Fly Me To The Moon
Activity Pack

How to use this Pack

Fly Me To The Moon is a visual art programme that encourages the exploration of our universe as a way of sparking children's imagination and inspiring them to create art! All artists need inspiration, and where better to find it than by looking up to the skies as our ancestors and early artists once did?

The artist Vincent Van Gough once wrote:

> "*In the blue depth the stars were sparkling, greenish, yellow, white, rose, brighter, flashing more like jewels...*"

The following are a series of simple exercises that have been created by artist **Jole Bortoli** that aim to get your students thinking about the sky, the stars and the planets in our solar system and how they might represent them visually.

These exercises are by no means compulsory ahead of your visit. They may be a useful aid in preparing your class for their visit, or recapping post-visit. These exercises can also be used **without** a visit to The Ark, as stand-alone exercises. We encourage adaptation of the exercises based on the age and ability of your class or group.

The focus of the programme and the exhibition you'll be visiting is:

- a short visual history of how humans have represented the known universe throughout the centuries.
- a look at the world of science fiction and how we have imagined a future in space, our interactions with new worlds and other life forms.
- how visual artists, designers and scientists see, record, design, or have interpreted the universe – and everything spinning and rotating in it.
- to learn about space and our place in the universe through engaging with a variety of art forms.

The exercises will also introduce children to some vocabulary, which will be used during their workshop. For this reason, a section on terminology has been included in this pack. To cater purely for the more curious children, supplementary terms have been included which are beyond the scope of the curriculum.

Explore and Create

Quick Activities

(Refer to the terminology section for definitions)

1. **Orbiters**
   Play a game where one person (the sun) stands on the same spot spinning slowly while the others rotate (orbit) and spin around the sun like planets do. Careful not to bump off others while you orbit. Do this exercise gently, perhaps playing an 'atmospheric' type of music.

2. **Celestial Bodies**
   Are you familiar with any of these celestial bodies? The moon, asteroids, meteorites, comets, stars?
   Can you draw a few? Draw on black paper with chalk or pastel to create better effects.

3. **Eclipse**
   Have you ever seen an eclipse, either directly or on a screen/photo? Can you describe or make a drawing of it?

4. **Auroras**
   What are Auroras? Have you ever seen the Northern Lights either directly or on a screen/photo?
   Can you describe or paint it?

The Earth and the Sky

The day you were born you were welcomed by your family to this place we call Earth. Our Earth is full of interesting things. Think about your city or village – what's around you, what grows there and who lives there.

- List the animals, plants and trees that grow here.
- How many types of built structures can you name.
- Describe the landscape.
- Draw one interesting thing that exists where you live. Create a display of the drawings and discuss with the class. the different images and the landscape that has been created of your local area.

During the day the sun shines, or it's hidden behind the clouds. Track and log the changes that occur in the sky each day over a week.

- On a sunny day, what colour is the sky?
- What colour is the sky when it rains?
- What do clouds look like?
- What changes occurred and why?
- Paint a picture of the sky. Divide up the class, ask each group to focus on painting a different sky from the past week.

Moon Phases and Constellations

During the night, when the moon and stars shine, or are hidden behind the clouds, most of us go to sleep. The night sky is a beautiful thing to look at. It is magical with all the stars and the moon shining. The moon appears different at various times of the year.

- Use the activity sheets in the links provided at the end of this pack and discuss with your class the moon's phases and the constellations that appear over Ireland.
- Can you see the stars from where you live? If not, why?
- Is the shape of the moon always the same? Can you draw the different phases of the moon?
- Observe the night sky for homework. Draw the stars and moon observed. Discuss in class what was seen.
- Paint or draw a picture of a night sky. Include a constellation and the moon.

Our Address in Space

Earth is a big round ball floating and spinning in space. But where are we in space?
Think about the place you are in this moment and see how far out you can describe its location.

- Imagine you have to give directions to someone who's coming to visit your school from abroad, what would the address be?
- Now imagine you were to give the school address to another being in outer space, what would that be? (*Eg. ...in a city called Dublin, in a country called Ireland, in a continent called Europe, on a planet called Earth, orbiting a star called The Sun, in a system called Solar System in a galaxy called Milky Way*).
- Imagine you have gone on holiday to a distant planet in outer space. Draw and write a postcard of this place to send to a family member or a friend back on Earth. Don't forget to draw the stamp and include the address too!

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Terminology

Some of the following terminology will be used during the workshop when talking about the universe.

Spacecraft – A spacecraft is a specially designed and constructed vehicle that can function in space. Their complexity and capabilities vary greatly, and they may perform very different functions, including communications, Earth observation, meteorology, navigation, planetary exploration, and the transportation of humans.

