Metric Quizzes

Overview

This activity contains a series of multiple choice 'quizzes', intended to be used for revisiting previously learned facts about the metric system. They are designed in 'quiz' format to differentiate from other learning activities and perhaps motivate students to try and remember the metric facts. The quiz procedure could be modelled on 'trivia quiz night using a series of rounds and having students compete in teams or pairs.

The quizzes contain a mix of metric knowledge and some conversion and calculation. Using a team or pair approach will encourage valuable discussion and comparison amongst students, but the quizzes are also usable for individual revision if required.

Skills and Knowledge

- Metric units of measurement
- Common references for metric measures
- Facts about the metric system
- Relationship between metric units
- Conversion between units
- Calculations using rates ($/kg, $/sq m)

Preparation and Materials

- From Activity Sheets 1-7, select those likely to be suitable for your students' level of knowledge
- Photocopy the chosen Activity Sheets (1 per team of 2 – 4 students)
- Prepare a scoresheet on a large sheet of paper (see Procedure for details)
- Prizes (optional) (Prizes, such as small packets of sweets which can be shared are recommended)

*The suspense of the quiz will be enhanced if you can read out the questions one at a time.

For this method, the team copies should show the multiple-choice answers without the questions. Make these by folding the Activity Sheets along the dotted vertical line before copying.

Suggested Procedure

If you think that a quiz format will motivate students to try to revise, then warn them a session in advance that the quiz will take place.

Alternatively, the sheets can be used a normal revision sheets for individuals or pairs of students.

Quiz 3.

1. 900 mm (this is standard height) 2. - 20 ^{0} C (minimum food safety temp for a freezer is -18 ^{0} C) 3. 250 g* 4. 125 g* 5. $\frac{1}{1\,000}$
6. 10 mm (= 1 cm) 7. 1 sq m 8. 100 mm (= 10 cm)

Discussion of Question 7 would be valuable to strengthen students' conception of area units. Use square cm paper to look at shapes with areas of 200 and 400 sq cm, or consider the dimensions of possible rectangles with that area. For example 20 cm x 10 cm = 200 sq. cm (nowhere near area of a car bonnet).

*Question 3 and 4 can be used to stimulate conversation about volume compared to weight. Weight or mass will depend not only of how much of a substance is in the cup or spoon, but how dense it is. For example, would a cup of honey weight more or less than the cup of flour or the cup of water?

Quiz 4.

1. 500 g 2. $3.15 3. $3.60 4. 1 hour 5. 5,600 kg
6 0.525 kg ($\frac{525}{1\,000}$ kg) 7. 3 500 (consider that 3 litres = 3 000 ml)
8. 52.5 cm

Quiz 5.

1. 0 ^{0}C 2. 4 mm 3. 23 m 4. 183 cm 5. 2,234 m
6. 25 7. 180 m^2 8. $64,000

Metric quiz 1 Activity Sheet 1

Name or Team name:

……

Circle the correct answer

1. The boiling point of water is:	1.	212 ^{0}C	30 ^{0}C	100 ^{0}C	0 ^{0}C
2. The diameter of a 10 cent coin is:	2.	23 mm	10 mm	40 mm	15 mm
3. A measuring cup holds:	3.	600 ml	250 ml	100 ml	50 ml
4. The prefix **Kilo** means:	4.	100	1000	$\frac{1}{1000}$	$\frac{1}{100}$
5. Seven Jonathon apples would have a mass of approximately:	5.	250 g	2 kg	1 kg	500 g
6. The temperature of an air-conditioned building is usually around:	6.	30 ^{0}C	15 ^{0}C	28 ^{0}C	20 ^{0}C
7. A person with the flu would be likely to have a temperature of:	7.	37 ^{0}C	39 ^{0}C	35 ^{0}C	42 ^{0}C
8. One litre of tap water has a mass of:	8.	0.5 kg	1 kg	10 kg	5 kg

Total Points ……

Metric quiz 2 Activity Sheet 2

Name or Team name:

