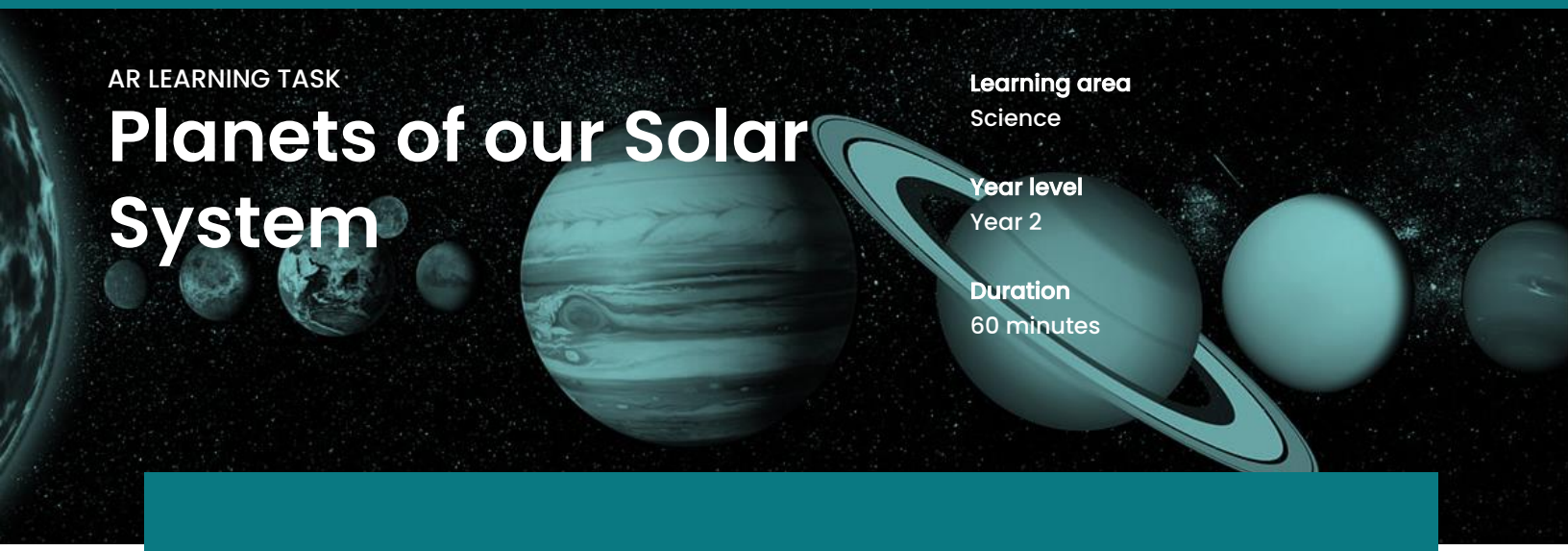

AR LEARNING TASK

Planets of our Solar System

Learning area
Science

Year level
Year 2

Duration
60 minutes

Task summary

Using augmented reality, students explore representations of the solar system and identify Earth and other planets.

Session overview

Students can identify each planet and compare them using their features and elements.

Digital technologies

- ☐ VR
- ✓ AR
- ☐ Robotics
- ☐ Drones
- ☐ Other: _____

Required resources

Hardware:

- Merge Cubes (ideally, 1 cube per 2 to 3 students)
- Devices

Apps:

- Merge Object Viewer app (Download via Google Play or Apple App Store) - For viewing different objects in the 'Solar System' collection.

Teaching resources:

- Teaching deck - this is a slide deck template that teachers can download and use for this learning task.
- Information template - To be distributed either in printed format or digitally via email or school learning management system.
- KWL Chart (Canva Template)

Other resources to try (optional)

Videos:

- The Planet Song - 8 Planets of the Solar System Song for Kids | KidsLearningTube (3.09)

Planning and Preparation

Assumptions

Students should have

- Some background in using Augmented Reality (AR) technology and/or using Merge Cubes (if using this tool). Otherwise, you may need to add another lesson to introduce this.

