

Activity—Educator Guide

Earth Images BINGO

The purpose of this activity is to introduce students to different views of Earth and to help students prepare for interpreting ISS EarthKAM and other Earth images. To do this, they play the game BINGO, with boards that are made of images of Earth features from three different views: satellite view (space view), airplane view (aerial view), and ground view.

Materials/Resources

1. Make color printouts of the *Earth Image BINGO Boards*. There are ten different boards, so if there are more than ten players, there may be more than one winner at a time.
2. Gather cover pieces (~20 per player), such as pieces of paper, paperclips, or candy.
3. Prepare the calling pieces. Simply cut up the sheet *Calling Pieces* and put all the slips in a hat or other container, or if you want to make a show of it, prepare an interesting cage and calling pieces. (See Figure 2: Hand Made BINGO Machine.)

Recommended Procedures

1. Have students practice looking at objects or land features from a number of different views before playing.
 - Have students observe and draw an object from the three views: straight above (satellite/space), an angle above (airplane/aerial), and the side (ground).
 - Have them imagine and draw what Earth features, such as a building or tree, might look like from the three different views.
2. Introduce the activity.
 - Earth Image BINGO is similar to ordinary BINGO. The goal is to be the first player to cover five spaces in a row—horizontally, vertically, or diagonally.
3. Have the caller—yourself or a student—pull a calling piece out of the container and read it out loud.
4. Have all the players find and cover that view on their BINGO board. (See Figure 1: Sample Board.)
 - Encourage your students to help each other find each view.
5. Continue until one or more players calls out “BINGO,” having gotten five in a row.
 - You can then restart, with players removing all the cover pieces from their boards, or keep playing until everyone has a BINGO.

OUTREACH

This Earth Images BINGO game is a good way to share a piece of the ISS EarthKAM experience with students, including elementary school students, in a brief, fun manner.

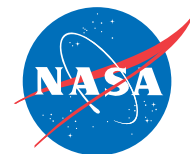
STANDARDS

Science

- Abilities necessary to do scientific inquiry.

Geography

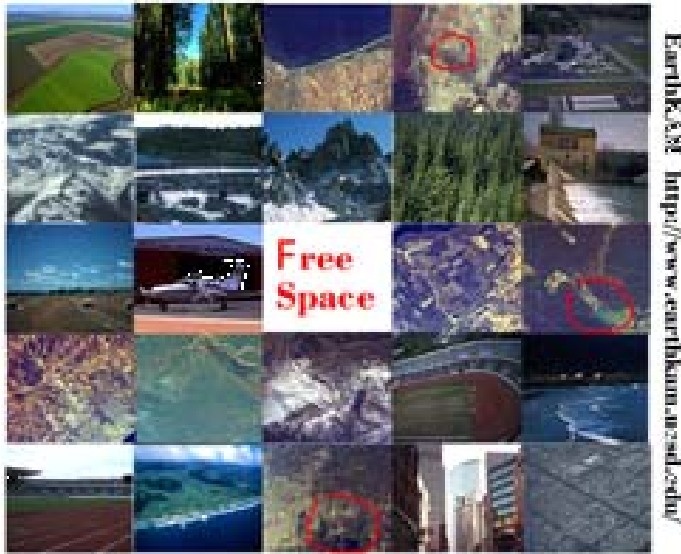
- How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information.



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Figure 1: Sample Board

Each Earth Images BINGO board contains all 24 views in different arrangements. The 24 views are derived from eight common features: airports, beaches, cities, dams, farm fields, forests, mountains, and stadiums. Each of these features are shown from three different angles: satellite (space), aerial (airplane), and ground. The 25th square is a “free space.”



| | | | | |
|----------------------|--------------------|-----------------------|----------------------|------------------|
| Farm fields - aerial | Forest - ground | Beach - satellite | Stadium - satellite | Airport - aerial |
| Mountains - aerial | Dam - aerial | Mountains - ground | Forest - aerial | Dam - ground |
| Farm fields - ground | Airport - ground | Free space | Farm fields - aerial | Dam - satellite |
| City - satellite | Forest - satellite | Mountains - satellite | Stadium - aerial | Beach - ground |
| Stadium - ground | Beach - aerial | Airport - satellite | City - ground | City - aerial |

Figure 2: Hand Made BINGO Machine

Ping pong balls, each labeled with one of the 24 views, in a BINGO cage made from a pet exercise wheel. Be creative and make an interesting setup of your own.



Calling Pieces

| | | |
|-------------------------------|-----------------------------------|--|
| Airport Ground | Airport Aerial/Air | Airport Satellite/Space |
| Beach Ground | Beach Aerial/Air | Beach Satellite/Space |
| City Ground | City Aerial/Air | City Satellite/Space |
| Dam Ground | Dam Aerial/Air | Dam Satellite/Space |
| Farm fields Ground | Farm fields Aerial/Air | Farm fields Satellite/Space |
| Forest Ground | Forest Aerial/Air | Forest Satellite/Space |
| Mountains Ground | Mountains Aerial/Air | Mountains Satellite/Space |
| Stadium Ground | Stadium Aerial/Air | Stadium Satellite/Space |