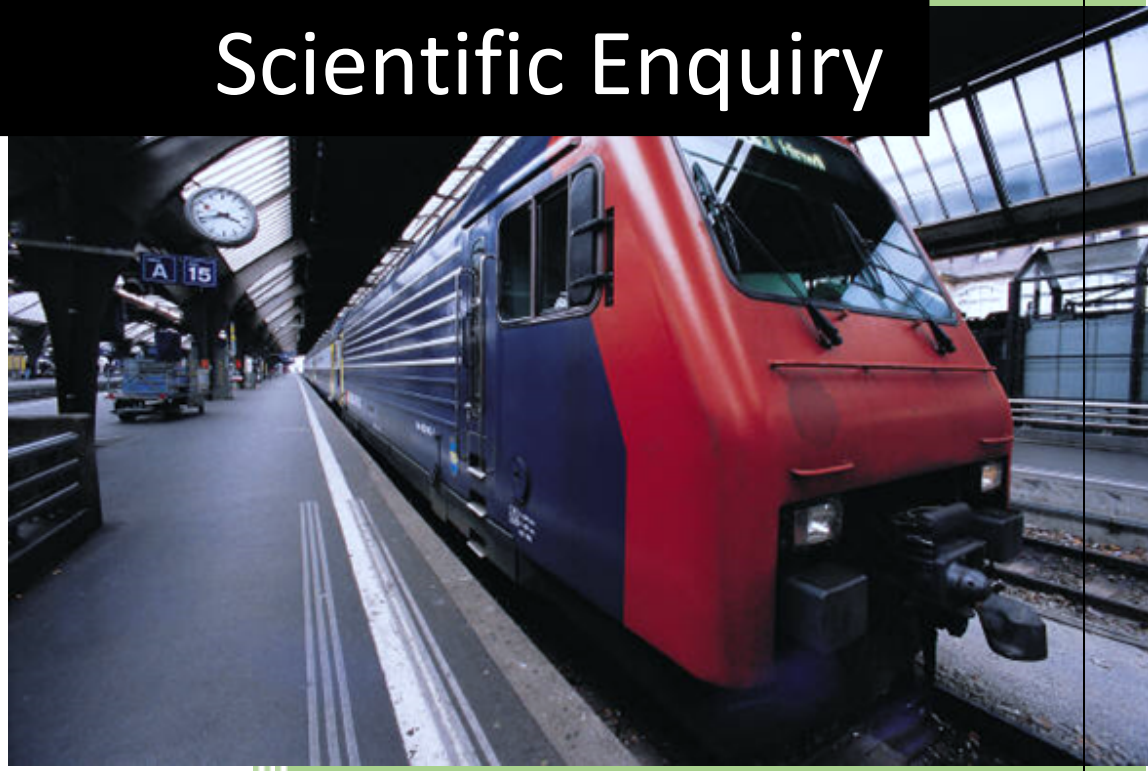
UXBRIDGE HIGH SCHOOL

Year 6 - 7
Transition Pack

Year 6 to Year 7

2020

Scientific Enquiry



Welcome to science at Uxbridge High School.

This introductory booklet will give you a little taste of the enquiry process you will be undertaking in your lessons on your journey through science at high school.

Being a scientist is great fun. As you work through this booklet you will learn how to work like a scientist and get answers to questions that science can answer.

Good luck!

The science team @ UHS

Scientific method

What is a scientific method or a scientific enquiry?

A scientific method consists of six key steps.

Watch the video using the link below to find out about these steps.

https://www.youtube.com/watch?v=yi0hwFDQTSQ

Now follow the instructions on the pages below and complete the tasks.

Scientific enquiry

Task 1 - Choose the **best** explanation to explain each statement. Some of the explanations match more than one statement.

The first one has been done for you.: Scientists repeat experiments because they need to make their results as accurate as possible.

You may use the space on the last page of this booklet to write your sentences.

statement	because	explanation
Scientists repeat measurements In an enquiry scientists change one thing while keeping everything else the same Scientists make sure they have enough readings Scientists draw graphs of their results When collecting results scientists measure things carefully Scientists often make a prediction Scientists use scientific ideas Scientists often do a control experiment where they keep everything the same	because	it makes it easier to spot patterns in their results to help them decide what to investigate they want to be sure of their conclusions they need to make sure the effect is not just something that would have happened anyway they need to make their results as accurate as possible they often have an idea of what will happen before they do the experiment they want to make it a fair test they want to make sure their results are reliable

Task 2 – Units and Measurements

Match the correct units to the measurements. The first one is done for you.

cm	The speed of a train
cm^2	Length of an earthworm
N/cm^2	The area of a shoe in contact with the ground
cm^3	The pressure exerted by a force over a specified area
A	The volume of copper sulfate solution at the start of an experiment
J	The current in an electric circuit
N	The amount of energy transferred in an activity
°C	The force acting on something
pH	The temperature of a beaker of water
km/hour	The acidity or alkalinity of a solution

Task 3: Experiment

Des carries out a simple experiment to investigate how things warm up.

