Investigation 5 Rising tides and climate change

What is the relationship between the greenhouse effect, climate change and rising sea levels?

This investigation shows how long term increases in the earth's temperature could force some coastal communities to abandon their homes forever.

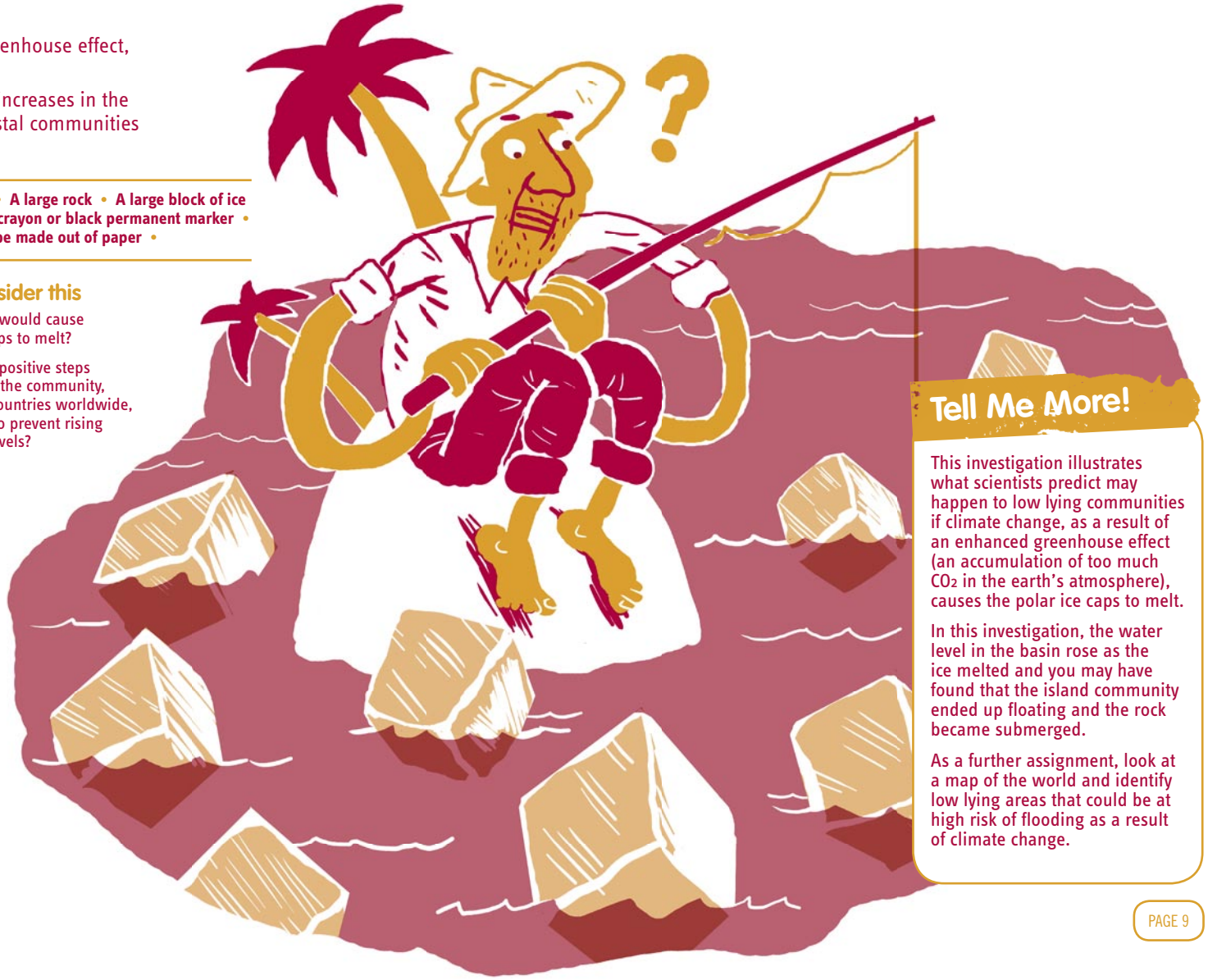
YOU WILL NEED **A small aquarium or plastic basin • A large rock • A large block of ice or a number of ice cubes • A wax crayon or black permanent marker • A small token – lightweight, could be made out of paper •**

1. Place the rock in the basin and fill the basin with tap water to cover approximately two thirds of the rock. This represents an island.
2. Place the token on top of the rock. This represents a community of people living on the island. You may elaborate on the community by imagining, for example, that it is a fishing community that relies on boats and a harbour for its main income.
3. Place the ice cubes or large piece of ice into the basin.
4. Mark the level of the water on the rock with the marker or pencil.
5. You can draw a diagram of the set up in your journal and make some predictions about what the outcome of the investigation might be.
6. The class can return to the basin at the end of a double class or the following day.

Consider this

What would cause ice caps to melt?

What positive steps could the community, and countries worldwide, take to prevent rising sea levels?



Tell Me More!

This investigation illustrates what scientists predict may happen to low lying communities if climate change, as a result of an enhanced greenhouse effect (an accumulation of too much CO_2 in the earth's atmosphere), causes the polar ice caps to melt.

In this investigation, the water level in the basin rose as the ice melted and you may have found that the island community ended up floating and the rock became submerged.

As a further assignment, look at a map of the world and identify low lying areas that could be at high risk of flooding as a result of climate change.