

PACE Card Matching Game



Background Information

The object of the PACE Card Matching Game is to find the matching pairs of cards by relying on memory. Each time a player finds a matching pair of cards, they will learn more about PACE measurements and why they are important.

There are **three rounds**. Each round consists of **12 cards**. The PACE Card Matching Game can be a **one player** or **two player** game.

ROUND 1: What will PACE help us better understand? (A lot!)

Round 1 features photos of the types of matter that PACE will measure.

Each correct match will reveal *spectra*, which is the data that PACE's Ocean Color Instrument (OCI) will collect. The *shape* of each spectra relates to how types of matter – for example, phytoplankton species or airborne dust – reflects light.

See below for the front (left image) and back (right image) sides of the cards for Round 1.



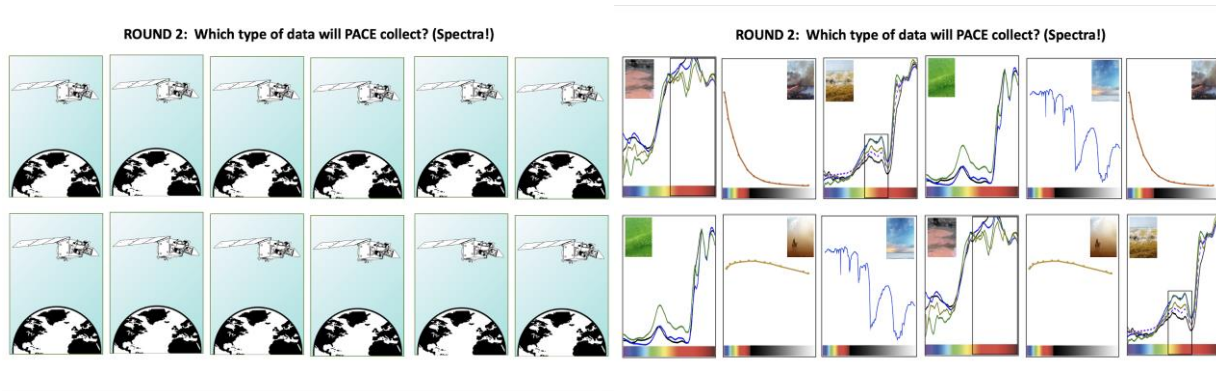
**Note that the order of the cards should be random for each game based on how they are shuffled.*

ROUND 2: Which type of data will PACE collect? (Spectra!)

In Round 2, players will match the spectral shapes themselves.

Hint: Look at the range of wavelengths depicted at the bottom. Why? PACE's OCI can measure beyond the rainbow of colors... including several shortwave infrared bands that are key to identifying some types of matter.

See below for the front (left image) and back (right image) sides of the cards for Round 2.



**Note that the order of the cards should be random for each game based on how they are shuffled.*

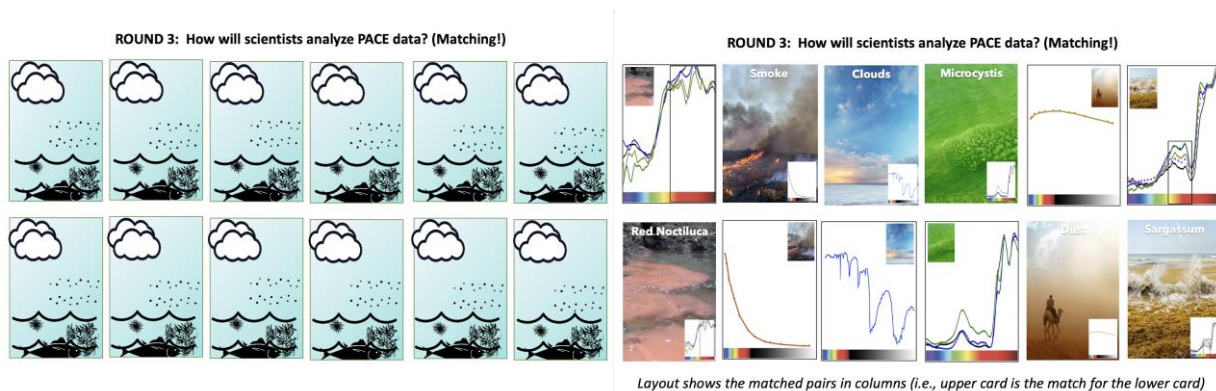
ROUND 3: How will scientists analyze PACE data? (Matching!)