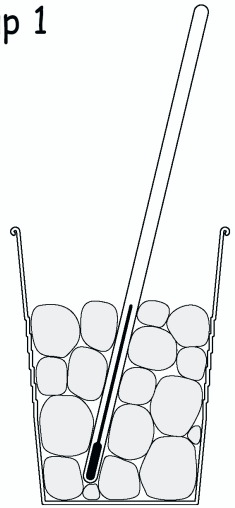
Des did an investigation on the bench in his laboratory.

He put some ice in a plastic cup and the same amount of ice in another plastic cup.

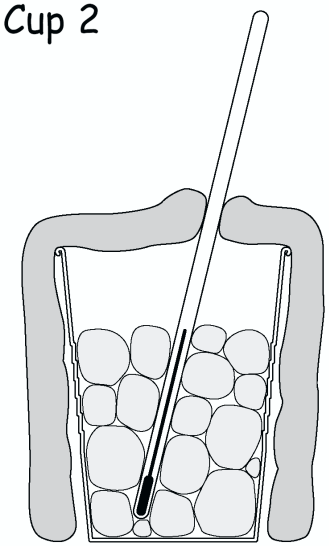
Cup 1 was not insulated but cup 2 had a thick cloth around it which also covered the top.

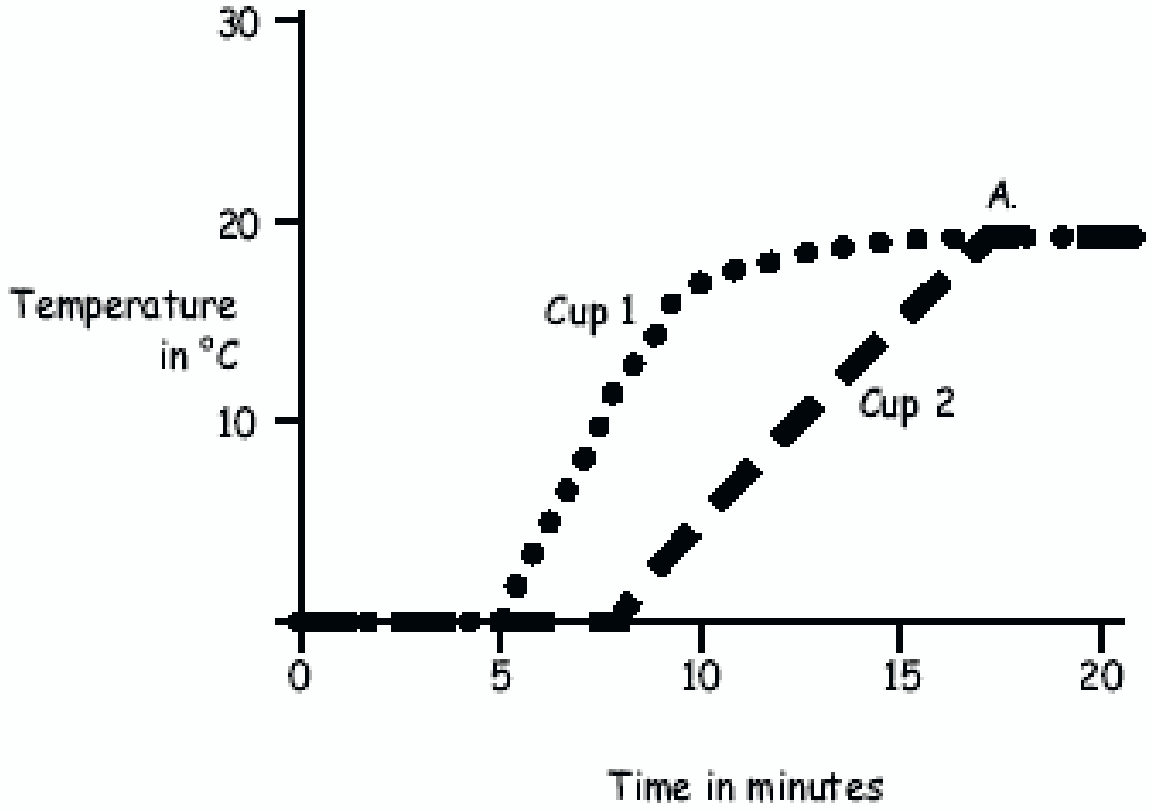
Des measured the temperature every minute, collected his results and then plotted the graph above.

Cup 1



Cup 2





Graph for Des's experiment

Match up the correct statements to answer the questions in the right- hand column.

The same size, type and thickness of cup, put the cups in a similar position on the bench, stirring the contents of both cups	Why did the lines for both cups join and become horizontal at 'A'?
The water in the cups had reached room temperature	What was happening in both cups in the first 5 minutes?
The ice was melting	Des correctly said that the temperature of the water in cup 2 started to rise quickly after about ……

8 minutes	Des said that the graph shows that his prediction was correct. What do you think his prediction was?
That the ice would take longer to melt in the insulated cup	What does Des have to do to make sure his prediction was correct?
He must repeat the experiment	Des says that he did a fair test by putting the same amount of ice in each cup. What else would he have to do to make the test fair?

Task 4 (Optional): You could set up a similar experiment at your home and collect results and analyse the results you have obtained. You can then write up the details of your experiment in your science journal and write your conclusion.

You may write/type your answers in this space.