

Teachers Notes – How Many Times?

Overview

In this activity the pupils meet scientist Issy, who has invented a machine that can work out how many times one country can fit into another. You might choose to use Issy's first experiment as a demonstration involving the whole class, and then allow pupils to work independently or in small groups or pairs on the subsequent four experiments.

Aims of the resource

- To show that the sizes of countries and continents are not always shown accurately on world maps
- To develop an awareness of the relative sizes of countries and continents.

Key objectives

At the end of this activity pupils will be able to:

- Understand that the visual representation of countries and continents on a map does not always correlate with their real area statistics
- Understand that the Peters map is generally more accurate than Mercator's map in its depiction of true country or continent size
- Although Peters is generally more accurate about country and continent sizes, even the Peters map can differ widely from the true areas in some instances.

Using the resource

1. Click the LAUNCH button to start the activity. (If it doesn't launch, try turning off your pop-up blocker.)
2. Issy the scientist introduces you to the activity. Keep pressing CONTINUE when prompted to advance through the opening activity.
3. When Issy asks you to predict how many times Britain will fit into Africa, you can enter your prediction either by typing it in on a keyboard or by touching the key pad on the whiteboard. Enter your prediction, then press PREDICT. You (or your pupils) can make a number of predictions, pressing PREDICT after each guess. Then press START.
4. Issy's machine calculates how many times Britain goes into Africa.
5. Issy informs you that she has been using the Mercator projection until now. Will she get the same results on the Peters map? Issy will direct you through the same procedure but this time using the Peters map.
6. Issy explains that the number of times Britain goes into Africa changes, depending on whether you use the Mercator or Peters map. She then calculates the real answer using the actual areas of Britain and Africa, and shows how many times Britain would actually go into Africa. Both maps are incorrect, but the Peters map is closest.
7. You are then given the choice of doing another four experiments along the same lines. Click on the dial on the right-hand side to select which experiment you, or your pupils, want to try next. You

- might prefer to use the remaining experiments as individual or group work.
8. You can decide whether Issy starts subsequent experiments using the Mercator or Peters maps by clicking on the relevant name above the dial. Once you've completed one experiment with one map you can click on the other map name to repeat it with the other map.
 9. At the end of the session, gather the pupils together for the Plenary session.

Useful information

- You can drag the keypad out of the way by clicking on 'drag' on the keypad and moving it, so that it doesn't obscure parts of any countries.
- We have deliberately chosen country combinations that reflect the rich/poor divide. You may choose to reinforce the point made in the Chat Show activity that on the Mercator map the richer countries tend to look larger and more important than the poorer countries.
- The results given for the Mercator and Peters maps are based on visual estimates of how many times one country goes into another. Issy's final answer is calculated by dividing the actual area of the larger country by the actual area of the smaller country. These statistics are taken from www.worldatlas.com.
- Photocopiable outline versions of the maps featured in this activity are available in the Mapping our World book. To order a copy please visit <http://www.oxfam.org.uk/coolplanet/mappingourworld>