

# Year 5 Science Planning Spring 1 Materials



Retrieval quiz week 1

|           |   |             |                        |                                     |
|-----------|---|-------------|------------------------|-------------------------------------|
| Last term | <b>How long does it take for the moon to go through its phases?</b> | A month     | A year                 | A day                               |
| Last term | <b>Which of these would not lay eggs?</b>                           | Mammal      | Bird                   | Reptile                             |
| Last year | <b>How do we get sounds?</b>  | Electricity | Our brain creates them | Vibrations in materials and the air |

## Lesson 1

### Can I plan a fair test?

Warm up – make a mind map:

How many materials can the you name?

What words can you use to describe them?

## Lesson 1

### Can I plan a fair test?

# Which is the best carrier bag?

You will need different types of bag to test.

What makes a bag good, or better than another? What will you test? (strong, waterproof, stretchy...?)

You will need to choose one property to test – if you test strength and waterproofness at the same time your test won't have clear results.

How will you make your investigation scientific? How will you keep it fair?

**Record your plan using the next slide, including predictions and explaining how you will keep it a fair test.**



Which is the best carrier bag?

I am going to find out which carrier bag ....

Materials I will need:

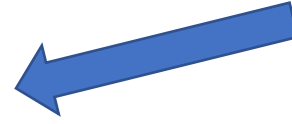
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- 
- 

What I will do:

- 
- 
- 

Prediction:

I think the best bag will be \_\_\_\_\_ because ...



Examples:  
...is the strongest  
...holds the most weight  
...is the most waterproof  
...keeps its contents dry the best

Retrieval quiz week 2

|             |   |            |          |              |
|-------------|---|------------|----------|--------------|
| Last lesson | <b>Which of these carrier bag materials is less likely to be biodegradable?</b> | Plastic    | Paper    | Cotton       |
| Last term   | <b>Which of these is <u>not</u> a reptile?</b>                                  | Crocodile  | Snake    | Frog         |
| Last year   | <b>Where would find a key?</b>  | On a phone | On a map | On a receipt |

## Lesson 2

### Can I carry out a fair test?

# Which is the best carrier bag?

Carry out your experiment using your plan from last lesson **(ask an adult to check your plan first to make sure you are allowed to use the materials)**.

Record your results clearly.

What did you find out?

Was your test fair? How do you know?



Retrieval quiz week 3

|             |  |   |                      |                                  |
|-------------|--|---|----------------------|----------------------------------|
| Last lesson | <b>Why is it better to have a coffee cup that is well-insulated?</b> | It will keep the coffee hotter for longer | It is easier to hold | It is better for the environment |
| Last term   | <b>Which of these is <u>not</u> a mammal?</b>                        | Bat                                       | Eagle                | Kangaroo                         |
| Last year   | <b>Which of these words are types of pollution?</b>                  | Noise                                     | Taste                | Air                              |



