



Key Stage 1 - SC1

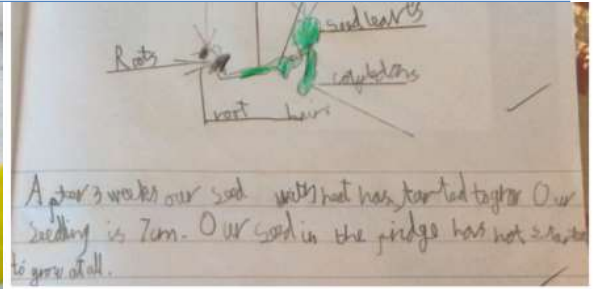
National Curriculum SC1 Expectations – Key Stage 1

- asking simple questions and recognising that they can be answered in different ways
- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering questions

Recording Exemplification



Material	Depth	Stretch	Roll	Band	Foot
Sponge	✓	✗	✗	✓	✓
wood	✗	✗	✗	✗	✗
Rubber	✓	✓	✗	✓	✓
Plastic	✓	✗	✓	✓	✓
card	✗	✗	✗	✗	✗
catan	✓	✗	✓	✓	✓
admission	✓	✗	✗	✓	✗



After 4 weeks our seedling with water and heat is growing

Name: Jennifer

Walking Water

What do I think will happen:
I think the water will soak up the paper towel

Illustrate what happens:

Explain what happens:

Paper	✗	✓
Card	✗	✓
Plastic	✗	✓
Fabric	✓	✗

Which material is best for Teddy Bear's coat?
plastic

Why?





Year 3 and
4- SC1

National Curriculum SC1 Expectations – Year 3/4

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings



Hypothesis

We could change...

We could measure/ observe ...

We will change ...

We will measure/ observe ...

Sources



Planning

How will you use the equipment?

How to control/change and measure variables?

What will you record?

What are the hazards and how will you minimise the risk?



Equipment

Prediction	
Variables State all three variables (independent, dependent and control variable)	
Method Use bullet points	State how you will set up your bottles
	State how you will test the bottles using tapping (include any apparatus)
State how you will test the bottles using blowing (include any apparatus)	
Results	Describe your observations, include how the different amount of water affected the sound
Conclusion Use evidence from your investigation to support your conclusion, link this to your prediction	

The pitch
the more
the bottle.

independent: the
dependent:
control:

1 bottle
1/3 filled for the

I will tap
times to
the pitch

I will be
hobble or

if you use
it would become
you hear it

My prediction
the pitch will
be the same
when I hit it

Balloon investigation

I think the circle balloon will go the highest
I think it can get more air in it.

Balloon Shape	How high it went in cm	Test 1	Test 2	Test 3
circle	84cm	152cm	152cm	2m 2
oval	90cm	153cm	159cm	160cm
star	1m 40cm	151cm	1m 30cm	165cm

Recording Exemplification

How long did it take the ice cube to melt completely with your best insulation?

2 hours and 20 minutes

Are there any other factors (besides the materials used for insulation) that could have affected how quickly the ice melted?

temperature of the room, how often we

spiced the containers, handling the ice

Which material provided the best insulation? Why?

The styrofoam was the best probably because

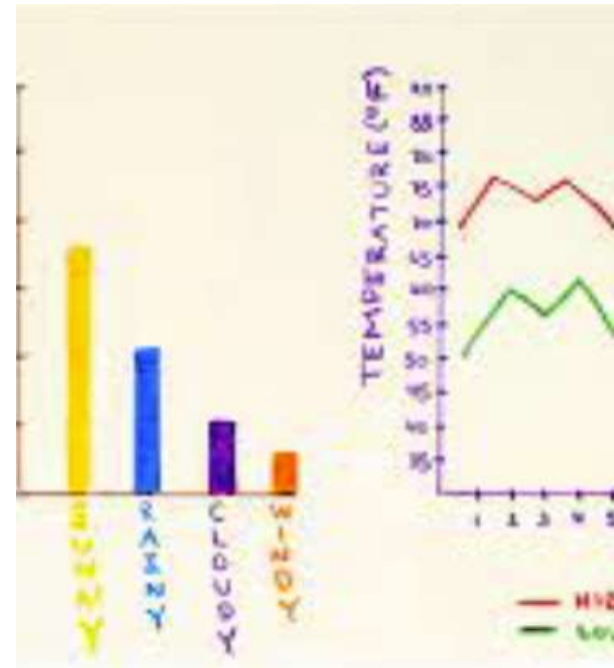
it did not let in air

How could a person use knowledge about insulation to create products in the real world? What kind of products could they develop?

