

NATURAL RESOURCES

Activity NR07

Theme

Class activity (CA). Students pick everyday objects and trace the path of their materials back to the Earth.

Objectives

Demonstrating that everything we use comes from the Earth, showing how few steps we are from the Earth, encouraging thought on our interaction with the Earth.

Curriculum strands

SESE, Science–Materials; Properties and characteristics of materials; Science and environment

SESE, Science and Geography–Environmental awareness and care

Skills

Questioning, observing, recording, communicating

Time

40 minutes (or longer if you wish)

Far from the Earth

→ WE DEPEND ON THE EARTH FOR EVERYTHING

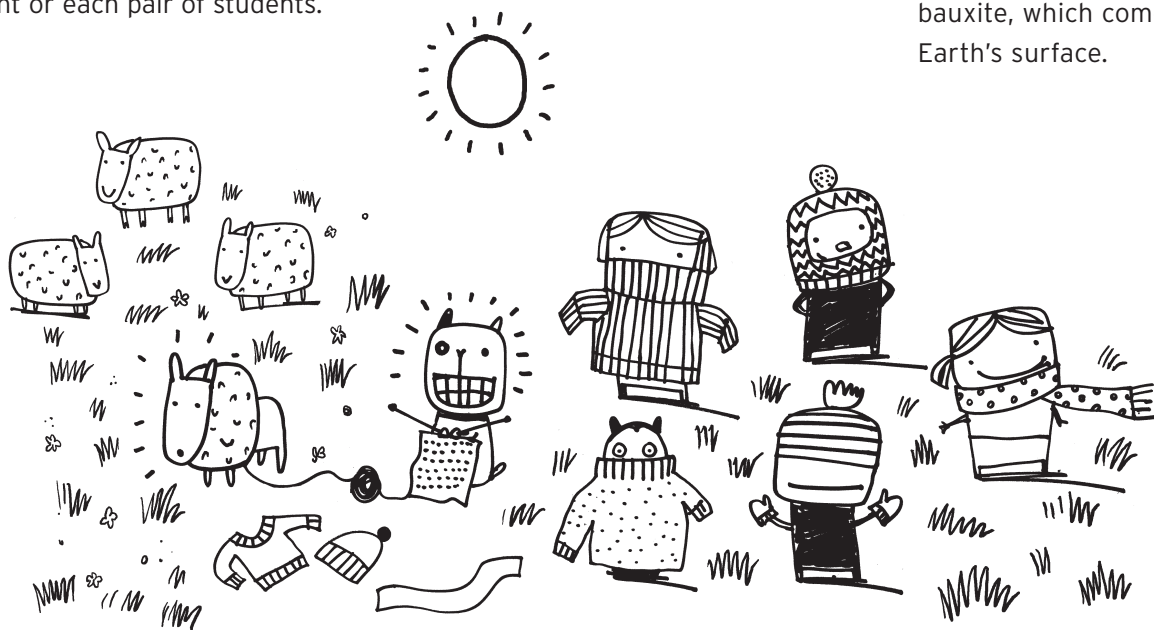
WHAT YOU NEED

A range of items made from different materials (which could include things like a stick, a straw hat, a woollen glove, an iron key, a steel nail, a drinks can, a piece of newsprint, a piece of fax paper, a plastic drinks bottle, a rubber boot, a piece of fleece, a bit of brick, a pot of glue, an empty aspirin bottle). Concentrate on a few of these and work in teams or make the project longer by having one for each student or each pair of students.

WHAT YOU DO

- 1 Ask the students which materials they think are natural. Why? Where do you think the non-natural materials came from? Can you work it out?
- 2 Ask the students to look at their chosen object and work backwards through the stages the material has gone through since it came from the Earth.

- 3 For example a plastic bottle has been made from oil. Oil is a fossil fuel, meaning it is made up of fossilised plant and animal debris from many millions of years ago. So it comes from ancient plants and dinosaurs that ate plants (or ate other dinosaurs who in turn ate plants). Plants grew in soil. Soil came from organic material and rocks.
- 4 An aluminium can came from bauxite, which comes from the Earth's surface.



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Continued →

- 5 Recycled paper came from new paper, which came from trees. Trees grow in soil...
- 6 A woollen glove was made of wool that came from a sheep. Sheep eat grass. Grass grows in soil...
- 7 Aspirin is derived from a tree. Medicines can be growing things too.
- 8 Ask the students to introduce their findings to the class. Make a line of all the objects discussed, with those with the fewest steps back to the Earth at one end and those with the most steps at the other. Did anyone find anything that didn't come ultimately from the Earth? What have we discovered? What do you think about it?

Go further

Make a list of all the things that must have happened to the materials on their journey to your classroom (bauxite was mined with diggers, chemically treated to extract alumina, smelted, moulded, rolled flat, made into can-shapes and printed with colours, for example). Did other resources (electricity, oil, chemical products) get used along the way? Where did these come from? Can you make a chart to show what you think happened? This could become a research project where students have to read up on how things are extracted and processed.

The activity can become a game where students try to think of objects that are as many steps from the Earth as possible, soon discovering how difficult it is to get more than about three steps away.

Using art materials take a scrap piece of plastic, wood, paper, fabric or another material and see if you change it using ideas from other materials. You might paint a can; or add papier maché lumps to it to make it look like wood; or decorate a piece of paper so that it looks like cloth; or stick lots of things together to see how the textures, colours and weights look and feel beside each other.

Some materials have travelled a long way to be here (a little piece of wood from a Norwegian forest has sailed across the sea inside a log, landed in Ireland, been pulped in a paper mill, been bleached and printed and transported to your school). Ask the students to imagine they are a tiny piece inside a particular object. Where have you come from? Write a line or two to describe some of the places you have seen.