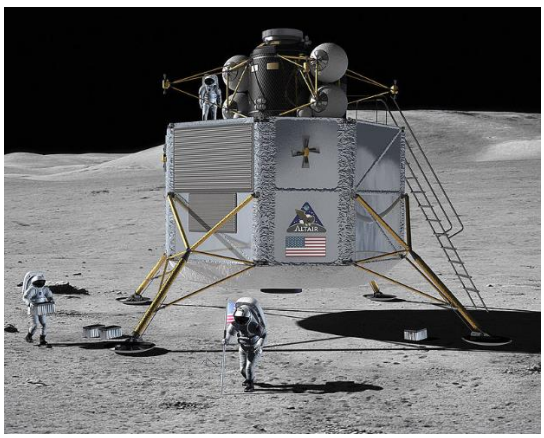
Orbiter – There are many Earth-like bodies in the universe, spinning and dancing around the sun.
An orbiter is an unmanned device designed to travel to a distant planet and enter into orbit around it to study a planet and send information back to Earth.

Probes – A space probe is a robotic spacecraft that does not orbit, but instead explores further into outer space. A space probe may approach the moon; travel through interplanetary space; fly by, orbit or land on other planetary bodies; or enter interstellar space.

There are two different types of probes:

Landers – Lander spacecraft are designed to reach the surface of a planet and survive long enough, sometimes many years, to study the planet's atmosphere, interior, and soil and send data back to Earth.

Rovers – Rovers are electrically-powered spacecraft that travel on a planet's surface. They take images and soil analyses and collect samples of rock and soil for return to Earth.



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Cosmic Radiation – Cosmic rays are high-energy atoms which move through space at nearly the speed of light. They originate from the sun, from outside of the solar system, and from distant galaxies.

Interstellar Space – This is the place where the sun's constant flow of material and magnetic field stop affecting its surroundings.

Sci-Fi – Sci-Fi is short for science fiction. Science fiction is a genre of fiction in which the stories often tell about science and technology of the future.

Astronomical Observatories – These are buildings containing telescopes and instruments which are used to observe the stars, comet, meteors and planets.

Solar Observatories – These are buildings containing telescopes and instruments which are used only to observe the sun.

Astronomical or celestial bodies – Any natural object in space which is located outside of Earth's atmosphere.

Examples of astronomical or celestial bodies:

Planets – A planet is an astronomical body that orbits the sun.

Moons – A moon is defined to be a celestial body that makes an orbit around a planet.

Asteroids – An asteroid is a space rock in the solar system that travels around the sun. It is like a planet but smaller. They range from very small (smaller than a car) to 600 miles (1000 km) across. A few large asteroids have asteroid moons.

Meteoroids – Meteoroids are much smaller rocks or particles than asteroids which orbit around the sun.

Meteorites – If a meteoroid enters the Earth's atmosphere and vaporises, it becomes a meteor, which is often called a shooting star. If an asteroid or meteoroid survives its fiery passage through the Earth's atmosphere and lands on Earth's surface, it is then called a meteorite.

Stars – A star is a huge ball of gas held together by gravity. The central core of a star is extremely hot and produces energy. Some of this energy is released as visible light, which makes the star glow. Stars come in different sizes, colours and temperatures.

Comets – A comet is a ball of mostly ice that moves around in outer space. Comets are often described as "dirty snowballs". They are very different from asteroids. When passing close to the sun, it warms and begins to release gases in a process called outgassing. This produces a visible atmosphere or coma, and sometimes also a tail.

Constellations – A constellation is a name given to a group of stars in the sky that make up a certain pattern. Sometimes this pattern is imaginary.

Astronomical events

Eclipse – An eclipse of the sun is an event when the moon is positioned between Earth and the sun, so that for a short time you cannot see part or all of the Sun. An eclipse of the moon is an occasion when the Earth is between the sun and the moon, so that for a short time you cannot see part or all of the moon.

Auroras – Frequently, there are beautiful light shows in the sky. These lights are called auroras or Northern/Southern Lights. These displays of coloured light are created when atoms (these are the smallest particles that can exist) in the atmosphere mix with energy from the sun. The atoms then release bursts of light making the red, green, and blue colours of the auroras. Sometimes these colours mix making yellow and pink colours that are seen in the sky too.

Auroras can be seen also from Ireland. Donegal is the most popular spot for sightings due to its northerly location and the lack of light pollution along the most northern headlands.

Useful Links:

http://www.mayodarkskypark.ie/images/pdf/MDSP-Starchart-v1.pdf

http://www.mayodarkskypark.ie/images/pdf/MDSP-MoonJournal-v1.pdf

http://www.mayodarkskypark.ie/images/pdf/MDSP-Constellations-v1.pdf

https://www.nasa.gov

https://www.natgeokids.com/ie/discover/science/space/ten-facts-about-space

https://www.esa.int/About_Us/ESA_history/First_ESRO_satellite_in_space