

Constellations activity

Generic Learning Outcomes:

- Understand that Space scientist, astronomer and engineer are all jobs you could do if you like Space
- Know some examples of things you might see in the night sky (stars, planets, galaxies, comets/ shooting stars)
- share their understanding of constellations with learners, peers and family

EYFS and KS1 curriculum: Earth and Space

Equipment required:

- Black sugar paper cut into small pieces (approx. A6)
- Blank starcharts, ideally for the day of the event, printed one per pupil from Heavens Above website <https://www.heavens-above.com/skychart2.aspx>
- Star stickers - at least 10 per pupil (this adds up quickly!)
- Pencils – one per pupil
- Story and images of some constellations such as Leo, Cassiopeia and Orion
- Optional – powerpoint presentation showing the above images

Length/ Minutes	What	Key points
5	Intro to constellations	<ul style="list-style-type: none"> • Split students into (5) groups of 5 or 6 around tables • Introduce constellations <ul style="list-style-type: none"> - What is a constellation? - How did our ancestors navigate using the stars/which star doesn't move? (Find the North star using the Plough) • Look at constellation star chart and find Leo/Cassiopeia/Orion • Tell the students the story of each constellation
10	Constellations sticking	<ul style="list-style-type: none"> • Ask each student to choose a constellation and collect a story sheet • Make chosen constellation (instructions below)
15	Own constellations + story	<ul style="list-style-type: none"> • Look at blank star chart and ask students to find their own constellation • Make chosen constellation • Write story for the chosen constellation • Stick constellations to story sheet

Extensions

- Ask students to share their stories with the group or a partner
- Ask students to act out the story of an existing constellation incorporating other constellations – e.g. Andromeda story with Cassiopeia, Taurus the bull with Orion
- Ask students to act out their own constellation stories

What is a constellation?

A constellation is a group of stars forming a recognizable pattern that is traditionally named after its apparent form or identified with a mythological figure.

How did our ancestors navigate using the stars?

The Vikings didn't have compasses or sat-nav or GPS and mobile phones to navigate around the world, but they were still able to travel far – from Scandinavia to Scotland to IOM to Ireland to Iceland to Greenland and then to East coast of what we now call USA. We can orientate ourselves by using a star that doesn't move. **Which star doesn't move?** The North Star or Polaris. Use the star chart with constellations to find the Plough – find the 'pointer' stars, these are the two stars that a liquid would run off if you tipped up your 'saucepan'. The North Star will always be five times the distance between these two pointers in the direction that they point (up away from the pan). The North Star is the end star of the 'handle' for Ursa Minor.

Constellation stories

Orion - Orion was a great hunter. He was so skilled that he was able to feed not only his own family and village, but all the other villages too. He boasted that he could rid the Earth of all the wild animals which angered the Earth goddess, Gaia. She sent a scorpion, Scorpio, to battle Orion and Orion was defeated. The stars tell this tale as Scorpio appears to be chasing Orion constantly. As Orion sets, Scorpio rises.

Leo - Leo the lion is a Nemean lion which Hercules had to kill. The lion was a fearsome beast that terrorised the land. Its skin could not be damaged by metal, stone or wood so the lion could not be killed by a weapon. Hercules had to wrestle the lion with his bare hands until he could defeat the beast.

Cassiopeia - Cassiopeia was a vain and boastful queen, married to King Cepheus. One day she dared to claim that she was more beautiful than the sea nymphs. This angered the God of the Sea, who sent a sea monster to seek revenge on the coast of their kingdom. To appease the monster, King Cepheus and Queen Cassiopeia chained their daughter, Andromeda, to a rock next to the sea as a sacrifice. Andromeda was saved but the God of the Sea didn't feel that Cassiopeia was punished enough, so she was banished to the sky, seated on her throne, forced to spend half the night upside down!

Looking for constellations – dot to dot in the stars

- Look at the circle showing all the stars that are out tonight
- See if you could draw a shape by joining some of the dots
- Astronomers study the stars. For hundreds of years they have made shapes in the stars to remember which ones are where
- Stars can also help us to know where we are and which way we are facing

Making constellations

- Choose the constellation you would like to replicate and collect a story sheet and write your name on it.

- Use a pencil to draw the positions of your stars, to check it will fit on the page. *If you make a mistake, rub it out, don't turn the paper over. You will use this later on.*
- Use star stickers to make your chosen constellation.
- Join the stars with a pencil line and write the constellation name on the page.

For your own constellations

- Draw your own shape on the blank star chart.
- Take a small piece of black paper and draw your shape on it with a pencil
- Now put star stickers on all the corners to make your constellation
- Think of a name for it