## Lesson 3

### Can I plan an investigation involving observing over time?

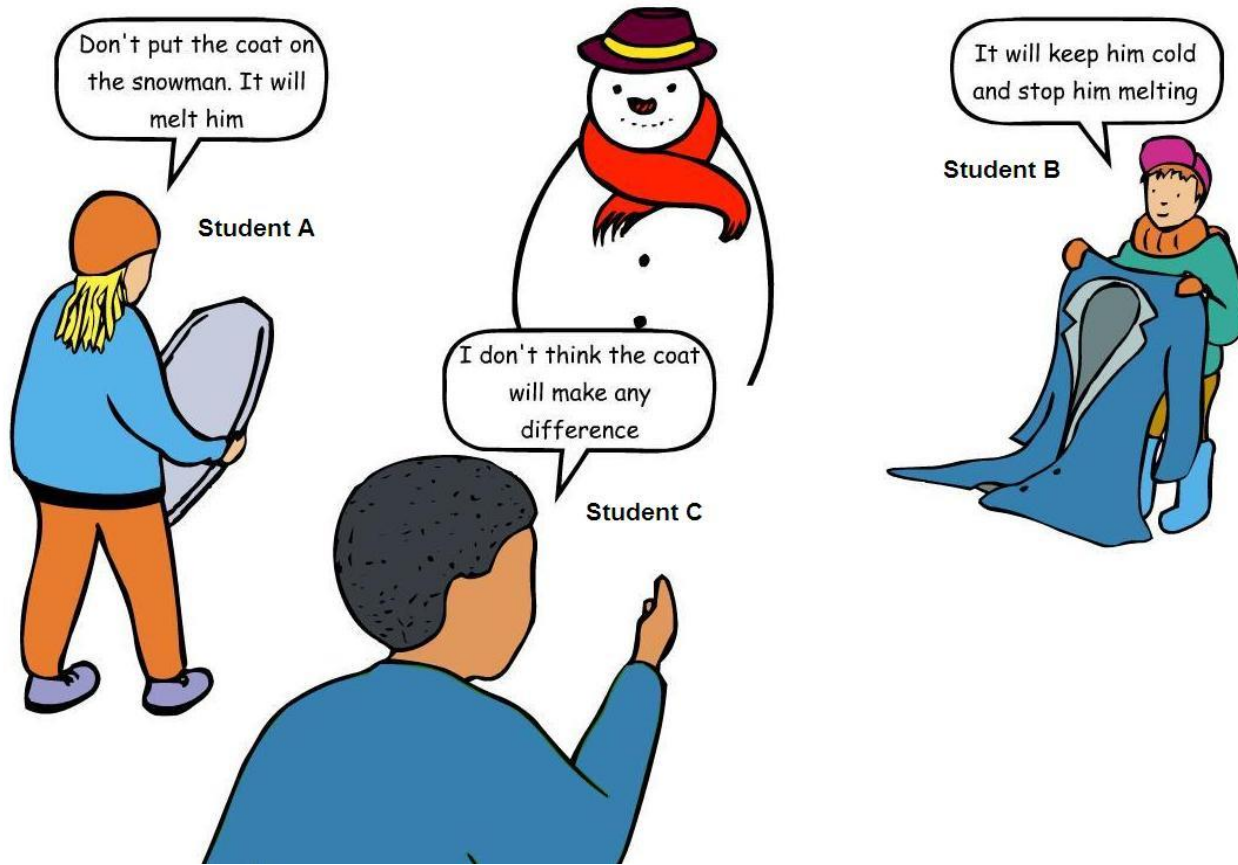


Starter question:

Which of these will keep my cup of tea warmer for longer? Why?

## Lesson 3

### Can I plan an investigation involving observing over time?



Write down your ideas. Who do you think is correct?

We are going to design an experiment to find out what keeps an ice cube frozen.

## Lesson 3

### Can I plan an investigation involving observing over time?

What will happen when we insulate the cup with different materials?

Which materials could you use?  
(paper, fabric, bubble wrap, tin foil...)

How will you know which is the best?

How will you measure it?

How will you keep it fair?

What is your prediction?



If you can, carry out your own investigation insulating ice cubes.  
Don't worry if you can't – you can use my results for the next lesson.



Cup 1 with **no insulator**



Cup 2, insulated with \_\_\_\_\_



Cup 3, insulated with \_\_\_\_\_

You can have extra cups if you want to!

| Time   |        |        |        |        |        |        |
|--|--------|--------|--------|--------|--------|--------|
| What I can see/amount of water or ice melted | Cup 1: | Cup 1: | Cup 1: | Cup 1: | Cup 1: | Cup 1: |
|  | Cup 2: | Cup 2: | Cup 2: | Cup 2: | Cup 2: | Cup 2: |
|  | Cup 3: | Cup 3: | Cup 3: | Cup 3: | Cup 3: | Cup 3: |

Retrieval quiz week 4

|             |   |  |  |  |
|-------------|---|--|--|--|
| Last lesson | <b>What does an insulator do?</b>                       | It keeps things warm   | It keeps hot things hot and cold things cold                   | It protects things if they are dropped                 |
| Last term   | <b>Which of these animals does <u>not</u> lay eggs?</b> | Boa constrictor  | Magpie   | Elephant   |
| Last year   | <b>What is pollution?</b>                               | Transfer of pollen from a male part to a female part of a plant. | The preparation of soil by digging, stirring, and overturning. | Something that causes our environment to be unhealthy. |

## Lesson 4

# Can I present data, draw a conclusion and evaluate an investigation?

What do your results show?

What did you find out?

Which material was the best insulator?

Here are my results. You can use my results to make a graph, or you can use your own results if you collected data in a similar way.

