

Lesson Plan Grades K-2: State Landsat Mosaic Puzzle

Remote Sensing Puzzle

Landsat State Mosaic - An aerial mosaic, photo mosaic is an assembly of aerial photographs taken by the Landsat Satellite matched in such a way as to show a continuous photographic representation of an area mosaic map.

Remote Sensing – remote sensing can be defined as the scientific and technical discipline that involves acquiring information of various Earth features from a distance. Sometime the distance is great, such as satellite-based remote sensing where the satellites are in orbit high above the Earth; other times the distance is much less, such as aircraft-based remote sensing where the airplane is much closer to Earth.

Learning Objectives:

Upon successful completion of this learning game, students will be:

- Familiar with the state Landsat mosaic.
- Able to identify conspicuous features, pattern recognition and other spatial thinking skills.

Teacher Prep Time: 30 minutes to become familiar with the state map and the puzzle rules.

Class Time Requirement: 40 minutes

Materials needed:

- Full size State Landsat Mosaic poster
- Reduced size mosaic handouts printed on card stock paper
- Scissors
- Rulers

Teacher Prep Instruction: Download student copies of the California State Mosaic map from the <http://www.earthobservationday.com/> website and print one copy per student. Place hardcopy poster of the State Mosaic into classroom. Gather other materials (scissors and rulers).



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Classroom Instructions: Hand out all materials and provide instruction. Have students answer the following question:

- What State is this?
- What is the capital of our state and where is it located?
- If we divide the state into 4 equal pieces, within which quadrant is our school located? 'Upper right, Lower right, Upper left, Lower left'. This can lead up to a discussion about map properties. 'Cardinal directions, scale, distance, bearing'.

Have the students create the puzzle. Therefore the students need to cut the image up into 10-15 random, individually identified puzzle pieces. Now the students can mix the pieces and then assemble their own puzzle. Ask the following question:

- What features did you use to assemble the puzzle? 'Color, pattern, texture'.

This lesson plan can be modified for 3rd -6th graders as follows:

Use the following questions additional to the ones listed above as a basis for your lesson and have a discussion around each of these questions:

- How large is the image? Use the ruler and the scale bar to estimate the area of your state.
- Identify 5 distinct natural features of your state. 'Forest, Mountains, Lakes and Rivers, etc.'
- Identify 2 or 3 human made features. 'Dams/reservoirs, cities, transportation corridors, agricultural land, etc.'

