

Kit list



To carry out these explorations you will need:

- A selection of clean objects for recycling, e.g. empty boxes, cartons, bags, and bottles made of a variety of different materials such as plastic, card, waxed card, glass, and metal.
- Some products that might need packaging (e.g. water, dry rice or pasta, bars of soap, Lego bricks, apples, etc)
- Bowl of water (optional)
- Magnet (optional)

Time: 20 minutes



Working Together at home and school

Whether at home or school it is valuable to let children try out things that you know in advance “won’t work”. For instance, children may understand that a cardboard box won’t make a suitable container for liquid. However, they will learn more if they are allowed to try this out for themselves and observe what happens. Sometimes, this kind of exploration can lead to unexpected results for adults as well as children.

Sort It!

- Spend some time looking at some of the packaging together.
- Talk about what they are used for and made of.
- Challenge the children to sort the packaging in different ways. Children may choose properties such as size or colour. However, it would be valuable to also sort them according to the materials that they are made of and what they are designed to hold.
- Show children the examples of products that need packaging and invite them to choose which packaging would be best for each product.
- Encourage them to think why, for example, dry rice isn’t usually packaged in bottles and why certain materials are always used for liquids whereas others never are.

We are scientists!

Young scientists can extend their understanding of different packaging materials by testing them for different properties.

Questions that they could investigate include ...

Does it **float**?

Is it **waterproof**?

Can you **tear** it?

Will a **magnet** stick to it?



Getting messy

This activity has the potential to become messy when children are trying out different packaging for a variety of products. A large tray might help to catch any overspill. If you are brave enough to let children test out the suitability of containers made from a variety of materials for liquids, there is a potential for even more mess (and more learning too).

Watch out!



All materials should be thoroughly cleaned. Check carefully to ensure that there are no sharp edges on any of the objects. Close supervision will be needed if any of the objects are made of glass.

Homework

Explain to children that new types of packaging are being invented all the time. Ask children to go home and ask older family members (including grandparents) about what innovations they can remember. For example, until the late 60's/early 70's all drinks bottles were made of glass, never plastic, and toothpaste tubes were made of thin metal.

Top tips for child-initiated play

The quality of child-initiated play can be heavily impacted by teacher-led episodes, such as a planned adult-supported junk modelling session. Children would be supported to choose junk objects for their own models based on the object's properties, including the size, shape, and material from which it is made. This is likely to lead to more children choosing model-making during independent play and producing more sophisticated models.

Career Links

Children are never too young to start meeting real life scientists and engineers, where possible linked to their current science investigations. A materials scientist would be able to talk to children about how the properties of materials are tested and matched to the job that they are needed for. It is always worth spending time with any class visitor first to help them to speak to the children at the right level.



TAKING IT FURTHER

Follow up activities:



- Create a class display of different packaging types and encourage children to bring unusual examples from home.
- If the logos and images are obscured, are they able to predict what an unfamiliar package might have contained? Ask children to explain their ideas to you.

Questions for thinking



- I wonder what happens to the empty packets when we put them in the rubbish bin?
- I wonder what happens to the packets that we put in the recycling bin?
- How can we find out what happens to them?