

Primary science investigations

rsc.li/3q2U2A0

Racing liquids



Racing liquids

We will be:

Exploring the viscosity of different liquids.



Learning objectives

Understanding

- I understand that viscosity is a measure of a liquid's resistance to flow.
- I know that viscosity is a useful property of liquids.
- I understand that liquids can be ordered by their viscosity.

Enquiry skills

- I understand what a fair test is.
- I understand what 'variables' in a fair test are.
- I can record observations and explain what has been found.



Useful vocabulary

- **Viscosity:** a measure of a liquid's resistance to flow (the runniness or flow of a liquid).
- **Resistance:** 'fighting back' against flowing.
- **Friction:** a force that acts to slow down (oppose) movement.

For example:

water has a **low** viscosity
as it is 'thin'



honey has a **high** viscosity
as it is 'thick'



Thinking about liquids

- What do you know about liquids and their properties?
- How are they different from a solid or a gas?
- How do liquids behave?



'Racing' the liquids

- You have different liquids that you need to race against each other to find out which flows the fastest and which is the slowest.
- Remember, you are trying to make this test as fair as possible so think about what you are going to keep the same and what is going to change.

Things to think about...

- How will you start the race?
- How many times will you carry out the test?
- How will you keep a record of your findings?
- What will you change and what will you keep the same?
- Can you order your liquids by their viscosity?



Method

Working in your group:

1. Choose which liquids you want to race.
2. Turn over your cups at the same time and observe closely until all of the liquid has flowed from one container to the other.
3. Record which liquid was faster and which was slower.



What did you find out?

- By investigating their flow by observation, can you order your liquids by their viscosity?
- Which liquids flowed faster/slower?
- Can you explain why this happened?
- Did all the groups get the same results? Why do you think this is?



Evaluation

How do you feel about our **learning objectives** today?

- I understand that viscosity is a measure of a liquid's resistance to flow.
- I know that viscosity is a useful property of liquids.
- I understand that liquids can be ordered by their viscosity.
- I understand what a fair test is.
- I understand what 'variables' in a fair test are.
- I can record observations and explain what has been found.

If you feel confident, show your teacher 5 fingers, or show 1 if you feel that you need to chat through the lesson again.





Acknowledgements

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