

The Aral Sea: A Time for Change

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Level: 9th Grade

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Inquiry Question: How have human actions modified the area surrounding the Aral Sea?

Geography Standards:

National: Standard 1: How to use maps and other geographic representations, tools and technologies to acquire, process and report information from a spatial perspective.

Standard 14: How human actions modify the physical environment.

Standard 15: How physical systems affect human systems.

Standard 18: How to apply geography to interpret the present and plan for the future.

Oregon: Use, interpret and construct geographic representations to analyze information, explain spatial relationships and compare places. Analyze changes in the physical and human characteristics of places and regions, and the effects of technology, migration and urbanization on them.

Overview: Students will *research* provided background information regarding the physical changes in the Aral Sea in the past 40 years. Through mapping or graphing they will *locate* the Aral Sea and *depict* the change between 1960 and the present. Next, they will *compare and contrast* economic and environmental/health changes resulting from human activity in or around the Aral Sea. Using this information and in outline format, students will propose how these changes could be diminished as well as *proposing* alternate economic development. Finally, using their personal outline and acting as an Uzbekistani citizen, each student will *create* a bumper sticker illustrating their understanding of the current situation and advocate a possible solution.

Materials: Student information packet Graph paper, project paper Handouts and Venn diagram Colored pencils

Time Allotted:

Scaffolding Activities – 3 days (90 minute blocks)

Culminating Activity – 1 to 2 days (90 minute blocks)

Prior Learning: Instruction of Geography Theme #3: Human-Environment Interaction Research on the Aral in activities 1, 2 and 3.

Teacher Administration Directions: Provide materials including information packet, handouts, and construction supplies (for bumper sticker). Review scoring guide and daily activities, which lead to final product. Students work in pairs on activities 1 and 2. Students work alone on the outline and bumper sticker.

“Scaffolding Activities”

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Activity One:

On the graph paper provided, accurately draw the size of the Aral Sea in 1960 and 1998. One square on your paper equals 100 square miles. Also include and label the surrounding countries, the rivers that feed the Aral Sea and a directional indicator.

Or

On the graph paper provided, accurately graph (bar graph format) the size of the Aral Sea in 1960 and 1998. Be sure to label both axes. List the surrounding countries and rivers that feed the Aral Sea.

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Culminating Activity, Part II: The Bumper Sticker

Using your completed outline, design a bumper sticker which illustrates with words, pictures and/or symbols, the current situation and your proposal for change in the Aral region. Your design needs to be neat, complete and creative.

“Scaffolding Activities”

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Activity Three, Part I: The Outline

Use your student information packet to complete the outline on the next pages.

I. Where is the Aral Sea?

A. Location/Relative

- 1.
- 2.
- 3.

B. Location/Absolute

1. Latitude _____, Longitude _____

C. Climate

- 1.

II. Describe the change

A. Physical effects

- 1.
- 2.
- 3.

B. Environmental Effects

- 1.
- 2.
- 3.
- 4.
- 5.

C. Health Effects

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

D. Economic effects

- 1.
- 2.
- 3.
- 4.

5.

III. Cause of the change

A.

B.

C.

D.

E.

F.

IV. What are the resources in the region?

A. **People**

1. Population _____

2. Literacy _____

B. **Natural resources**

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

V. What can be done in the future?

A. **My proposal**

1.

a)

b)

c)

d)

e)

2.

a)

b)

c)

d)

e)

3.

a)

b)

c)

d)

e)

4.

5.

6.

7.

B.

Positive results

1.

2.

3.

4.

5.

6.

C. Possible problems to be addressed in the future.

1.

2.

3.