Dissolving

Objectives

- understand and use correctly the terms dissolving, soluble, insoluble and solution
- identify key factors in a fair test investigation.
- make predictions using scientific knowledge and understanding
- choose apparatus for a range of tasks and plan to use it effectively.

Dissolving

what do you think this means?

Investigation

- Which factors can affect dissolving? On your ‘post it’ write a factor that you think can change dissolving.

Type of water

Number of times stirred

Speed of stirring

Materials that dissolve

Type of water

Volume of water

Particle size

Time

Type of container

Temperature

What we will measure

- On your post it write down the things you could measure in any investigation.

Weight

Time

Amount of water

Distance

Temperature

Now choose a factor to change and one to measure

- Use them to make a question to investigate.

What you will change	What will be measured	What you will keep the same	Question raised
Materials	Does it dissolve or not	Water temp Number of stirs Speed of stirs Type of water Type of container Time stirred	Which materials dissolve?
Temperature of water	Time taken to dissolve	Number of stirs Speed of stirs Type of water Type of container Material Time stirred	How does temperature affect the speed of dissolving?
Number of times stirred	Time taken to dissolve	Water temp Speed of stirs Type of water Type of container Material Time stirred	How does stirring affect the speed of dissolving?

We will investigate - example

- Temperature and how it effects dissolving
- What do we change?

Temperature of water

- What do we measure?

Time taken to dissolve

- What do we keep the same?

Number of stirs
Speed of stirs
Type of water
Type of container
Material
Time stirred

Why do we keep all the other factors the same?

Fair Test

Now plan your own investigation.

- Fill in which factors will be changed
- Which factor will be measured
- Finally which are kept the same.

Now make a prediction

- I think that as the water gets hotter....

- I think that as the water gets cooler....

Now describe what you did.

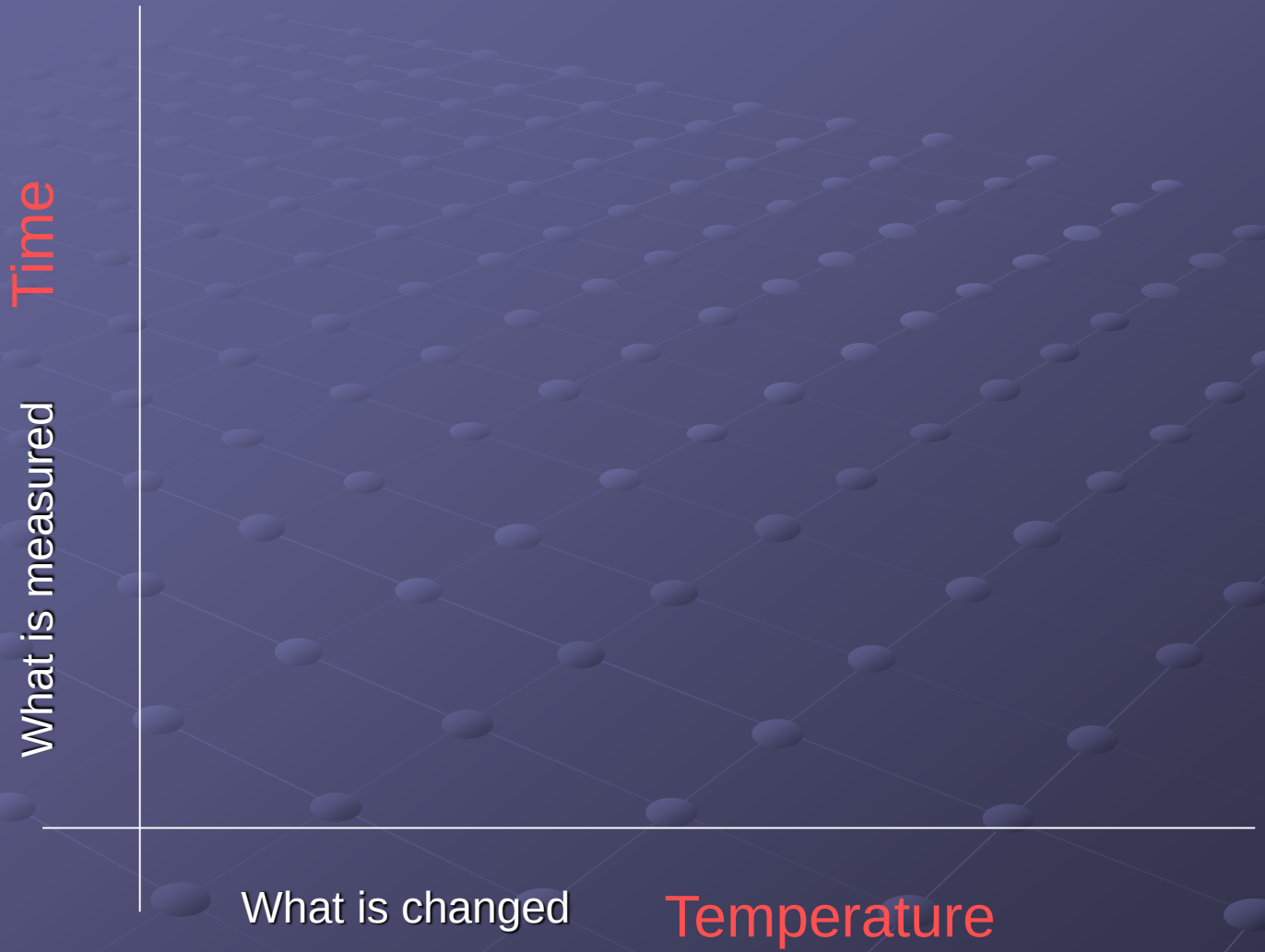
- Firstly measure ____ ml of water at __°C
- Then add ____ teaspoons of salt.
- Start a timer as soon as stirring begins, continue to time until all the salt has dissolved.
- Record results on the table and then repeat twice with water of a different temperature.

Now carry out your planned investigation

Now complete your planning board

What is changed Temperature	What is measure Time		
cool			
warm			
hot			

Now convert your results into a table – the data is discrete so a bar chart is used



What I found out (conclusion)

- The warmer the water the _____ it dissolves.
- Imagine a fourth, hotter water, predict what would happen to the speed of dissolving.
- This happens because.....

Why is it important for the investigation to be a fair test?

To make sure the results are reliable

Jamie made a sentence using the cards below. Do you agree with the sentence?

You can change the sentence if you want. Make some sentences of your own. You can use the words as many times as you like.

warm

Makes things

will

slower

Melt/s

Does not

cold

when

they

quicker

Dissolve/s

it

When I stir bath salts in warm water it melts quicker