



Teacher Resource

# Moon Race

## Focus Questions

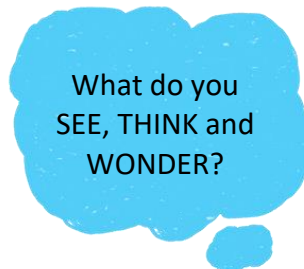
Discuss the BTN story as a class and record the main points of the discussion. Students will then respond to the following:

1. Which countries are in a race to the moon?
2. Why is water an important resource on the moon?
3. What happened to the Russia's Luna-25 space craft?
4. A space craft from which country successfully landed on the lunar south pole recently?
  - a. India
  - b. United States
  - c. China
5. What was surprising about this story?

## Activity: See, Think and Wonder?

After watching the BTN Moon Race story, students will respond to the following questions:

- What did you SEE in this video?
- What did you LEARN from this story?
- What do you WONDER about this story?
- What QUESTIONS do you have about this story?



Discuss the BTN Moon Race story as a class. What do students know about the moon? Record on a mind map. What questions do they have about the moon? Use the following questions to help guide discussion:

- Which countries are in a 'race to the moon'?
- Why mine the moon for resources?
- What valuable resources does the moon have?
- Why is water a useful resource on the moon? What can it be used for?
- Do you think the moon should be mined? Why or why not?
- Is space exploration important? Give reasons for your answer.



### EPISODE 24

29<sup>th</sup> August 2023

### KEY LEARNING

Students will learn more about why there is a race to the moon to mine valuable resources.

### CURRICULUM

#### Science – Year 5

Scientific understandings, discoveries and inventions are used to solve problems that directly affect peoples' lives.

The Earth is part of a system of planets orbiting around a star (the sun).

#### Science – Years 5 & 6

Scientific knowledge is used to solve problems and inform personal and community decisions.

#### Science – Year 6

The growth and survival of living things are affected by the physical conditions of their environment.

#### Science – Year 7

Predictable phenomena on Earth, including seasons and eclipses, are caused by the relative positions of the sun, Earth and the moon.

Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available.

## Glossary

Students will brainstorm a list of key words that relate to the BTN Moon Race story. Here are some words to get them started.

MOON	RESOURCES	SPACE RACE
LUNAR MISSION	EXPLORATION	MINING

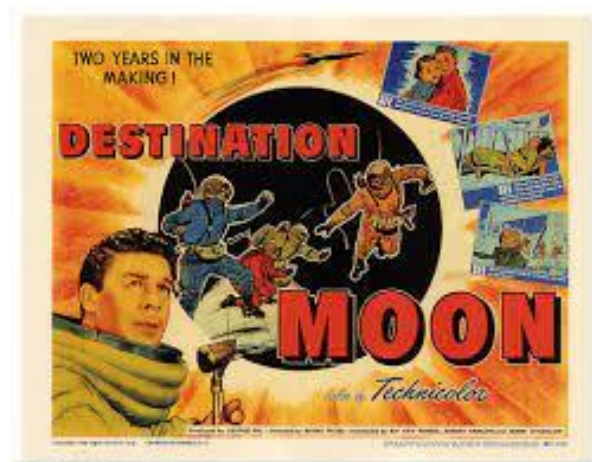
## Activity: Research Project

Discuss the information raised in the BTN Moon Race story. What questions were raised in the discussion and what are the gaps in students' knowledge? The following KWLH organiser provides students with a framework to explore their knowledge on this topic.

What do I <u>know</u> ?	What do I <u>want</u> to know?	What have I <u>learnt</u> ?	<u>How</u> will I find out?

Students will develop their own question/s to research or select one of the questions below.

