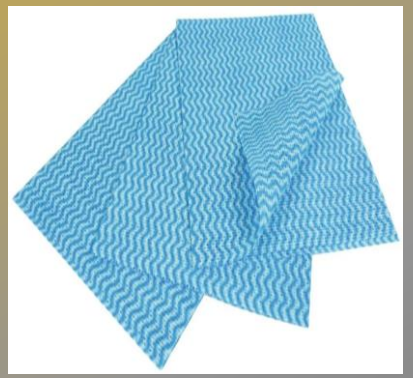
The Battle of the Materials Absorbency Investigation



Urgent News

Friday 12th February 2021

Dear Adders,

Our names are Tara and Steph. We are very clumsy people and keep spilling our drinks all over the table. We want to know what type of material is the most absorbent. Your teacher has said that if we contacted you by letter, you would help us carry out a science experiment.

Thank you,

Tara and Steph

Matter, Materials and Properties

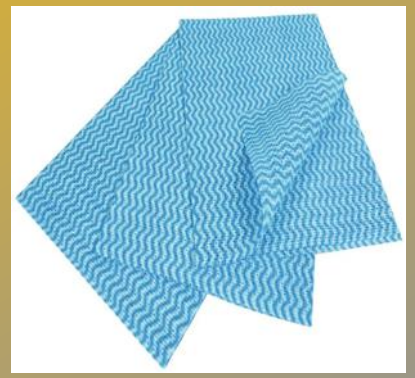
Matter is anything that has weight and takes up space. For example, a ball, a person, and water are all types of matter. A special type of matter is called a substance. Substances have something called properties (hard, shiny, soft, cold etc.).

A material is any substance that has a name. For example; chalk, paper, wood, iron, air, water, clay, plastic, rubber, stone, leather, wax. Materials exist in three states: a solid, a liquid or a gas.

Everything is made up of materials. When we want to make something we need to choose the best material for the job. The property of a material is something about it that we can measure, see or feel.

Absorbency is a material's ability to soak up a liquid.

What investigation could you design to find the most absorbent material?

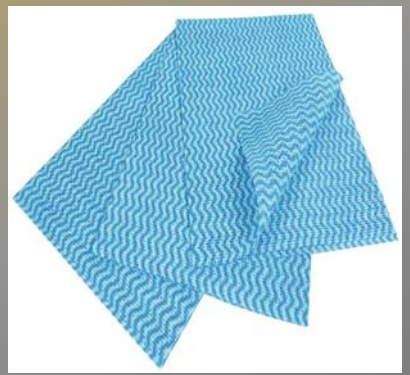


Click here to watch a video about testing materials. Watch the part about testing absorbency carefully.

What will your investigation measure?

Dependent Variable

In my investigation I will measure the amount of water absorbed by the different materials.



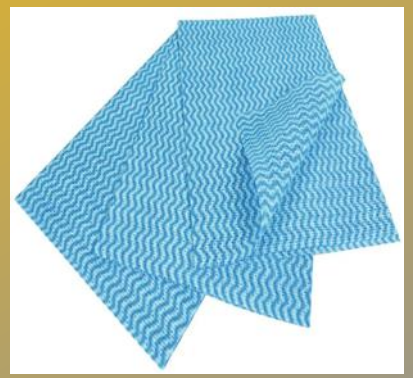
What will you ensure stays the same during the tests? How will it be a fair test?

Controlled variable

To make sure the test is fair, I will keep these variables the same:

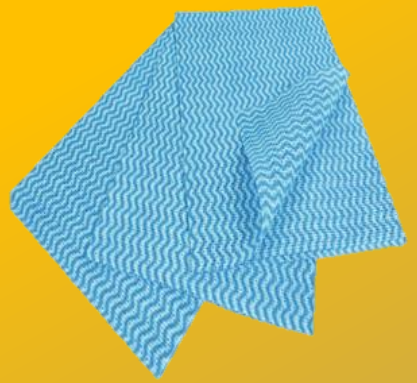
- the width and length of each material
- the amount of time each strip is in the water

Which material do you think will be the most absorbent? Make a prediction



Complete the prediction on your sheet using this structure:
I predict that the … will be the most absorbent because…
I think the least absorbent will be … because …

Investigation

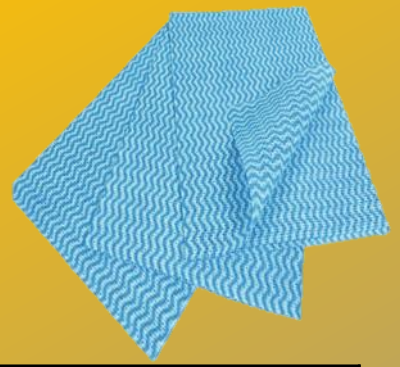


You will need:

- the materials – kitchen roll, wrapping paper, card, tin foil and a J-cloth (or similar)
- a timer or stopwatch
- a ruler or tape measure
- a tray of shallow dish for the water

Carry out your investigation, remembering to use a sensible time to leave the strips in the water.

Results



Material	Amount of water absorbed in cm + mm
Kitchen Roll	
Tin foil	
J-Cloth	
Wrapping paper	
Card	

Record your results in the grid on your sheet.

Conclusion

What do the results show?

Was your prediction correct?

Complete the conclusion part on your sheet, making sure that you refer back to the enquiry question.