What do we use this for?

Overview

This is a brainstorming activity designed to stimulate students to think about and share ideas about how metric units of measurement are used in their everyday lives and work. It also provides opportunity to extend their knowledge of the relationships between the units, the meaning of the metric system prefixes and measurement related language.

Skills and Knowledge

- Everyday uses of metric units
- Relationships between units
- Meaning of metric prefixes
- Language of comparison (optional)

Preparation and Materials

- Large sheets of paper – A3 or butchers' paper (at least 1 per pair or small group)
- Textas or coloured pens (at least 1 per pair or small group)
- Blue Tack or sticky tape

Suggested Procedure

Arrange students into pairs or groups of 4.

Give each group a piece of A3 paper or butchers' paper and a texta.

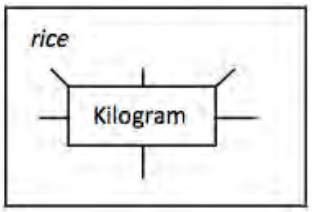
On the board write a selection of common units of measurement.

Alternatively, give the groups a set of the cards prepared for the activity *'Sorting and Ordering Metric Units'*.

Explain the task:

- *Pick one of these units of measurement – one that you know something about.*
- *Write the name of the unit in the middle of the paper.*
- *Brainstorm all of the things that you know it is used to measure.*

Demonstrate the process on the board – see diagram.



When students have had time to formulate and write their own ideas, stick the papers on the board or wall and ask other students to circulate and add their own contributions to the papers.

Debriefing the brainstorm

Look at each paper one at a time and ask students:

- *Do you agree about all the items that have been written so far?*
- *Are any of these different for you?*

This may lead to discussion about smaller or larger quantities and units of measurement, depending on the sizes of containers or quantitates that people use at home. For example, some may buy large bottles of several litres compared to others who buy the same thing in small bottles or cans measured in millilitres.

For units of weight and volume that are used for purchasing foodstuffs, encourage students to give examples of the quantities that are typical for each item. For example:

- *How many kilograms of rice do you buy?*
- *Do you buy it in small packets or large sacks?*
- *How many kilograms in each?*

Compare the differences and, if appropriate, encourage sharing between different cultural groups. Some groups might buy large sacks of rice, while others buy equivalent quantities of potatoes, or types of pasta or couscous as their staple carbohydrate.

If students do not know the quantities that they buy, encourage them to look at the labels on the items at home and come back with the information another day.

Comparing the units

If some students buy products in small quantities and others in larger, then it would be a useful time to revisit the relationships between the units of measurement.

Ask questions such as:

- *Which gives you more milk 600 ml or 1 litre?*
- *How much more?*
- *Which is bigger 2 kg or 500 g?*

The questions should ideally be related to products that the students use. The answers will depend on them knowing the numbers of millilitres in a litre, or grams in a kilogram, so will serve as revision of the meaning of the prefixes, or a means of introducing them if they have not been covered earlier. [See *'Sorting and Ordering Metric Units'* or *'Knowing about the Metric System'* for further information.]

For students also learning English as a second language you can emphasise any words used for comparison, like 'more' or 'bigger', and use a variety of these terms as you frame your questions.

Extensions

Sizes and prices

Students could be encouraged to investigate prices for different sized containers or packets of the products they buy and decide which might be the cheapest way to buy these things.

Photos of the consumer information such as 'price per 100 ml', currently displayed under items on supermarket shelves, could also be used to compare and to clarify the purpose and meaning of this information.

As part of these discussions students should also be encouraged to discuss whether it is always the best idea to buy a lot of something at once just because it is cheaper that way.

Building the language of comparison

'Close' activities, or 'circle the correct word' exercises can be created from the information obtained during this activity. This will extend both language and numeracy knowledge at the same time. For example:

- *600 ml is more / less than 1 litre.*
- *2 kilograms ..... than 750 grams.*
  [options for students to insert could be 'is heavier' or 'weighs more']

Follow up

The activity *'Knowing about the Metric System'* contains a short explanation of the invention of the metric system and how the units fit together. It is a worthwhile follow up for students who seem able to take in more information at this point.

The estimation activities *'How heavy is that?'* and *'How much will this hold?'* provide practice at estimating and measuring weights and volumes using every day, familiar products. They would be ideal practical tasks to follow from this activity. Preferably they should be used in different sessions.