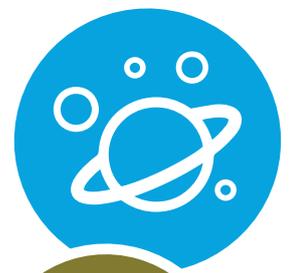
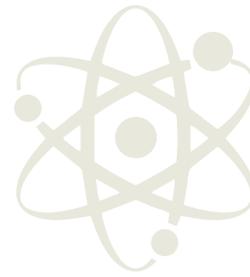




making physics matter



Age  
5-11  
years

# Phizzi focus

## Moon landings

The historic Apollo 11 moon landing on 20 July 1969 was a momentous event in history that paved the way for future space exploration. The 50th anniversary of this significant event in 2019 is a fantastic opportunity for young learners to find out more about the Moon, early human space flight and how space exploration has changed our scientific understanding of our nearest neighbour in space.



Credit: NASA

### Forces in real life

An understanding of forces, particularly gravity, was key to the success of the Apollo programme; consequently, the Moon landings are a great context for children to apply their learning about forces. One of the easiest ways to do this is to investigate rockets, either using **paper straw rockets** or **foam rockets**.

Children could also compare how changing gravity around the solar system affects the weight of objects with our Phizzi practical **planetary picnic**. In upper KS2, children could develop this learning further by finding out how scientific ideas about gravity have changed over time using our **gravity research cards** which include a description of Galileo's work on gravity; they could also watch the video showing the Apollo 15 crew recreating **Galileo's experiment** on the Moon's surface.

Children learning about air resistance could investigate parachutes in the context of the return of the Apollo crew to Earth – an egg-stronaut **egg drop activity** is a fun way for children to explore soft landings.

### Lunar light

A common misconception seen in children is the idea that the Moon is a natural light source, so it is always an interesting context for children learning about light and reflection.

Perhaps you could develop children's observational skills with **daytime moon viewing** or investigate **crater shadows**? A simple **hide and seek Moon activity** helps children begin to think about how binoculars and telescopes help us to see things that are far away.

For younger children, the beautiful e-book **Breakfast Moon** introduces the phases of the Moon and encourages regular observation.



Credit: NASA



## Mathematical Moon

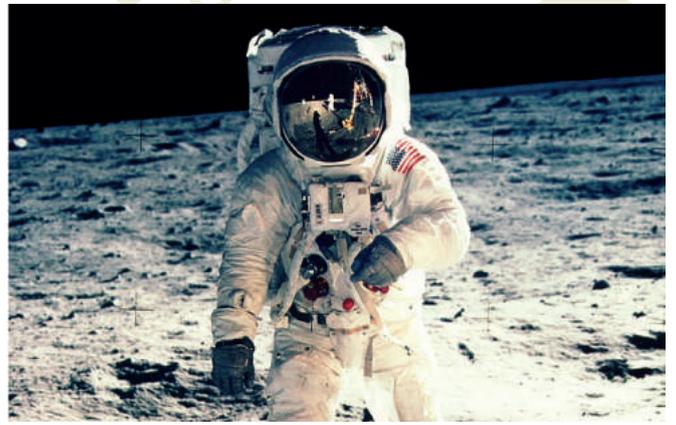
For a simple maths game for children to work on their number bonds to 10 try **ESERO-UK's Rocket bonds**. There is also a huge number of ways in which maths links to living and working in space, explore the Principia **Maths in Space** pack for ideas.

Alternatively, children who have been introduced to circle geometry could apply this to their crater investigations, either physically creating craters to measure and calculate their circumference and area or analysing scaled images available from NASA. In fact, NASA has created a collection of Moon themed maths activities, **Lunar maths**, designed for children aged 10–18 which is packed with more ideas for Moon inspired maths problem solving.

## Earthshine English

Earthshine is the term used to describe light reflected from the Earth. Just as moonlight illuminates the night time on Earth, earthshine lights up the Moon's night sky. Many astronauts that have been able to look back and view this earthshine from space have commented on what a life changing experience it was. Why not use some of the phenomenal images of the **Earth from space** to inspire poetry and story writing? Perhaps children could imagine what it would be like to live in one of the first Moon settlements and use this as inspiration for writing in the science fiction genre.

The subject also links well with a variety of non-fiction writing projects such as letters to astronauts, chronological reports of the Space Race or a particular mission, biographies of astronauts and argument texts about whether we should be spending so many billions of pounds on space exploration.



Credit:NASA

## Wider curriculum links

This theme fits really well with the history curriculum. Use our **Moon landings research cards** and **Moon landings timeline game** to help your pupils explore how missions to the Moon have developed our scientific ideas about the Moon over time.

## Moon landings booklist:

*Goodnight Moon* by Margaret Wise Brown

*Margaret and the Moon: How Margaret Hamilton saved the first lunar landing* by Dean Robbins

*Many Moons* by Remi Courgeon

*The Moon Book* by Gail Gibbons

*One Giant Leap* by Robert Burleigh

*Moonshot: The flight of Apollo 11* by Brian Floca

*If you Decide to go to the Moon* by Faith McNulty

*The Way Back Home* by Oliver Jeffers

*Eight Days Gone* by Linda McReynolds

*Team Moon: How 400,000 people landed Apollo 11 on the Moon* by Catherine Thimmesch



This book list was recommended by **Amanda Poole**, former science co-ordinator at Shrubland Street Primary, Leamington Spa.

## Space cinema

Why not organise an Apollo-themed movie night for children and their families? *Fly me to the Moon* or *A Grand Day Out* are a great choice for younger children whereas older children could watch *Apollo 13* or *Hidden Figures*. Don't forget space-themed cinema snacks such as rocket lollies.