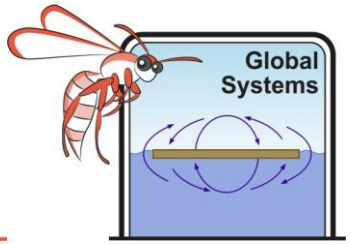
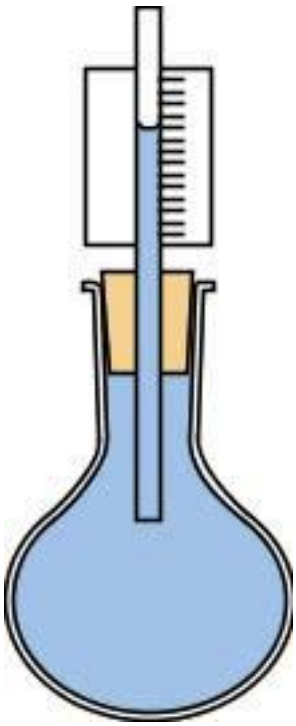


Sea Ice & Heat - Student Activity

AIM **To find if heat alone can raise water level**



Materials per group

- A Florence flask or conical flask
- Stopper with hole for glass tube
- Glass tube
- Bunsen burner or gas stove and match
- Wire gauze
- Tripod
- Stand and clamp if necessary
- Marking pen (or masking tape)
- Water with food colouring if preferred
- Internet access

Method

1. Gently push the glass tube through the rubber stopper
2. Fill the flask to the top with cold water
3. Gently press the stopper with tube into the mouth of the flask until it is sealed. (Water displaced by the stopper should rise within the tube
4. Mark the height of the water level in the tube with a marker pen (or masking tape)
5. Light the burner and adjust to create a blue flame.
6. Heat the base of the flask and mark any changes in water level until the water nears boiling, then cease the activity.
7. Let the equipment cool before disassembling it.

Safety Considerations

What safety considerations do we need to take before and during this experiment?

_____

_____

Results/Observations

What did you observe as the water in the flask heated? _____

_____

Conclusion

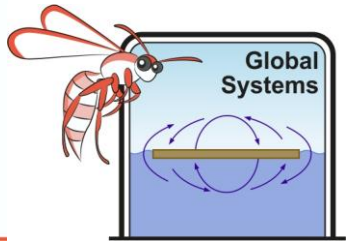
To what conclusion can your results lead? _____

_____

Discussion

Why did the water level rise? _____

_____



Sea Ice & Heat - Student Activity

What happens to the ocean if global temperatures rise? _____

_____

As a result of global warming, the greatest increase to sea level comes not from melting ice but from thermal expansion

Visit http://www.climatechange.gov.au/climate-change/climate-science/climate-change-impacts/western-australia and answer the following questions

Which Australian state has the longest coastline? _____

How will accelerated global warming impact on our coastal zone? _____

_____

_____

What was the average sea level rise over the twentieth century?_____

What has this increased to over the last 15 years? _____

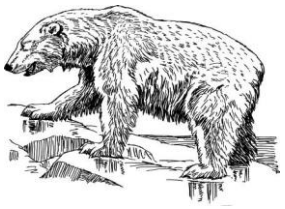
Extension

How can these findings be used to help with planning for dealing with an increasing rate of global warming?

_____

_____

What effect would a few degrees rise in temperature have on a polar bear?



_____

_____

_____

People living in high mountainous areas well away from our poles are also going to affected by rapidly increasing temperatures. How can this be?

_____

_____