Metric True or False

Overview

These two activities are ideally done by pairs or small groups as discussion and sharing activities. They draw on students existing everyday knowledge as well as their understanding of metric units. The content focuses on commonly used measurements and metric units and some important facts about the metric system. Both sets could be done in a single session or they could be spread over two sessions with some time between.

Sets of true or false questions are ideal as focus activities to start or end a session and provide opportunity to observe students' existing knowledge as well as highlighting areas that may need more attention. The variety of questions in these sets allows for diverse learner contributions.

Skills and Knowledge

- Metric units
- The metric system
- Commonly used metric measurements

Preparation and Materials

- Photocopy Activity Sheet (1 copy per pair or small group)

Suggested Procedure

Arrange students into small groups or pairs.

Four is recommended as an ideal size for maximum participation and inclusion in a small group. Over 4 will make the group too big

Introducing the activity

Explain that you will give out one set of statements to the group.

- *One person should read the first statement aloud to the group.*
- *Together you decide whether is True or False. Talking to each other and sharing your thinking should decide this.*

Tell learners that you might ask anyone in the group to explain their response, so they need to make sure everyone understands and can explain.

Encourage students to share the reading role:

- *After each statement pass the sheet on to another person to read the next.*

Doing the activity

Distribute the Activity Sheet, only one to each group or pair, in order to keep them focussed on group discussion, rather than breaking into individual activity.

Circulate as the groups work together and ask occasional questions, such as:

- *Why have you decided this?*
- *Did you all agree easily on this statement?*
- *Which of these did you have to discuss the most?*

Possible extension

When students have decided about all of the statements, ask them to go back and rewrite all of the False statements so that they become true.

As a precaution, advise them that writing 'not' into the sentence will not be enough.

Debriefing the activity

The aim of your discussion is to encourage students to share:

- Useful knowledge, such as normal temperatures for babies or the meaning of supermarket chicken sizes
- Important knowledge about metric units of measurement, for example, that 1 kilometre = 1000 metres or 1 litre is 1000 ml
- Common benchmarks or references, such as the volume of a household bucket or a large cooking pot.

The discussion will depend on what the students find familiar and easy and what is less known to them. Discussion points about individual question are provided below.

Discussion points

Set 1

1. Cooking pots or saucepans come in a range of sizes but generally, in a typical set of three saucepans, the smallest is one litre, the medium about $1\frac{1}{2}$ litres and the biggest over 2 litres. The pot sizes are often also described by the diameters of the base, e.g. 14 cm, 16 cm, 18 cm. Larger pots (2 handle variety) begin at about 3 litres and go up to large stock pots of 19 or so litres. So the statement can easily be true.

2. Obvious – it would take a day or more to walk to the shop, hardly local.

3. Average body temperature is 37°C so a temperature of 39.5° would be cause for alarm.

4. Chickens are sold in sizes upwards of 1 kg. Some students may be aware that the size indicates the weight of the chicken, for example a size 14 chicken weighs 1.4 kg. A 2kg chicken is very large but if Denis is cooking for a lot of people this is probably true.

5. Some facts about women's dress sizes:

Size	*Bust*	*Waist*
10	80 cm	60 cm
12	85 cm	65 cm
14	90 cm	70 cm
16	95 cm	75 cm
18	100 cm	80 cm
20	105 cm	85 cm

6. 1000 millilitres is 1 litre, so ½ a litre is 500 ml.

Set 2

1. The C stands for Celsius, the name of the person who invented this temperature scale. Although it is commonly referred to as 'degrees centigrade'. The important features of this temperature scale are:
   - 0 is the freezing point of water (so the statement is true).
   - 100°C is the boiling point of water (so 32°C is false for boiling point).

   It is because of the 100 divisions or degrees that the term 'Centigrade' is used.

2. 1000 metres is exactly the same as one kilometre.

3. Most air conditioners are set at around 20°C.

4. A household bucket holds approximately 9 – 10 litres.

5. Thinking that .4 means ¼ is a common student error, so it is worth pointing out that they are not the same.
   - ¼ kilogram is ¼ of 1000 grams which is 250 grams or .250 kg on the delicatessen scales.
   - .400 kg on the scales is 400 grams so the statement is false.

Metric true or false

Activity Sheet

Read the statements below. Put **T** in the space if you think the statements is probably true or an **F** in the space if you think the statement is probably false.

Set 1

[ ] Jasmine cooks soup in a big pot that holds 8 litres.

[ ] After work Soula walked 24 km to the local shop to buy bread and milk.

[ ] Neville called the doctor because his baby's temperature was 39.5°C.

[ ] Denis bought a 2 kg chicken to cook for dinner.

[ ] A womens' dress size 12 will fit a bust measurement of 160 cm.

[ ] A half litre of milk is the same as 500 ml of milk.

Set 2

[ ] Water freezes at 0°C

[ ] The boiling point of water is 32°C

[ ] Swimming 1000 metres is harder than swimming 1 kilometre.

[ ] The thermostat on most air conditioners is set at approximately 14°C

[ ] A household bucket holds about 2 litres of water.

[ ] 400 grams of flour is the same as $\frac{1}{4}$ Kg.