Teacher Resource

Episode 5
3rd March 2020

Mars Insight

Focus Questions

1. Before watching the BTN story discuss what you know about Mars.
2. How far is Mars from planet Earth?
3. What does Mars look like? Describe using 3 words.
4. What does the Mars InSight spacecraft look like? Draw a picture.
5. Planet Mars is also referred to as the Orange Planet. True or false?
6. How often does Mars experience marsquakes?
    a. Daily
    b. Monthly
    c. Yearly
7. Complete this sentence. Scientists believe the marsquakes might be caused by _____ from volcanoes underground or flowing liquid _____.
8. What is a dust devil?
9. Mars still has a magnetic field around it. True or false?
10. What questions do you have about Mars?

Key Learning

Students will develop a deeper understanding of Mars and other planets in the solar system.

Curriculum

Science – Year 5
The Earth is part of a system of planets orbiting around a star (the sun).

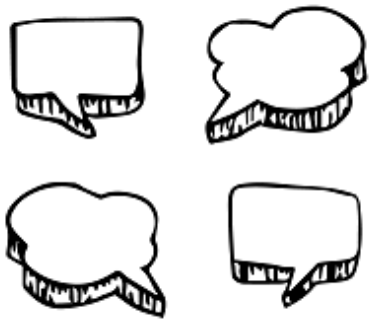
Science – Year 5 & 6
Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions.

Activity

Pre-viewing questions

Before watching the BTN *Mars Insight* story, hold a class discussion asking the following questions to find out what your students already know:

- What do you know about Mars?
- Do you know why Mars was in the news recently?
- What does Mars look like?
- What questions do you have about Mars?



Activity

Glossary

Students will brainstorm a list of key words and terms that relate to the BTN *Mars Insight* story. Students may want to use pictures and diagrams to illustrate the meaning and create their own glossary. Here are some words to get you started.

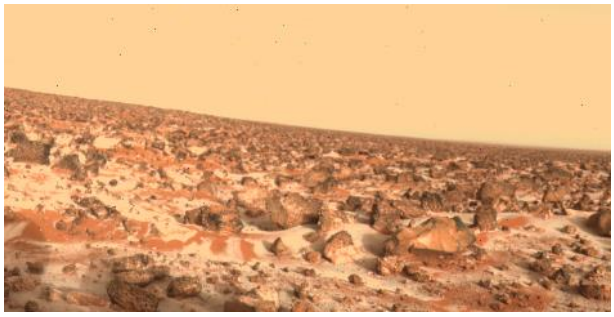
Orbit	Mass	Terrain
Atmosphere	Magnetic field	Planet

Activity

Visual literacy

In this activity students will examine, analyse and query a range of images of planet Mars. Students will choose one or more of the images below and respond to the following (alternatively, students can find other images of Mars that they find to examine):

- Write a short paragraph describing what you see in this image. Write a caption for the image.
- When and where was the photo taken?
- Imagine you are a scientist examining the surface of Mars. Explain using scientific words and terms. In your description include one or more of the following terms: Martian, Red Planet, orbit, terrain, rocky, atmosphere, mission.
- What questions do you have about what you see in the image?



Link

Link

Activity

Focus questions

Students will watch a video to learn more about recent discoveries on Mars and then respond to the following focus questions.

Mars in a Minute: Are there quakes on Mars?

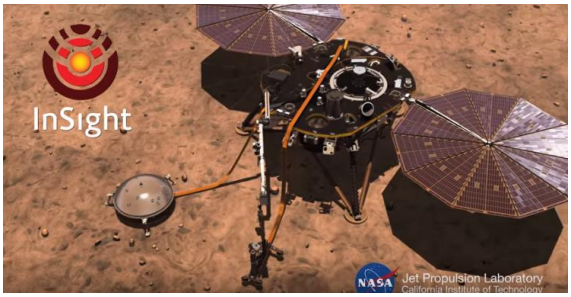
Link to video (NASA video on YouTube)

Focus questions

1. What is plate tectonics?
2. Does Mars have plate tectonics?
3. What things can make the ground shake on Mars?
4. What is a seismometer?
5. What is another name given to planet Mars?

