

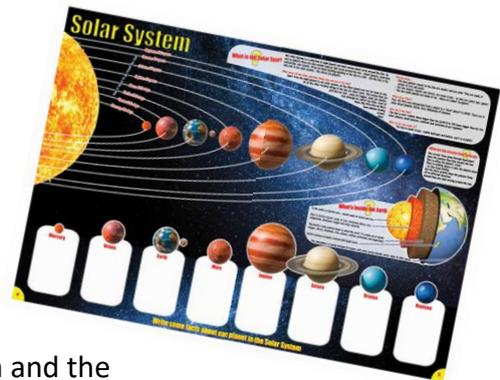
Solar System Lesson

Overview

During this lesson the children will “act out” the Solar System.

Purpose

- To help the children picture the size of the Earth, Sun and the Solar System.
- To understand the part of the Solar System and our place within it.
- To realise the chances of the Earth existing and having the ability to sustain life.



What you will need:

Piece of paper saying “Sun”, piece of paper saying “Earth”, a copy of Your Reach, a pencil.

Lesson

- Ask the children to read Pages 3, 4 and 5 of Your Reach
- Tell them that together you are going to act out the solar system
- Write “Earth” on a piece of paper and give it to a child and ask them to stand at the front and be the Earth.
- Do the same with a piece of paper saying “Sun” but explain that the Sun is much bigger so you will need another 4 children to come up and stand next to the child who is being the Sun.
- Ask the class if they think 5 children is enough to show how much bigger the Sun is compared to the Earth.
- NO? Ask another 5 children to come up and stand with the rest of the “Sun Group”.
- Is the Sun big enough now?
- NO? Ask all the remaining children to stand with the group. Big enough now?
- NO? Ask the children to form as big a circle as possible by holding hands. Big enough?
- Still No! Ask the child who is the Earth to swap the piece of paper saying “Earth” with pages 4&5 of Your Reach.
- Point to the picture of Earth at the bottom of page 4 – so all the children can see it. Based on size of circle 30 children would make – if they are the Sun, the Earth would be smaller than the size of the MOON that is shown circling the Earth. That is just under 1cm wide.
- Remind the children that the Sun and the Earth are spherical. So the Sun would be as high as the width of the circle they have created. You can imagine how many Earth's they could fit into a ball that size.
- Ask the class how far away they think the child holding the copy of Your Reach should stand to represent how far Earth is from the Sun.

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- The answer would be around 1km away – because the school is not that big we will have to zoom out!
- Ask the “Sun” children to sit down except the one who had the piece of paper saying “Sun”.
- Ask the child who is being “Earth” to take back the piece of paper saying “Earth” and a pencil.
- Now that we have zoomed out, the Sun is the size of one person and the Earth is the size of the point of the pencil.
- Ask them to stand back to back and each take 26 paces steps forward – so they end up 52 paces apart.
- It's a long way when you compare it to the size of the point on the end of a pencil.
- Ask the child who is being the Earth to take one more pace away from the Sun.
- It doesn't look like it would make much difference but if we were that much further away all of our Ocean's would freeze.
- Ask the child to go back to where they were. This time take one pace towards the Sun.
- Again it doesn't look like much – but if we were this much closer all of our oceans would boil.

Conclusion

The Earth has to have the right temperature to be able to sustain life. Which means it has to be just the right distance from the Sun.

The distance from the Sun and the temperature is just one of many factors which have to be just right to be able to sustain life. Scientists have said there could be billions of other Solar Systems out there. Recently a scientist has tried to work out the chances of there being another planet similar to Earth. His results show that out of 700 Quintillion planets (that's 700,000,000,000,000,000) – only one would have had everything in place to develop the way the Earth has.

God had an amazing plan when He created a planet that could sustain life. It shows us how amazing the world around us is. We should make sure we protect the Earth as it is such a great gift!

Useful Facts

Diameter of the Sun: 864,340 miles

Diameter of the Earth: 7,917 miles

Distance between the Sun and Earth: 93,000,000 miles

Diameter of the Sun is 109 times bigger

It weights 333,000 times more

You could fit 1,300,000 Earth's inside the Sun

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Taking it further

To take this lesson plan further you can:

Beforehand:

- Get the children to do any of the homework/classroom sheets based on pages 3, 4 and 5 of Your Reach. These are all available at www.ReachNewspaper.com/teachers

During:

- You could ask the "Earth" child to walk around the Sun – keeping the same distance away. Explain that it takes a year for the Earth to go around the Sun. So just like it says in the Bible reading – we do measure our seasons by the stars and the planets.
- Then get the "Earth" child to start walking around the Sun but slowly turning round as they walk around the Sun. Explain that it takes a year for Earth to go round the Sun, but every 24 hours the Earth turns around. This is a day – and this happens 365.25 times per year.
- You could get other children be the other planets. You could get the children to work out whether they stand closer to the Sun or further away depending on which planet they are.
- If you want to be really adventurous you could work out what speed and direction the children would move at to go round the Sun. Pages 4&5 says how long it takes for each planet to go round the Sun. So the Earth would have to go round the Sun 165 times whilst Neptune goes round once. You may need a lot of space and it will probably turn into a PE lesson!

Afterwards

- You could ask the children to do the classroom/homework resource: "Creation - Write a Prayer" based on page 3 of Your Reach.
- You could use the Assembly Plan to turn this Lesson into an Assembly to present to the rest of the school.

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