SORT IT OUT

In this quick-to-play icebreaker game, participants expand their non-verbal communication skills and practice approaching content from new directions to make learning more fun and relevant!

LET'S PLAY!

- Gather 8 or 9 players together.

First Challenge: Sort by Distance from the Sun

- Each player gets one planet card (you may choose to include the dwarf planet, Pluto). Players must not look at their card! Instead, they should hold it to their forehead so that it's visible to other participants.
- Place the "Sun" card at one end of the room.
- Now, without talking to one another or looking at their own card, players have two minutes to sort themselves into a line, with the closest planet (or dwarf planet) to the Sun at one end, the furthest from the Sun at the other, and the remaining planets in the correct order in between.
- After two minutes, freeze in place! Starting from the Sun, go down the line and have each player look at and read out the card from their forehead. Did the group achieve the correct order?

Second Challenge: Sort Objects by Size

- Shuffle the planets (including the dwarf planet, Pluto) and Sun cards back into the deck. Each player gets a new card. Players must not look at their card! Instead, they should hold it to their forehead so that it's visible to other participants.
- Now, without talking to one another or looking at their own card, players have two minutes to sort themselves into a line, with the smallest object at one end and the largest object or system at the other.
- After two minutes, freeze in place! Go down the line and have each player look at and read out the card from their forehead. Did the group achieve the correct order?

Third Challenge: You Decide!

- Next, players should work together to brainstorm different categories into which they could collaboratively sort the cards. Try out the new version!

Discuss as a group:
What nonverbal communication strategies helped the group to achieve the correct order? Did this exercise help you to learn or remember any solar system science content? How might ranking, sorting, and categorizing be useful to scientists? How else might we remix this challenge?

Training goals:

- *Develop and practice non-verbal communication strategies*
- *Brainstorm additional challenges that build on the original activity*
- *Get to know each other, and work together as a team!*

Time to implement: 20–40 minutes

Ideal number of participants: 9+

Materials

- *Solar System and Beyond trading card set (15 cards)*
- 1 minute timer

Before You Play

10 minutes

Although all trainees have likely learned about our solar system at one time or another, depth of knowledge may vary. You can choose to offer a brief content refresher to get everyone on the same page before playing. See the Training Games Overview for a list of suggested resources you can use to review the objects found on the cards.

Game Rules

5–20 minutes

OBJECTIVE Sort yourselves according to various criteria—without speaking! Hand gestures, head shaking, and other forms of body language are fair game!

SET-UP First, have all players form a single-file line, facing toward the facilitator. Hand a card to each participant, making sure that the content on the card is concealed from their view. They must not look at their card, but should display it against their forehead so that other players can see what they have.

PLAY Present a challenge from the options below.

1. **Sort planets by distance from the Sun (using planet cards only, plus Pluto):** Without talking, participants must re-sort themselves in the line, in order from closest to the Sun at one end to furthest from the Sun at the other. You may place the Sun card at one end of the room, and invite players to array themselves accordingly.
2. **Sort objects by size:** Without talking, participants must physically rearrange themselves according to the size of the object on their card, from the largest at one end to the smallest at the other end.

Participants have 2 minutes (1 minute timer twice over) to complete the challenge. They may not speak to one another or look at their card until prompted.

After 2 minutes, signal for everyone to freeze where they are. Go down the line and have everyone read out their card. Did the group achieve the correct order?

After trying out one or both options, challenge trainees to brainstorm different categories into which they could collaboratively sort the cards (e.g. sorting planets by how many moons they have, rather than size or distance from the Sun). You may also ask them to think about different limitations (other than not talking) to impose on players! If you have time, try playing a new version.

Debrief Discussion & Key Takeaways

5–10 minutes

Once the game is over, come back together to discuss participants' experiences and observations. Consider together how this training exercise could help to inform facilitation and learner engagement strategies for other toolkit activities.

Did you successfully sort yourselves according to the challenge criteria? If so, what strategies did you use? If not, where did communication fall apart? What might you try next time?

How else might we remix this challenge? What other categories could be explored? Why does the ability to reframe content in multiple ways matter in a facilitation scenario?

How might ranking, sorting, and categorizing be useful to facilitators?

How did you convey information without speaking? Were you able to develop new, shared points of reference? How might this apply to a facilitation situation?

Key Takeaways

Categorization and sorting are useful ways of getting people to think beyond the names we might be familiar with, and instead focus in on descriptors and characteristics. It's also an important science process skill.

In addition, facilitators must be able to respond and develop rapport with participants in the moment in order to identify, create and build upon shared understandings.

Even when you're able to communicate verbally, a lot of effective science communication comes through with how you're saying it. This exercise is also built around getting you as facilitators to better understand and use non-verbal (or creatively verbal) ways of communicating.

Facilitation Notes & Possible Adaptations

If you have more than 9–15 players, you may need to hand out or print additional repeat cards. This adds an extra level of difficulty. Those with the same card should end up standing in a row.

You can play this self-sorting game using any number of object characteristics. We suggest starting with "distance from the sun" (using a partial deck with only planet cards included—Pluto is optional) or "size." You may choose between these depending on the number of participants.

You might also try a version of the game in which each player knows their own card, but can't reveal it to other participants.

Please note: You may have a knowledgeable player that disputes the ordering of Neptune and Pluto in this challenge. While Pluto is usually farthest from the Sun, its orbit crosses inside of Neptune's orbit for about 20 years out of every 248 years of its orbital period. The last time Neptune was farthest from the Sun was between 1979 and 1999. This won't be true again until sometime around 2227.

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