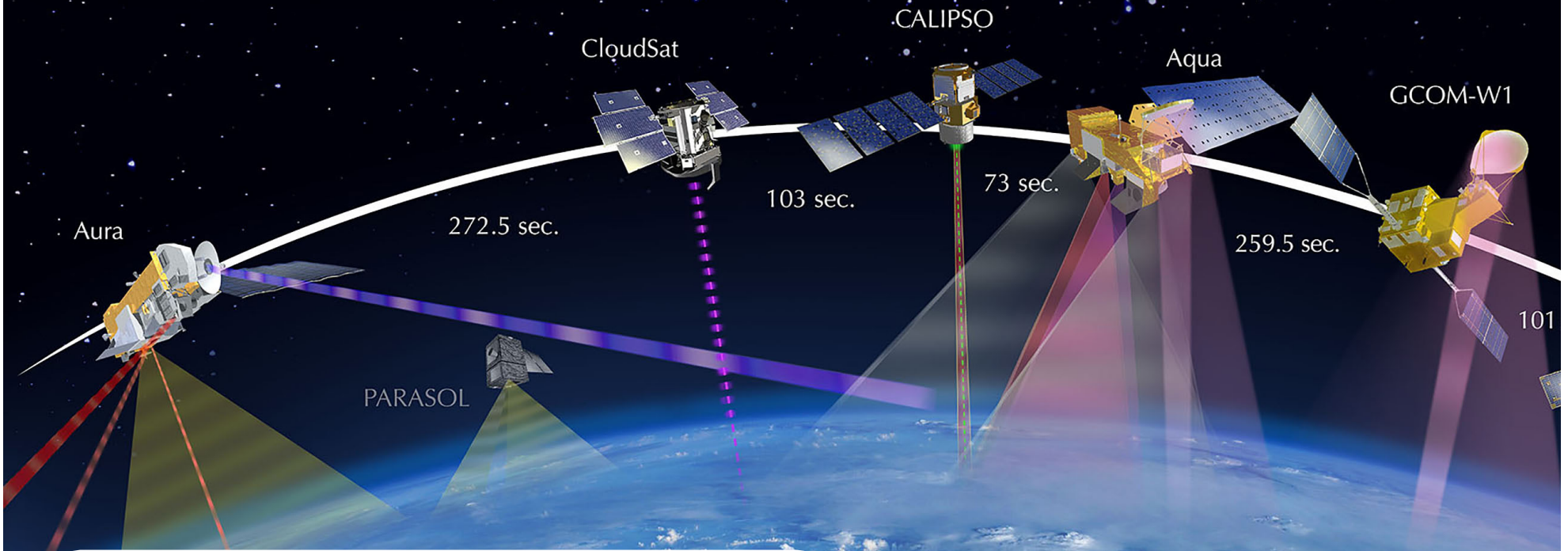


5: CONNECT TO NASA



Materials

- SAC notebooks

A

- Cloud Name Pairs cards
- Cloud Identification cards
- Which Cloud Am I? grids
- S'COOL report forms
- Sky Color strips
- Cloud Cover grid
- S'COOL Cloud ID chart

B

- wet erase markers

Preparation

- Open the [S'COOL report form](#) on your digital device.
- Review the Cloud ID cards to re-familiarize yourself with the names of different clouds.

Your mission is to collect data about clouds to help NASA climate research.

Cloud Name Pairs

15 min. | outside

Cloud names can seem long, but they are actually just a few name parts put together in different ways. Knowing the name parts will tell you a lot about what a cloud looks like. For example, **cirrus** clouds are wispy and **stratus** clouds form in layers, so when you hear the name **cirrostratus**, you can guess that those will be a wispy layer of cloud.

Write all of the cloud names on the board or chart paper to review. As a club, practice the names a few times and identify the name parts. In this game, you will put name parts together to form real cloud names. Be careful! Some name parts can't go together.

1. This game requires an odd number of players. Give everyone a Cloud Name Pairs card.
2. Link elbows with one other player whose name part can connect with yours to form a full cloud name. (Players with cumul- can pair up with another cumul- to form a cumulus. Players with cirro- or strat- can also link up with players who have the same name part.)
3. Switch cards when you form a new pair.
4. There should always be at least one player not in a pair. He or she can break up an existing pair by linking with anyone to form a real cloud name.

Pause the game at random to check if there are any fake cloud pairs. If there are, they are out. You can start and stop music as the cue to play or pause. Continue playing for 5 minutes or until only one pair remains.

- Activity leaders can jump in and out of the game to keep an odd number of players.
- Clouds:
 - Cirrus
 - Cumulus
 - Stratus
 - Cirrostratus
 - Cirrocumulus
 - Altostratus
 - Altocumulus
 - Stratocumulus
 - Cumulonimbus
 - Nimbostratus
- For an added challenge, the player who is unlinked during the pause is also out.

Which Cloud Am I?

20 min. | inside

In this game, one person will use clues to figure out which Cloud Identification card their partner is holding.

1. Create teams of two. Determine who will guess and who will respond first. The guesser needs a Which Cloud am I? grid and the responder needs one Cloud Identification card.
2. Responders use a book or folder to hide the Cloud Identification card from the guesser.
3. All of the clouds are on the grid, so guessers ask yes or no questions to determine which one their partner has. Focus on characteristics of the cloud itself rather than other parts of the picture.
4. Once a card is guessed, switch roles and pick a new ID card. Use details when describing color, shape, texture, or



position in the sky.

Share out: Which clouds look the most similar to you? How can you tell them apart?

25 min. | outside

Sky Survey

Through the S'COOL project, citizen scientists like you help NASA understand how clouds affect climate. In a process called "ground truthing," citizen scientists confirm or clarify data from NASA satellites. They observe the sky and record cloud types, cloud heights, cloud cover, and related conditions.

What do you know about NASA? What kinds of things do NASA scientists study?

1. Form teams of four. Each team needs a S'COOL Cloud ID chart, a S'COOL report form, a Sky Color strip, Cloud Cover grid, and wet erase marker.
2. Go outside and observe the sky. Record your observations on the S'COOL report form. Use the Sky Color strips, Cloud Cover grid, and S'COOL Cloud ID chart to help you.
3. Discuss your observations as a club and find points of agreement. If you disagree, use evidence to support your argument. Then decide as a club what to report online. You will submit only one report per club each time you meet.
4. Submit your club's report using the [online S'COOL report form](#).
5. Use a wet paper towel to clean your S'COOL report form for next time.

Visual opacity isn't an exact science.

- **Transparent** = You can see the sun or object clearly through the cloud
- **Opaque** = You can't see through the cloud
- **Translucent** = Everything in between transparent and opaque

 [S'COOL report form](#)



Congratulations! You've completed your first mission as a NASA citizen scientist.

Share out: What did you find challenging about making cloud observations? What was easy?

 Explore more: [SciGirls 303: SkyGirls](#)



Explore more: Watch [SciGirls 303: SkyGirls](#) (30 min.; skip to 5:00) to see your fellow citizen science explorers in action!

Call to action: Teach your friends the cloud names and help them to identify clouds in your neighborhood.

