

Fruit Solar System

Key Stage 1 & 2

Topics covered: Measurement and geometry, the Solar System

Teacher's Notes

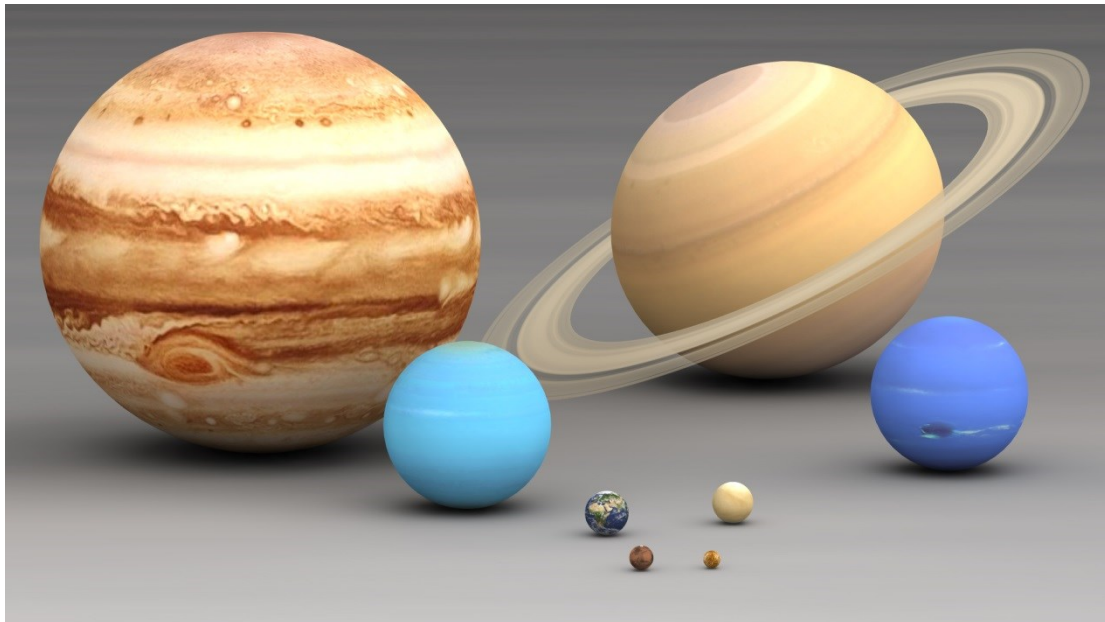
This extension activity helps students grasp the various sizes of planets in our Solar System using mostly fruit with some other items. The class discussion before the activity encourages students to take an educated guess as to which planet each item represents.

Equipment per team (multiply as necessary for teams):

Use the picture below as a reference for the size of fruit to look for.

- 1 watermelon
- 1 large grapefruit
- 1 large apple
- 1 orange (slightly smaller than apple)
- 2 cherry tomatoes
- 1 blueberry
- 1 peppercorn

Optional: Three large umbrellas



Class discussion before the activity:

Out of all the things in our Solar System what do you think is the biggest?

Answer: The Sun as it is a star and dwarfs all the planets.

How many planets are there in the Solar System?

Answer: Eight. Follow up by asking if they can name one and ask around the class.

There are two different categories of planets in our Solar System: the four rocky or terrestrial planets and the four gas giants. All the items we will be using today will be solid – is this accurate for all the planets in our Solar System?

Answer: No. The gas giants are mostly made of gases.

If you have the three umbrellas, open them up. Place two side by side on the ground with the outside facing the class and hold the other above and between them. This represents part of something very big – ask students to guess what it might be.

Answer: The Sun. Compared to the other objects for the activity, the Sun dwarves them all. The three umbrellas together represent approximately one quarter of the Sun.

Activity: Fruit Solar System

Place all the items on a table.

Here are the items matched to their respective planets (from closest to farthest from the Sun):

- Peppercorn: Mercury
- Cherry tomatoes: Venus and Earth
- Blueberry: Mars
- Watermelon: Jupiter
- Large grapefruit: Saturn
- Apple: Uranus
- Orange: Neptune

1. Ask students to decide which four objects should be gas giants and which four should be the terrestrial planets.
2. Students can either do their own research to find out the sizes of the planets or a series of hints can be given.

Hints:

Mercury is the smallest planet in the Solar System and the closest planet to the Sun.

Jupiter is the biggest planet in the Solar System.

Saturn is the second biggest planet in the Solar System.

There are two pairs of similar-sized planets out of these four: Uranus, Earth, Venus and Neptune. Can you work out which pairs belong together and match them to the right items?

One item should remain for Mars.

3. Finally students need to order the planets by distance from the Sun. Since the distances involved are too big for the classroom, the objects can simply be placed beside each other.

If desired the planets can be spread out properly using the following distances relative to the Sun Earth distance which we can set as 1 metre.

Mercury	40cm
Venus	70cm
Earth	1m
Mars	1m 50cm
Jupiter	5m 20cm
Saturn	9m 50cm
Uranus	19m
Neptune	30m

Next tell students that the terrestrial planets are closer to the Sun than the gas giants.

Either of these mnemonics can be used to remember the order of the planets:

My Very Educated Mother Just Served Us Nachos

My Very Easy Method Just Speeds Up Naming

Remind students that a previous clue for the sizes of the planets helps decide which 'M' is which planet.

Students can try making up their own MVEMJSUN mnemonics.