

ACTIVITY 3.2 BREAKING NEWS

From the Chapter Three of the
Mission Mars Diary
marsdiary.org/activities/breaking-news

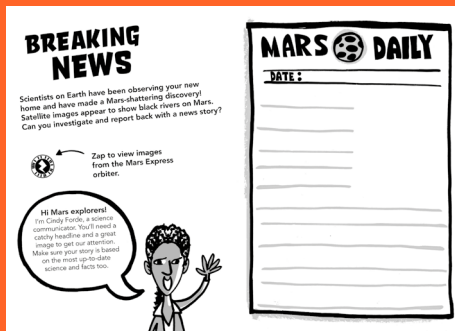
LEARNING LEVEL

KS2, P5-7, Y4-6

CURRICULUM LINKS & DIFFERENTIATION IDEAS

View detailed curriculum links for England, Scotland, Northern Ireland and Wales in the Teacher Toolkit, plus differentiation ideas for your region and year level.

marsdiary.org/resources/#teacher-toolkit



Resources Required

- Smartphone or device for Zap code (optional – see Useful Links)
- Microscopes, Petri dishes or slides, rocks, water samples, newspaper report writing frames, pens, paper

Background to this Activity

The discovery of water on Mars gives scientists their clearest sign yet that there may be life on Mars – both now and in the past. Students will need to think about the Martian past and how the planet has changed over time as well as considering the importance of water to life and why scientists believe water is such a key part of discovering life on another planet.

Scientific evidence suggests that 4 billion years ago, Mars was a green planet like Earth. This means it would have had an atmosphere similar to Earth's. Scientists are now looking for evidence that there was – or is – life on Mars, which is one of ExoMars's primary objectives. ExoMars will collect rock samples which scientist will study for signs of life.

NASA's MAVEN spacecraft, which is orbiting Mars and collecting information about the Martian atmosphere. This will help scientists understand why Mars's atmosphere changed, turning it from a green planet to a frozen desert.

Running the Activity

Open the lesson with a drama – teacher announcing that water has been found on Mars! Can you now investigate and find out more?

Children should have background knowledge about how water is essential to life and what water is used for on Earth. Revise this information and discuss why it is such a big discovery that water has been discovered on Mars.

Carry out experiments in stations so that all children get to experience all activities:

- Water from 'Mars' on a Petri dish to be investigated under microscope
- Rocks both dry and wet to look at under the microscope
- Compare dried fruit to normal fruit – a bit like how Mars is now that the water has all gone from Mars.

Children can talk about their findings in groups.

Discuss what could have happened to Mars for its atmosphere to have changed. Children could make suggestions about what life on Mars would have looked like bacteria, plants, animals.

During literacy time children could be looking at newspaper reports and their basic features. Have the discovery of water as a newspaper headline and ask children to write a newspaper report about it, including their findings when looking through the microscopes. These could be redrafted and displayed on the wall.

Questions for the Class

- Why is water essential to life?
- What things do we use water for?
- How do different living things depend on water?
- What could have happened for Mars to have changed to become a frozen desert.
- What did you see in your experiments?

Additional Challenges / Extension Activities

Heat/freeze water to see it change state. How could this help us to discover what happened on Mars?

Your Mission MARS DIARY

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Ideas for Differentiation

Lower:

- Children could be guided through observations and given pointers of what to look for like organisms, marks that running water might have made on rocks and the effects of removing water from fruit like in dried fruit. Would the same effect be seen in water removing from a planet?

Upper:

- Children could research what they have seen through their microscopes.
- Children could collect water from different sources to look at under the microscopes.
- Children could also find out about how deserts are formed on earth and think about how this could apply to other planets.

Useful Links

Zappar Content: Download or view the Zappar content for this activity on its webpage (URL to the left) or access it via the Zap.

Based on research conducted by NASA's MAVEN spacecraft, this clip shows the evolution of Mars from a green planet 4 billion years ago to the frozen desert we know today: <https://youtu.be/sKPrwY0Ycno> The spacecraft shown at the end of the clip is MAVEN.

ZAP! Students can independently access multimedia resources using the Zappar mobile/tablet app. See Zappar instructions at the link below and note that the mobile/tablet will need to be on a WIFI connection: marsdiary.org/resources/#teacher-toolkit

If you don't have access to the internet in the classroom, all Zap code content is available to download on the activity's web page (see link to the left) as a PowerPoint

presentation or as bundles of images.



Find more great space-themed STEM resources at <https://www.stem.org.uk/esero>