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Circle the correct answer

1. The temperature of a moderate oven is:	1.	200 ^{0}C	200 ^{0}C	300 ^{0}C	180 ^{0}C
2. 3 cups of milk have a volume of:	2.	1 litre	80 ml	600 ml	750 ml
3. The volume of 3 tablespoons is approximately:	3.	45 ml	24 ml	40 ml	60 ml
4. The volume of half a teaspoon is:	4.	2.5 ml	5 ml	0.25 ml	0.5 ml
5. The prefix **Centi** means:	5.	100	1000	$\frac{1}{1000}$	$\frac{1}{100}$
6. The length of an Olympic sized swimming pool is:	6.	30 m	100 m	50 m	20 m
7. The distance from Melbourne to Sydney is approximately:	7.	100 km	400 km	2 000 km	9 000 km
8. The distance from Perth to Melbourne is about:	8.	3 000 km	900 km	2 000 km	9 000 km

Total Points ……

Metric quiz 3 Activity Sheet 3

Name or Team name:

……

Circle the correct answer

1. The height of a kitchen bench is about:	1.	50 mm	200 mm	75 mm	900 mm
2. The temperature in a fridge freezer is around:	2.	0 ^{0}C	-20 ^{0}C	-100 ^{0}C	4 ^{0}C
3. The weight of a standard cup of water is:	3.	500 g	125 g	250 g	50 g
4. The weight of a standard cup of flour is:	4.	500 g	125 g	250 g	50 g
5. The prefix **Milli** means:	5.	100	1000	$\frac{1}{1\,000}$	$\frac{1}{100}$
6. The width of a little finger is approximately:	6.	10 cm	10 mm	2 cm	0.5 mm
7. The approximate area of a car bonnet is:	7.	1 sq m	200 sq m	50 sq m	400 sq m
8. The width of the paper on a toilet roll is about:	8.	100 mm	60 mm	17 cm	0.2 m

Total Points ……

Metric quiz 4 Activity Sheet 4

Name or Team name:

……

Circle the correct answer

1. Six thick sausages weigh about:	1.	50 mm	200 mm	75 mm	900 mm
2. Minced steak is $ 12.50 per kg.' 250 g costs:	2.	$4.33	$2.50	$31.25	$3.15
3. Coffee beans are $18 per kilo, 200 g costs:	3.	$3.60	$5.75	$4.50	$5.00
4. Cooking time for chicken is about 5 minutes per size at 180 ^{0}C. (e.g. size 17 takes 17 x 5 = 85 mins). Size 12 would take about:	4.	150 min	0.5 hour	¾ hour	1 hour
5. 5.6 tonne is equal to:	5.	56 kg	560 kg	5,600 kg	56,000 kg
6. 525 g is equal to:	6.	5.25 kg	0.525 kg	0.0525 kg	52.5 kg
7. How many millilitres in 3.5 litres?	7.	3,500	35	0.35	35,000
8. 525 mm is equivalent to:	8.	525 cm	5,250 cm	52.5 cm	5.25 cm

Total Points ……

Metric quiz 5

Activity Sheet 5

Name or Team name:

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Circle the correct answer

1. The freezing point of water is:	1.	4 ^{0}C	32^{0}C	10 ^{0}C	0 ^{0}C
2. A 10 cent coin has a thickness of:	2.	1.2 cm	0.6 cm	4 mm	d1mm
3. The capacity of an eye-dropper is:	3.	3 ml	30 ml	100 ml	200 ml
4. A six foot tall person is about:	4.	170 cm	95 cm	200 cm	183 cm
5. The height of Australia's highest mountain - Mt Kosciusco - is:	5.	104 m	6,429 m	2,234 m	18,000 m
6. One hectare is equal to 2.5 acres. How many acres is 10 hectares?	6.	250	40	4	25
7. A 'square' is a measure used by builders to describe the area of a house. One square is equal to approximately 10 square metres (10 m^2). An 18 square house is approximately:	7.	18,000 m^2	180 m^2	1,800 m^2	1.8 m^2
8. Office space in a city building costs $ 400 per square metre to rent for a year. How much would an office of 160 m^2 cost per year?	8.	$4,600	$64,000	$28,000	$6.400

Total Points ……