

Science Activity 7: Sum It Up: Science Share-Out

Educator Preview

Activity Snapshot

Learners recommend a water reservoir to explore.



Timing | 45 minutes

Get Ready & Team Up 10 min.
Science Share-Out 25 min.
Reflect 10 min.
Total 45 min.
Level Up Activities 5–30 min. each



Prep Snapshot*

Prep Time 5 min.
**See Materials & Preparation for full info.*



21st Century Skills

- Connection**
- Communication
- Science Practices**
- Engaging in Argument from Evidence
 - Constructing Explanations
 - Communicating Information



Guiding Question

What water reservoir in the solar system do you recommend exploring?

Learners Will Do

Share their selected reservoirs and explain why they want to explore them.

Learners Will Know

Scientists have valuable knowledge to share about their findings and decisions.



Connecting Across Activities

Activity 6: Choose a Potential Water Reservoir to Explore	Activity 7: Science Share-Out	Engineering Pathway
Last time , learners combined what they have learned to choose an extraterrestrial water reservoir to explore for life.	Today , learners recommend a water reservoir to explore.	Next time , learners will experience water reuse engineering in the Water in Extreme Environments Engineering Pathway (optional).

Activity Resources

Access videos and digital resources using the link or QR code below. More information for teaching this curriculum is available in the [Educator Guide Introduction, pgs. iii–xxv](#). Access more PLANETS units, research, and pathways at <https://planets-stem.org/>.



weblink: <https://hov.to/3f488c20>

Materials and Preparation

Materials

For the whole group

- *Our Ideas* poster (on paper or a shared digital document) [Examples](#) & [Templates](#)
- all tactile, audio, and video resources needed for the Share-Out

For each learner

- pencil
- [Science Notebook \(PDF\)](#)

Activity 7 Materials Preparation (5 min.)

Ahead of Time

1. Invite staff, family, and community members to attend the Science Share-Out.
2. Decide what to do with learners' designs and presentation materials after the activity.

In Your Space

3. Place the *Our Ideas* poster in a visible place in your learning setting or prepare to share it digitally.
4. Optional: Set up a device with a projector and internet access, then test video links and view:
 - [Why Does NASA Want to Explore Jupiter's Ocean Moon?](#)

Activity Guide

Get Ready & Team Up (10 min.)

1. Ask: **If you did the last activity, what did you do and why?** Have learners share with partners or small groups. *(We chose water reservoirs to explore and made plans to share our reasoning.)*
2. Say: **Today you will share the reservoirs that you think are most likely to have life. Like scientists, you will need to explain the reasoning and evidence for your choices.** Share the Guiding Question with learners aloud and in writing (using multiple languages as needed): **What water reservoir in the solar system do you recommend exploring?**
3. Organize learners into their pairs from Activity 6.



Support Learner Differences

If new learners are joining you, lead an [inclusion activity \(pgs. xx-xxi\)](#) and use other [engagement strategies as necessary \(pgs. viii-xviii\)](#).



Science Share-Out (25 min.)

4. When learners are ready, invite guests into the room and explain how the Share-Out will proceed. Carry out the steps of the Share-Out as the group has planned.
5. As they experience the Share-Out, invite families and other guests to think about their family, cultural, or other knowledge related to what they observe and share that knowledge with learners individually or the event as a whole.
6. Ask or encourage attendees to ask the following questions:
 - Why did you choose this reservoir to investigate for life?
 - What do you think living things in this reservoir might be like?
 - Is there a common type of reservoir in the solar system that multiple groups identified as promising?
 - What surprised you?
 - What is one thing you will remember?
7. At the end of the Share-Out, congratulate your group on doing a great job communicating and being scientists. Have learners thank attendees before concluding.



Support Learner Differences

To ensure the Share-Out is accessible as possible, provide tactile, audio, and video resources from throughout the pathway to attendees as appropriate.



Reflect (10 min.)

8. Show the full video [Why Does NASA Want to Explore Jupiter's Ocean Moon?](#)
9. Have learners discuss the following questions in pairs: **NASA is focusing its search for life in the solar system on Mars, Europa, and Enceladus. Why do you think they chose those planetary bodies? How do those choices compare to yours?**
10. Say: **Congratulations on your excellent scientific work.**

After the Activity

1. Clean up:
 - Collect the Science Notebooks.
 - Decide if you want to keep the *Our Ideas* poster.
 - Reset the space in which you held the Share-Out.
 - Save the *Planetary Cards* deck for later use.
2. Take time to reflect on the following educator prompt. **What did you find out about your learners as a result of completing these science activities?**

Water in Extreme Environments Additional Resources

Resources include All Downloads, All Videos, Family Connections, and more.



weblink: <https://hov.to/7cb5c428>



Level Up!

- ✦ Tell learners, if anyone asks them what they did today, they can tell them “We shared a location in outer space that we think might have life.” (5 min.)
- ✦ Have learners research NASA’s missions to Mars, Europa, and Enceladus to learn more about the search for past or present habitable conditions in those places. (30 min.)
- ✦ If your learners enjoyed this planetary science challenge, they would also enjoy the Rover Observation and Discoveries in Space (ROADS) student challenges. Show your learners the [NASA National Student Challenges weblink](#). (15 min. to review weblink, 10–15 hours per challenge)