

SCOUTS

Activity: Solar sorting (Beavers, Cubs)

 50 mins

Develop skills

Gain a range of practical and modern skills for school, work, and your social life.

Be a team player

Learn to work better with others, achieve shared goals, and put the team first.

Safety alerts

Sharp objects

Teach young people how to use sharp objects safely. Supervise them appropriately throughout. Store all sharp objects securely, out of the reach of young people.

The solar system's all muddled up! Can you put the planets back in the right order, and make a miniature model of your own?

Equipment

- Air-drying clay
- Paint
- Paint brushes
- Sticky labels
- String
- Coat hanger



Before you begin

- Write the name of one of the eight planets in our solar system (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune) on each of the labels. You need to make enough labels for everyone to have one.
- This activity will probably take two sessions – you'll need to let the clay models dry before you can paint them.
- If the number of people in your group doesn't divide by eight, it's OK. Some solar system groups could have pairs representing planet(s), or you could add in the Sun.

Solar sorting

1. Everyone should take it in turns to share any planets they know the names of. If anyone knows anything about the order they orbit (travel around) the Sun, they could share that too.
2. The person leading the activity should explain that the centre of our solar system is the Sun, a star that lights the whole solar system. They should explain that from closest to the Sun, the planets are: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.

Pluto isn't included in this activity because in 2006, scientists decided it was a dwarf planet, not a planet.
3. The person leading the activity should explain that a mnemonic is a way to help remember things by taking the first letter of each word and making a sentence with words that start with those letters. People have all sorts of ways to remember the planets, such as 'my very easy methods just sends us names', 'my very educated mother just served us noodles', or 'my very easy method, just SUN!'. People could use one of these, or make up their own.

People could use four fingers on each hand (or four toes on each foot!) to help them remember.

- The person leading the game should give everyone a sticky label with the name of a planet on it.
- The person leading the game should count down from three to one. When they reach zero, they should say 'Blast off!', and everyone should find the other seven planets they need to complete a solar system.

If some of the planet groups are different sizes, some planets may need to be represented by a pair of people in a solar system, or you could include the Sun.

- The eight planets in each solar system group should line up in the right order.

Make a planet

- Each solar system group should stick their labels on to a piece of paper in the right order. They should also write at least some people's names on the paper, so each group can tell which piece of paper is theirs.
- The person leading the game should give everyone some air drying clay.

You could also use modelling clay, salt dough, or even papier-mache.

- Everyone should make a model of their planet. They should work with everyone else in their solar system group to get the models roughly to scale – Jupiter is the biggest planet, and Mercury is the smallest.

Think about how you'll hang the models on the frame. People could stick some string into the top of the planet, stick a small hook (for example, a paperclip) in, or make a hole to thread string through.

- Everyone should place their models on their group's piece of paper. They should put each planet by its label.
- Everyone should leave their models to dry.

Follow the instructions on the clay – models will usually need to dry overnight.

Make a solar system

- Everyone should paint their models so they look like the planet they're representing. They should look at pictures of the real planets to see what they look like.
- Once the paint is dry, everyone should thread their planet onto some string and tie it on a coat hanger to make a solar system mobile. Each solar system group should make one mobile between them, not forgetting to make sure the planets are in the right order.

Reflection

This activity helped everyone to develop skills. What did people know before this activity? Some people may have known the name of one or two planets, and others may have known lots. Did people find it easier to remember the names (and order) of the planets with a mnemonic (the sentences with words starting with the same letters as the planets)? Being able to learn and memorise things is a skill. What other ways do people know to remember things? What other sorts of things do people have to remember?

This activity also needed everyone to work in a team. People needed to work together and communicate to form a solar system group, then everyone in each solar system group needed to work together. How did each group decide what order to start with? Did anyone take the lead? What made your team work well together in different tasks? What makes a good team player – does anyone have any examples of people being a great team player? People may think about things

including listening to everyone, thinking about other people's feelings, and being helpful. You needed all the members of your team to create a solar system. It wouldn't be the same with just a few of the planets.

Change the level of challenge

- Add an extra challenge when people get into their solar system groups to test their problem solving and teamwork. Can they do it in silence, or with some people blindfolded?
- You could find out more about each planet, especially how they got their names.
- You could ask an expert to come and help deliver this session. You could look for a local astronomy club or student, or you could ask if any parents or carers are astronomers in their spare time.

Youth Shaped guidance

Some people may know more than others – they can share their interest and knowledge with everyone else.