NASA Mars InSight Overview

Link to video (NASA video on YouTube)



Focus questions

1. What does the Mars InSight look like? Describe.
2. What is the aim of InSight? To explore the…
    a. Atmosphere
    b. Surface
    c. Centre
3. Complete this sentence. A seismometer measures _____ waves.
4. Why is InSight described as a time machine?

Activity

Jigsaw learning activity

In this activity students will work cooperatively to learn about the 8 planets in our solar system. Each student will become experts on one of the planets and then share what they have learnt with other students.

Form groups

Divide the class into 8 groups. Each group will be assigned a different planet from our solar system and become an expert on that planet. Each group will need to decide how they will collect and communicate the information they find during their research.

Research

Each group will respond to the following questions to become experts on their assigned planet:

- What is the name of the planet? How was it named?
- When was the planet discovered?
- How big is the planet?
- Where is the planet in the solar system? Draw a diagram.
- How far away is the planet from the Sun?
- What does it look like? Describe the surface of the planet and find pictures that illustrate these features. Use words from your class glossary when describing the planet.
- What important discoveries have been made about the planet? List any missions.

Share

One student from each of the expert groups will form a new group to share the information they have collected. Students will make sure there is one expert from each group at their table. Students will share the information they have collected and learn from one another about each of the planets.

Reflect

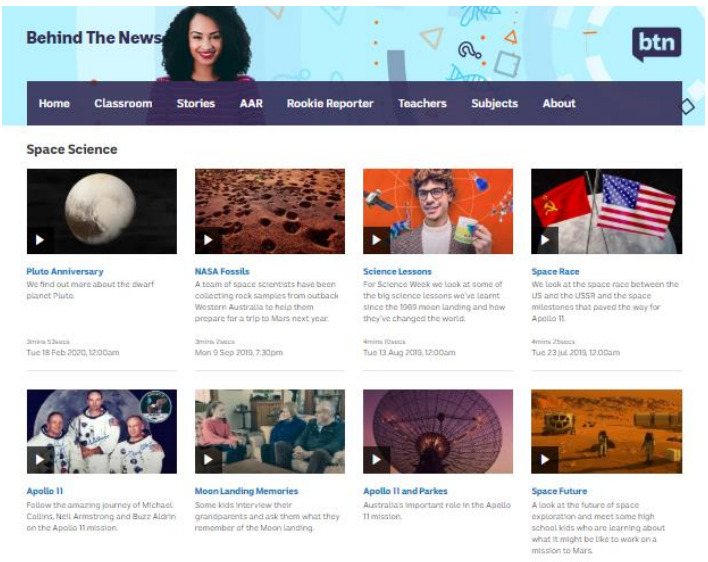
Students will reflect on the activity by responding to one or more of the following questions:

- What did you enjoy about this investigation?
- What did you find surprising?
- What would you do differently next time?

Activity

BTN Space Science stories

Visit BTN's collection of stories which focus on space science and space exploration. After watching any one of the BTN videos ask students to respond to the discussion questions (to find the discussion questions and teacher resources go to the related BTN Classroom Episode and download the Episode Package).



Link to collection of BTN Space Science stories

https://www.abc.net.au/btn/space-science/10614248

Useful Websites

Mars InSight Mission NASA – NASA
https://mars.nasa.gov/insight/

Marsquake – BTN Newsbreak
https://www.abc.net.au/btn/newsbreak/marsquake/11042196

Mars Class – BTN
https://www.abc.net.au/btn/classroom/mars-class/10489250

NASA InSight mission confirms Mars has quakes, but its atmosphere and magnetic fields are weird – ABC News
https://www.abc.net.au/news/science/2020-02-25/nasa-insight-mars-mission-detects-marsquakes/11988058

Mars Overview – NASA Science
https://solarsystem.nasa.gov/planets/mars/overview/