marble run. The marble must run for 60 seconds.

The method

1. Use sticky tape to attach the cardboard struts to the cardboard box, creating a run for the marble.
2. Place the marble at the top of the run and time how long it takes for it to reach the bottom.
3. Keep improving your design until the marble takes exactly 60 seconds to reach the bottom.

Top tip

If you can't find cardboard struts, make your own by folding four inch wide strips of cardboard in half to create a V shape.

How does it work?

To help you to control the time your marble takes to run its course you'll need to consider a few factors:

Potential energy =
 $\text{mass} \times \text{gravity} \times \text{height}$

The heavier your marble and higher your slope, the more energy your marble will have.

Friction

The rougher or stickier the surface, the slower your marble will travel.

Angle of the slope

The less steep the angle of the slope, the longer the marble will take to reach the bottom.

