



Properties and uses of common materials lesson plan

Chemical Sciences

- ▶ Natural and processed materials have a range of physical properties. These properties can influence their use (ACSSU074)

Use and influence of science

- ▶ Science knowledge helps people to understand the effect of their actions (ACSHE062)

Lesson Outcomes

The assessment focus of this lesson is formative: The classroom activities provide an opportunity for students to generate evidence with which the teacher can establish the student's progress towards understanding the concepts that are being developed in this lesson.

Background information

Plastic is produced from oil. After the oil is refined it is heated in a high-temperature furnace. A chemical called a catalyst is added to produce 'fluff', a powdered material which resembles laundry detergent. Fluff is blended with other materials and then melted and formed into small pellets to be made into plastic products.

Preparation for the lesson

- ▶ Create a series of workstations around the room with various household objects made from metal, paper, plastic, rubber, glass, wood and fabric.
- ▶ Copies of the student workbook "Properties of everyday materials" (attached).

Lesson sequence

1. Introduce the lesson by discussing the meaning of the common properties of materials, such as 'waterproof', 'flexible', 'strong' and 'transparent'.
2. Divide students into groups, explain the workstation activity and hand out the student workbooks.
3. When students have completed the first table in their groups, they can fill in the second one individually.
4. Discuss plastic and how it is sourced from oil.

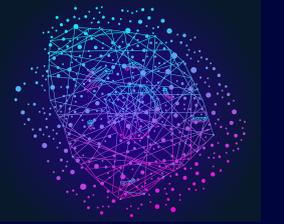
Additional Resources

The following resources are above the level of primary school science but may be of interest for teacher background knowledge:

1. National Geographic – Oil Shale - <https://www.nationalgeographic.org/encyclopedia/oil-shale/>
2. Paraho Process PowerPoint - <http://www.oresomerresources.com/resource/paraho-process-powerpoint/>
3. Flow diagram: The Paraho Process - <http://www.oresomerresources.com/resource/the-paraho-process-illustrative-process-flows/>

Oresome Resources and Queensland Energy Resources are acknowledged with developing this resource.

PROPERTIES & USES OF COMMON MATERIALS



TICK WHAT IS CORRECT IN THE CHART BELOW.

	WATERPROOF	FLEXIBLE	STRONG	TRANSPARENT
Metal				
Paper				
Plastic				
Rubber				
Glass				
Wood				
Fabric				

WRITE ANSWERS IN THE CHART BELOW.

	Where does this material come from?	Write the names of some other things made from this materials
Metal		
Paper		
Plastic		
Rubber		
Glass		
Wood		
Fabric		