

3. Will it crease?

1½ hours
activity

Children test the flexibility of four unknown plastic samples and complete their identification by devising and using a simple classification key.

OBJECTIVES

- Compare, identify and name everyday materials on the basis of their properties, including flexibility
- Pupils should use and develop keys and other information records to identify, classify and describe materials

RESOURCES

(per group)

- Plastics pieces (as in previous activity)
- Activity Sheet A3a
- Activity Sheet A3b (optional)
- Safety glasses
- Gloves

Safety note

Safety glasses should be worn during testing, as small pieces may splinter off the plastics when under stress. Wearing gloves would prevent cuts from sharp edges.

CARRYING OUT THE ACTIVITY

Before carrying out the test ensure the children can recognise stress whitening. It can be seen on yogurt pots and clear egg cartons after creasing (allow children to discover this for themselves). The plastics affected become white along the line of stress where the material structure is altered.

Children attempt to put a crease in each of the four plastics pieces. The results are recorded on Sheet A3a. Using the classifications given on Sheet A3a and results from activity 2, children should now be able to identify the four plastics. The classifications shown on Sheet A3a are;

○ Snaps	- thick PVC, expanded polystyrene
○ Crease	- polythene
○ Creases with stress whitening	- polystyrene, thin PVC and some polythene

One use of stress whitening is the labelling gun (Dymo) where the letters stand out on a coloured background due to the whitening when a force is applied. The children are asked if they can think of any uses for the stress whitening. To assist them, each child is given a piece of unused Dymo tape and asked to crease it. The

tape will then show stress whitening and if the children still need help, the children place the tape in the Dymo gun and press in some letters. The children could press in their own names and attach it to their work. They then write an explanation of how the tape has been altered.

The children devise a classification key to identify the four plastics. It may look like this:

For some children this may be a paper and pencil exercise using key questions provided by the teacher, others may find it useful to have the questions, answers and YES/NO arrows presented on cards to be correctly arranged. Activity Sheet A3b could be used for making these cards.

N.B. Three copies of the YES and NO arrows will be required. Groups of children could test the key on other children in the class to make sure that it gives the correct answers.