



# HANDS-ON EXPERIMENTS

GLACIAL FLOW

## Glacial Flow

Ice is an interesting material. It is a solid that will fracture under pressure, but that can flow like a liquid.

In a glacier, crevasses will form if there are stresses on the ice, such as when it flows over an incline or when the glacial valley narrows and the ice is squeezed tight.

Here we will investigate the flow of the glacier.

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## INSTRUCTIONS

- Make up your flubber (which will act as your glacial ice) by mixing: first, 150ml of warm water with 200ml white glue; second, 2tsp borax with 100ml of warm water; third, combine those two mixtures together and drain off excess water.
- **Incline the pipe slightly to act as a mountain valley.**
- Put your flubber glacier into the top end of the pipe. Dip the plastic knife in food colouring and lightly score some horizontal lines across the glacier.
- **Leave it a couple of hours and watch how the glacier flows. You may want to set up a camera or time-lapse photography. See what happens with the horizontal lines and discuss what this means.**

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200 ml white glue

2 teaspoons borax (sodium borate)

warm water

a section of guttering pipe (~50cm)

food colouring

plastic knife



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## FURTHER INVESTIGATION

- What affects the flow speed of your glacier? Try wetting the pipe first, or freezing the flubber.
- Try adding an extra teaspoon of Borax or add less. How does this effect the speed of the flow?



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# VIDEOS FOR THIS RESOURCE AT:

INTRODUCTION:



Clickable Link:

<https://youtu.be/6kaalACuIRA>

CONCLUSION:



Clickable Link:

<https://youtu.be/y5u0wzp1Lsl>

