

# Investigating plastic

**This task is about the physical properties of plastics.**

This is a group task. You will work in your group for the entire task.

- . Play the game "Can you guess it?" Use the separate Game instruction sheet and Recording slips.
- . Complete the questions below. Share and discuss your answers with the rest of the class.
- . Complete the Group self-assessment sheet.

a) i) Our science rule for grouping plastic used the following property:

\_\_\_\_\_

ii) The science rules that the other teams wrote for our grouping were:

Rule for grouping	Is this an observable property?	Is this a measureable property?

b) Describe whether it was useful/ not useful to work as a group in this investigation.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Science investigations collect data/evidence to answer questions about the natural, physical world and the wider universe.**

c) How might grouping and classifying plastics by their physical properties be considered a science investigation?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**To finish the activity, complete the Group self assessment sheet. The team should discuss each statement, providing specific examples.**



## Game Instruction Sheet

**Can you guess it?** Aim of the game: Use a science way of working to separate 6 plastic items into 2 groups.

**When we classify things in science, we work in certain ways. Scientists use observable and/or measureable properties to classify materials.**

- . Your group will need to work as a science team to identify a property (observable and/or measurable) that can be used to separate the types of plastic into 2 groups.
- . Separate your objects into 2 groups according to the property you have chosen.
- . Record the rule you used to classify your plastic on the Our Rule slip of paper, e.g., the property we used to make our science rule is hardness.
- . Each team shifts to another team's table. Your team is to look at the objects in the two groups. Discuss amongst yourselves and identify the science rule that this team used to separate the plastic objects. Record your science rule for the two groups on the Their Rule slip of paper. Fold your paper and place in the post box.
- . Repeat step 3 for another three teams.
- . After looking at four other teams, each team returns to their own table to answer the question sheet.

### Recording Slips

Our Rule	Names in our team: The property that we used to make our science rule is: _____ _____
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Our Rule	Names in our team: The property that we used to make our science rule is: _____ _____
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## Group self -assessment sheet

Classifying and identifying materials in a science way.			
Team names: _____			
Date: _____			
The property we used to classify (group) plastic in the game was _____			
1	We thought of different observable properties before we made our rule for classifying.	Yes	No
2	We thought of observable properties that could be measured.	Yes	No
3	In our group we always discussed the different properties before we identified the properties others had used to classify.	Yes	No
4	We could always identify the observable property in the rule others had used to classify.	Yes	No
5	We found it hard to identify an observable property that could be measured in the rule others had used to classify.	Yes	No
6	It is useful for scientists to sometimes work together because:		
7	An important thinking process that scientists do when classifying/identifying things is:		

### Peer assessment

When your team has completed the 'group self-assessment' **discuss** your results with another team in the class.

**Listen** to what the other team says about each statement in the 'group self-assessment'.

**Ask** the team to support their answers with examples from the game.