Additional preparations for teachers

- Print a copy of the information template for each student (or pair of students, if they are working with a partner).
- Make sure the Merge Object Viewer app is installed and working on all your devices. You will need to **log in** to the app on all devices before using it. You can log in using an existing Microsoft or Google account.

  NOTE: Each device needs to be logged in individually. You may want to consider using a generic set of logins if using shared devices.

- When viewing the Object Viewer resources, you can access it either in 3D format (no need for Merge Cubes) or in Cube format. Make sure to select the Cube format to use the Merge Cubes. If you don't have a class set of Merge Cubes, you can get your students to create a paper version. Check out this paper Merge Cube tutorial from Merge EDU.

  NOTE: If internet connection is not strong, the activity can be pre-loaded on the devices to speed up the task.

Task Sequence

1

Introductory activity / Provocation (5 mins)

Display slide 2 of the teaching deck to students. Ask the class the following questions:

- What are these objects called?
- Where can we find them?
- Do you know the name of any of these planets?

Tell the class that today's lesson is going to explore the topic of the solar system, with a focus on identifying the planets and moons.

2

Prior knowledge check
(5 - 10 mins)

Use slide 3 of the teaching deck to introduce the prior knowledge task.

Distribute a copy of the KWL Chart (Canva Template) to all students.

Ask students to find a partner and give them 2 - 3 minutes to record what they know about planets.

When their time is up, ask students to share back what they know about planets. Record the main ideas shared on a whole class KWL chart (slide 4 of the teaching deck).

Repeat for the "What I WANT to know" column, and record ideas on the whole class KWL.

If students have no experience with Merge Cubes, introduce what they are to the class using slide 5 of the teaching deck. Talk about Augmented Reality (AR) and watch the video on slide 6, if required. If students have used Merge Cubes before, you can use this time to review what AR technology is all about and ask for other examples of AR that they've seen.

3

Activities
(30 mins)

Tell students that using the Merge Cubes will help them learn about the different planets in our solar system.

With Slide 7 on display, inform students of today's task. They will need to:

- Unlock their device and find the 'Object Viewer' app.
- scroll down and find the 'Our Solar System' collection.
- choose a planet.
- select 'Cube' at the top of the page when the object loads.
  take a Merge Cube and scan it with the device.

Distribute the Information template and ask students to work with a partner, or individually, depending on the number of resources available.

Distribute the student devices and Merge Cubes.

Students will need to complete their drawing and fun fact on their information template after they have viewed a planet on the Merge Cube

Give students 20 - 25 minutes to view the planets and record their information.

4

Check for understanding
(10 minutes)

Ask students to put away their student devices and Merge Cubes and to have their information template ready for sharing.

Display slide 8 of the teaching deck and ask students to now complete their "What I've LEARNT" column with a partner.

Ask students to share back their responses, and record key learnings on slide 4 of the teaching deck.

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If time permits, discuss these additional questions as a class or as a Think-Pair-Share activity:

- Do you think any of the planets are visible during the day? Why or why not?
- How does our moon change?
- Do you think the planets move? Why or why not?

Differentiation for students with additional needs	Extension ideas	Video tips
Use Object Viewer to read the information aloud for students (tap the info button, then the 'sound' icon) who require additional help with reading.	View this CoSpaces AR experience to see the planets as they are in the solar system and how they move around the sun. Students write a detailed description of a chosen planet using relevant adjectives.	The video for this learning task gives a demonstration on how to access Merge Object Viewer and use a Merge Cube to view information. https://youtu.be/GYhBVnuCdNg

Curriculum Connections

Australian Curriculum Version 9.0

Year 2 - Science
Recognise Earth is a planet in the solar system and identify patterns in the changing position of the sun, moon, planets and stars in the sky (AC9S2U01)

Cross-curriculum Priorities

- ☐ Aboriginal and Torres Strait Islander Histories and Cultures
- ☐ Asia and Australia's Engagement with Asia
- ☐ Sustainability

General capabilities

- ☐ Literacy
- ☐ Numeracy
- ✓ Digital literacy
- ✓ Critical and creative thinking
- ☐ Personal and social capability
- ☐ Ethical understanding
- ☐ Intercultural understanding

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