Using the best materials would help people

create the best lunch boxes and coolers

They could build better refrigerators



Equipment

- Large
- Sodium bicarbonate
- Balloon
- Paper
- Narrow-necked bottle

Method

Pour enough vinegar into the bottle to be as a quarter full

Fill the balloon with sodium bicarbonate using the funnel

Put the open part of the balloon over the top of the bottle, avoiding letting sodium bicarbonate fall out of it

Hold the balloon up so sodium bicarbonate slips into the bottle. The balloon will begin to expand

Conclusion

Vinegar and sodium bicarbonate create carbon dioxide which is a gas which pressure in the bottle so the balloon expands



Year 5 and
6 - SC1

National Curriculum SC1 Expectations – Year 5 and 6

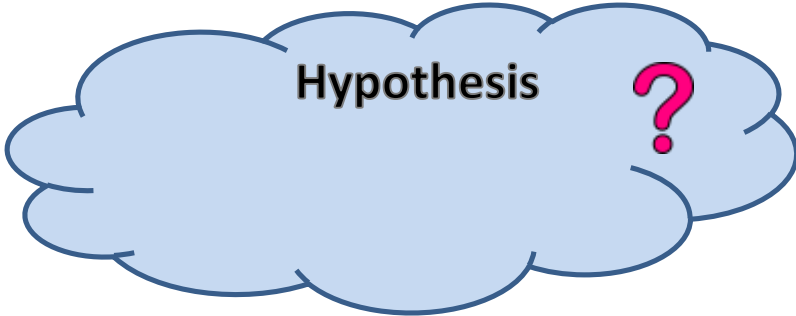
- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments

Independent

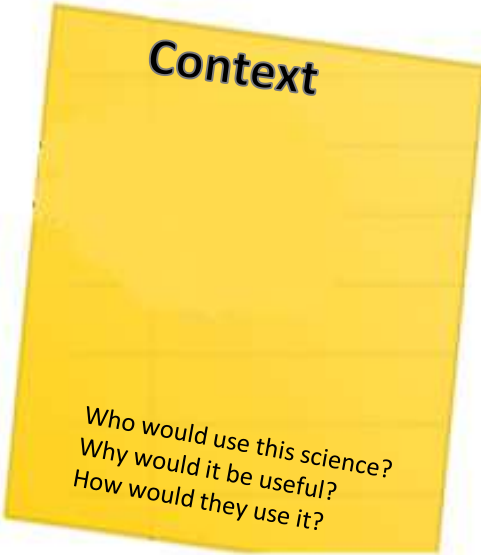
Dependent

Control

-
-
-
-



Always mention your independent and dependent variable



Sources

Equipment

Planning

How will you use the equipment?

How to control/change and measure variables?

What range and interval will you use?

What will you record?

What are the hazards and how will you minimise the risk?



that is pumped through the body. These are two hollow chambers at the top of your heart called the atria. These are things that separate various parts of your heart they are called the valves. A beating heart contracts and relaxes. Contraction is called systole and relaxation called diastole. The pulmonary artery is a blood vessel which delivers deoxygenated blood to the lungs.

Aim: To investigate how exercise affects our heart rate.

Prediction: I think my heart rate will go up when I do the exercise and go back down when I rest.