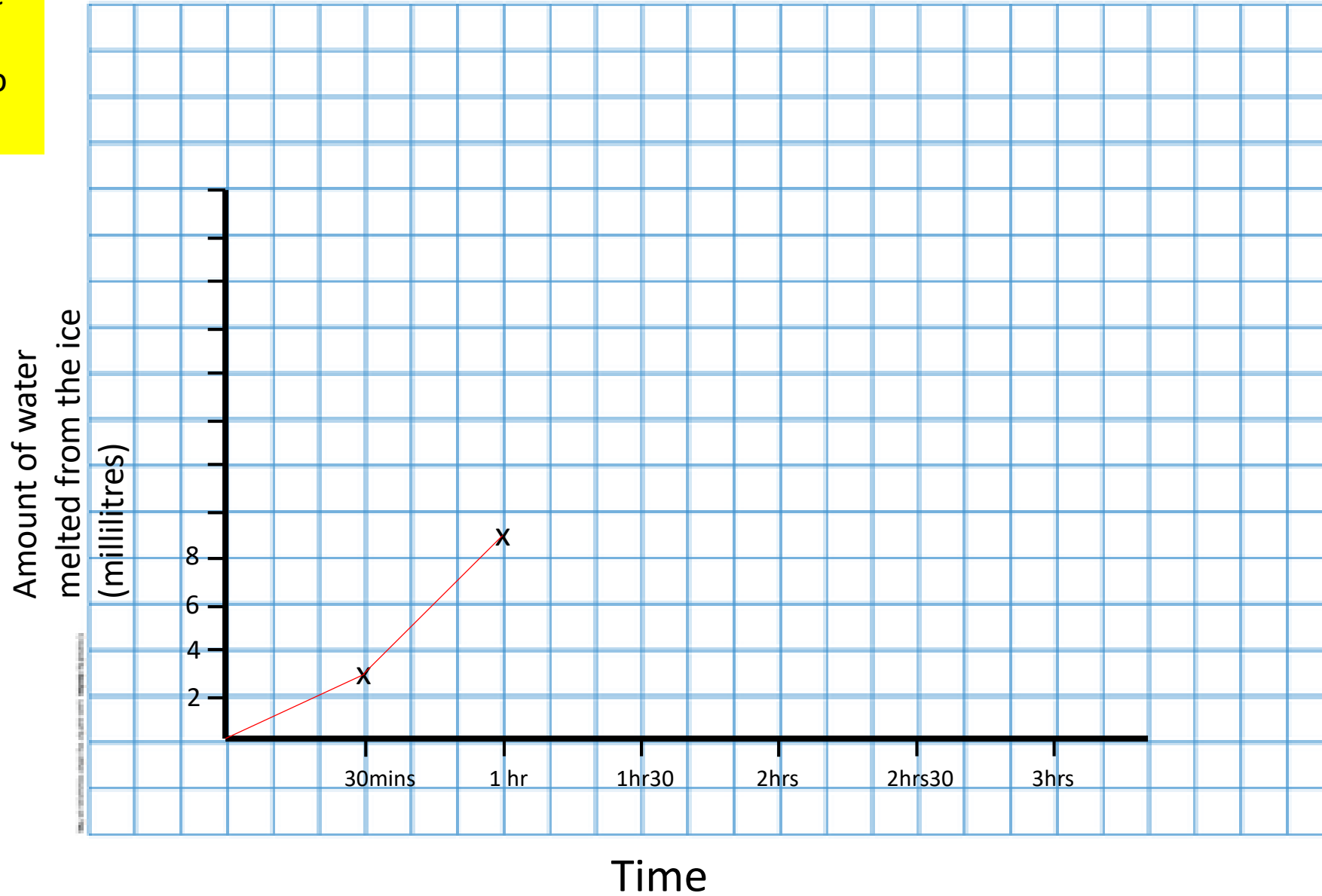
Insulators keep warm things warm and cold things cold.



| Time                      | 30 mins    | 1 hour     | 1 hour 30    | 2 hours     | 2 hour 30   | 3 hours     |
|---------------------------|------------|------------|--------------|-------------|-------------|-------------|
| Ice melted (total so far) | Cup 1: 5ml | Cup 1: 9ml | Cup 1: 12 ml | Cup 1: 17ml | Cup 1: 20ml | Cup 1: 20ml |
|                           | Cup 2: 0ml | Cup 2: 1ml | Cup 2: 3ml   | Cup 2: 5ml  | Cup 2: 9ml  | Cup 2: 11ml |
|                           | Cup 3: 0ml | Cup 3: 3ml | Cup 3: 4ml   | Cup 3: 8ml  | Cup 3: 8ml  | Cup 3: 9ml  |

Plot the data for the melting ice on the graph. I have started to plot cup 1.

Graph to show ice melting with different insulators



Hopefully you found out that the insulators made the ice melt more slowly!

This is why I can use the same insulated bottle to keep my tea warm in the winter, and my water cold in the summer!

What do you think now?

