Lesson Printables

Be a rockstar and only print what you need!

Planners: 2-3

Measurement Tables
Sunlight: 4
Twilight: 5
Midnight: 6

**Printing in the US? Scale to 'fit to printable area' in order to get the best print.*

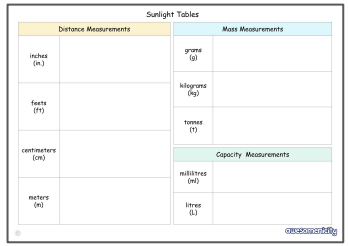
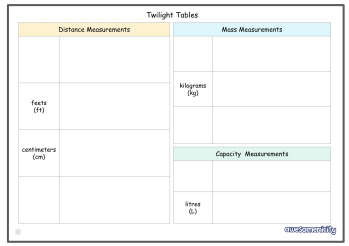
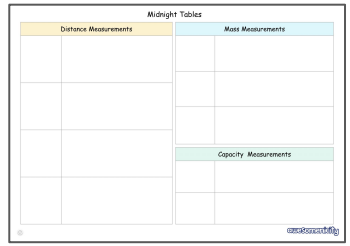
LESSON 1: Measurement - Exploring US standard units of measurement and metric measurement

Starter	Main Activity and Input: Identify what each unit of measurement is used for.	Plenary
Factor Friends: Pick a number between 0 and 30. What are its factor friends? Repeat. **To support:** 1. Provide students with counters that they can share into equal groups in order to find factors. **To challenge:** 1. What numbers between 0 and 30 have the most factors? What numbers have the fewest factors? Can students find any numbers that only have 2 factor friends?	**Input:** *Note, this lesson explores the US measurement system and metric measurements using pictures. The pictures are not to scale. This might be worth discussing with students. E.g. When looking at the width of the orange, students should think of a real orange, not the one on the screen. You might also wish to get out any measuring devices students will use over the course of this inquiry so that they can explore the measurements that are shown and how they might use each device.* 1. Slide 6 shows an orange. The slide is set up as an 'I spy' scenario. What measurements can students spy when looking at the oranges? Discuss ideas as a class. Slide 7 focuses on the width of the cut orange. What unit of measurement do students think they would use to measure this? If you have measuring tools in the classroom, you could ask students which one would be most appropriate for measuring the width of an orange. 2. Slide 8 explains that we would probably use inches to measure the width of the orange in the United States. If students wanted to measure something longer, what unit of measurement would they use? Discuss ideas as a class. 3. Slide 9 suggests the idea of measuring the height of an orange tree. This would require a bigger measurement called feet. What do students already know about feet and inches? Do students know of any other measurements other countries might use? Slide 10 introduces the metric system and the terms centimeters and meters. We have laid these terms out in order to match the previous scenarios of the width of an orange and the height of an orange tree. Note, at this point we will not be going into the connection between feet and inches or the connection between centimeters and meters, however, you might wish to do so with your class. We also won't cover millimeters or kilometers, but you may wish to do so in your class. 4. Slides 11 to 14 repeat making a measurement pyramid, but this time students are asked to explore mass. We have defined mass as the amount of matter there is in an object. Throughout the slideshow, we have connected all measurements loosely to the original orange picture. E.g. A basket of oranges would be measured in kilograms, one orange would be weighed in grams and the mass of a lorry carrying oranges would be measured in tonnes. 5. Slides 15 to 19 model making a measurement pyramid for capacity. We have defined this as the amount of liquid that a container can hold. Liters are connected to a large family-size juice carton and milliliters are connected to measuring rainfall in an orange orchard. 6. Slide 18 shows all of the measurement pyramids in order to recap the different ways we have identified measuring. **Activity: Identify objects that could be measured using US standard units of measurement and metric measurements.** 1. Print the measurement tables for each learning zone. Students could explore objects to measure in small groups or pairs. (Set up exploration guidelines with your class.) Can students find objects in and around their school that could be measured using any of the units in the measurement tables? Once students find a connection to any particular type of measurement, they should fill it in on their own individual (or group) table. Encourage students to try out all three measurement tables. **To support:** 1. Sunlight Zone tables include the names of all types of measurements. **To challenge:** 1. Midnight Zone does not have the names of any of the measurements. Can students fill in all of the tables? 2. Ask students to estimate what the actual measurement might be. E.g. The width of the orange seed could be about 3 inches. 3. How are the different units of measurement connected? Students could write what they know about measurement equivalence.	**I Spy:** Play I Spy as a class by looking at the picture of the farmyard. Pick one student to say, 'I spy with my little eye something that would be measured in…' Students get to guess what the 'spyer' is looking at. **Check for understanding:** 1. Can students correctly identify when to use a particular measurement?

Things that might be useful for this lesson:

- Individual whiteboards:
  - ➔ Help students to record their thinking and share ideas with others.
- Rulers/tape measures/weighing scales/measuring cylinders:
  - ➔ Could be used for students to investigate different units of measurement.

Peek at the Printables:

Sunlight Zone	Twilight Zone	Midnight Zone
		

Greener Alternatives:

- ➔ Rather than printing the tables, students could record the different units of measurement in their books and then start the measurement hunt.
- ➔ If you wish to have a more structured inquiry, you could gather a collection of items or picture prompts for students to explore.

Sunlight Tables

Distance Measurements	
inches (in.)	
feets (ft)	
centimeters (cm)	
meters (m)	

Mass Measurements	
grams (g)	
kilograms (kg)	
tonnes (t)	

Capacity Measurements	
millilitres (ml)	
litres (L)	

Twilight Tables

Distance Measurements	
feets (ft)	
centimeters (cm)	

Mass Measurements	
kilograms (kg)	

Capacity Measurements	
litres (L)	

Midnight Tables

Distance Measurements	

Mass Measurements	

Capacity Measurements	