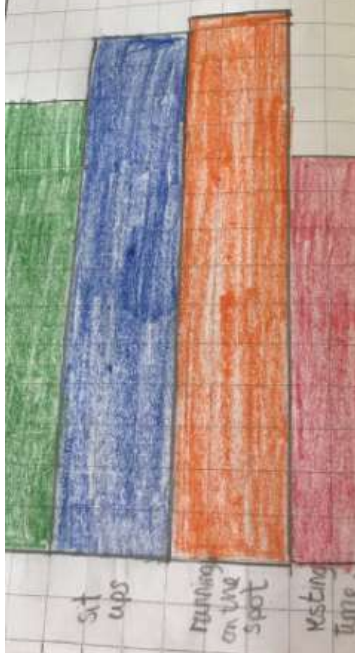
Equipment: I will need a timer.

Method: I am going to exercise then take my heart rate then rest then do it repeat it.

Results:

Exercise	Heart rate for 15 secs	Beats per minute
Sitting still/Resting heart rate	20	80
Star Jumps	24	96
Sit ups	28	112
Push ups on spot	29	116

This shows how my heart rate goes up and up during exercise from my resting heart rate way up to running on the spot.



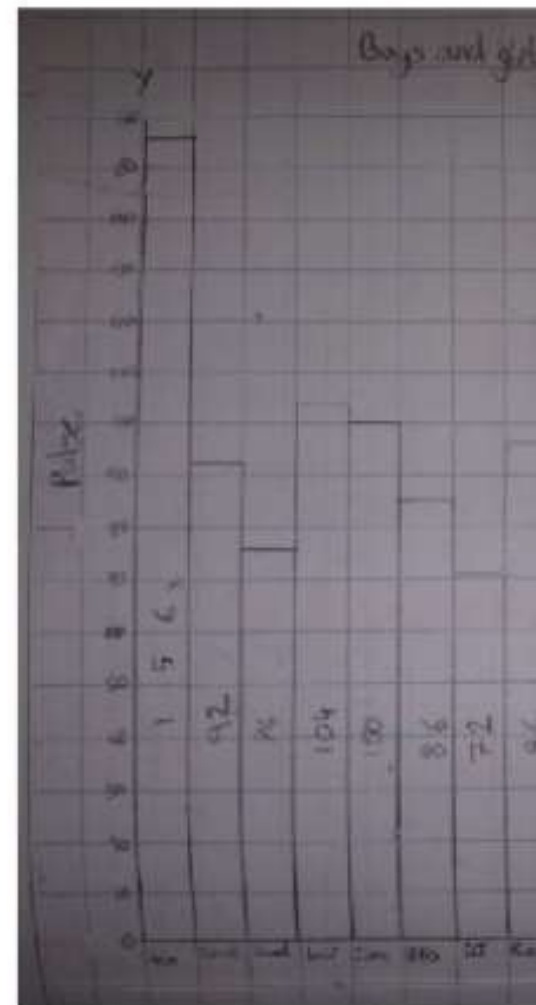
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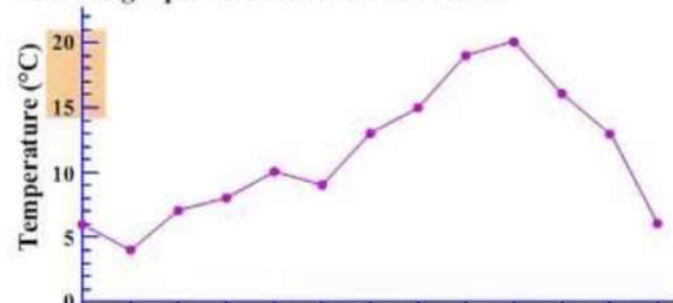
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Max Hilary wanted to do an experiment in science today with water and an effervescent tablet. We investigated what factors affect the rate of reaction. We placed a quarter of an effervescent tablet in a film canister and mixed it with different amounts of water. We wanted to know if the amount of water would change the speed of reaction. Once the tablet had dissolved into the water, the film canister filled up with gas called Carbon Dioxide. Eventually this made the chemical substances explode!

the temperature every hour from 6am to 6pm. The line graph below shows the results.



Recording Exemplification