Round 3 is when players do what PACE scientists will do: match spectral shapes with the type of matter that they represent.

This round is a bit more challenging, but players will learn a lot about the type of data that PACE's OCI will collect. Even better, this round will reveal *why* PACE is key to helping better understand what is happening in our ocean and atmosphere.

Hint: Each card shows a preview of its matching card in the corner.

See below for the top (left image) and bottom (right image) sides of the cards for Round 3.



**Note that the order of the cards should be random for each game based on how they are shuffled.*

Setting up the Game

Shuffle the round of cards thoroughly.

Lay out the cards in rows to form a rectangular grid. Make sure that the side with the PACE data is facing downwards and that the cards are not touching each other. The cards need to be able to be flipped over without flipping over any surrounding cards along with them. The number of rows doesn't matter as long as the layout is random based on how the cards are shuffled.

In addition to the cards, the **Background Information** section and the **Matching Card Blurbs** page are necessary to have as references for each round.

If playing with two players, decide who will go first. This could be the youngest player, the oldest player, the player that wins a round of Rock-Paper-Scissors, etc. Have fun with it!

Start with the Round 1 cards and reference the **green column** for **Round 1** on the Matching Card Blurbs page. Move on to Round 2 next and reference the **blue column** for **Round 2** on the Matching Card Blurbs page. Finish the game with Round 3, referencing the **yellow column** for **Round 3** on the Matching Card Blurbs page.

Good luck!

Playing the Game

ONE PLAYER GAMES: GENERAL INSTRUCTIONS

Read the **Background Information** for the Round that you are on to help familiarize players with this round's PACE information. This information is provided in the **Background Information** section.

1. The player chooses a card and carefully flips it over, revealing the side of the card with the PACE data.
2. The player then picks a second card and carefully flips it over, revealing the side of the card with the PACE data.

If the pair *is not* a match, flip both cards back over.

If the pair *is* a match, use the **Matching Card Blurbs** provided to talk about the matching pair of cards that they found (i.e., If they find the matching "Dust" cards, find "Dust" under whichever Round the player is on, and read the explanation for that PACE topic).

The player gets to collect the two matching cards and begin their "matching cards pile."

3. Repeat steps 1 and 2 until the player finds and learns about each pair of matching cards in the round.

TWO PLAYER GAMES: GENERAL INSTRUCTIONS

Read the **Background Information** for the Round that you are on to help familiarize players with this round's PACE information. This information is provided in the **Background Information** section.

1. The first player chooses their first card and carefully flips it over, revealing the side of the card with the PACE data.
2. The first player then chooses a second card and carefully flips it over, revealing the side of the card with the PACE data.

If the pair *is not* a match, flip both cards back over. **It is now the next player's turn.**

If the pair *is* a match, use the **Matching Card Blurbs** provided to talk about the matching pair of cards that they found (i.e., If they find the matching “Dust” cards, find “Dust” under whichever Round the player is on, and read the explanation for that PACE topic).

The player is also rewarded with another turn for matching two cards. A player’s turn is not over until they fail to find a matching pair of cards.

3. Once it is the next player’s turn, the player chooses their first card and carefully flips it over, revealing the side of the card with the PACE data.

Tip for the players: Try to remember if this card is a match for one of the cards the previous player flipped over. If it is, try to remember where that card was and choose it as your second card to flip over.

4. The player chooses a second card and carefully flips it over, revealing the side of the card with the PACE data.

If the pair *is not* a match, flip both cards back over. **It is now the next player’s turn.**

If the pair *is* a match, use the Matching Card Blurbs provided to talk about the matching pair of cards that they found (i.e., If they find the matching “Dust” cards, find “Dust” under whichever Round the player is on, and read the explanation for that PACE topic).

The player is also rewarded with another turn for matching two cards. A player’s turn is not over until they fail to find a matching pair of cards.

5. Repeat steps 1-4 until the players find and learn about each pair of matching cards in the round.
Once all the cards are played, the player that finds the most matching pairs is the winner!