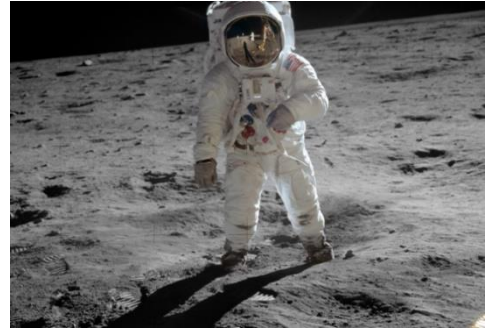
- Brainstorm the characteristics of both the Earth and the moon. Create a Venn diagram to compare and contrast, recording similarities in the overlapping areas.
- What resources do humans want to mine on the moon? What can they be used for?
- Investigate the following statement - 'Living and working on the moon will be a test run for living and working on Mars and beyond.'
- What evidence have scientists found that water exists on the moon?
- What would humans need if they were going to survive on the moon for a long period of time. Make a list.
- How will space exploration change in the future? Make a prediction about how space exploration will change in the future. Illustrate your prediction/s and provide an explanation.



## Activity: Timeline – History of Space Exploration

Students will investigate the history of space exploration and present the information they find on a timeline. Below are some key events in the history of space exploration:

- Sputnik, first artificial satellite launched into space
- Yuri Gagarin, first person to enter space
- Apollo 11, Moon landing
- Launch of Hubble Space Telescope
- Launch of International Space Station
- Curiosity launches to Mars
- First image of black hole released
- Artemis mission



Students will present their information on a timeline and respond to one or more of the following research questions:

- Find 1-3 interesting facts about each significant event on your timeline. Why are they significant?
- How has technology used in space exploration changed over time?
- Imagine if you were the first person to land on the moon. Write a journal describing your experience including the challenges you face on the mission.
- How have advancements in space technology helped us on Earth
- Which events on the timeline do you think are especially significant? Why?

## Activity: Choose a project

Individually or in small groups, students will choose one of the following projects to work on and then present their findings to the class.

### Lunar Living

Explore the idea of living on the moon. Find out more about the conditions on the moon so they can plan and design a settlement that will sustain human life. Take a look at NASA's plan for a lunar colony [Artemis Base Camp](#)

### True or False?

Create a true or false quiz about the moon and test your classmates. Alternatively, create a word find or crossword.

### Persuasive writing

Should we be allowed to mine the moon? Develop an argument for or against the issue.

### What would you pack for a trip to the moon?

Astronauts on the ISS are only allowed a 12.7cm x 20.3cm x 5.1cm case to carry personal belongings. Select items that fit within this space. Make a list of what you would pack and why.

## Activity: Q&A with a Space Expert

All scientific discoveries start with a question! As a class, come up with some questions you think astronauts ask and solve in relation to space exploration. As a class, make a list of questions that you would like to ask a space expert. Organise the questions into common themes.

Want to learn more about a career in space? Book into one of the Australian Space Discovery Centre's [digital sessions](#) to find out more, as well as answering any questions you may have. Sessions go for 45 minutes.

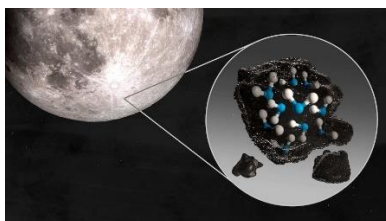


## Activity: BTN Moon stories

As a class watch one or more of the following BTN stories to learn more about the moon. After watching any one of the BTN videos ask students to respond to the discussion questions (to find the teacher resources go to the related BTN Classroom Episode and download the Episode Package).



[Moon Landing Special](#)



[Moon Water Discovery](#)



[Moon Exploration](#)



[Artemis Launch](#)



[Moon Living](#)

## Useful Websites

- [Russia declares the race has begun for moon's resources after crashing its lander into it](#) – ABC News
- [Moon landing anticipation builds for India's Chandrayaan-3 lunar mission after Russia's crash](#) – ABC News
- [Pocket Guide to the Moon](#) – ABC News
- [India's Chandrayaan-3 makes historic landing on the lunar south pole](#) – ABC News