



Reading Arizona Maps

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Grade Level 3
Duration 1-3 class periods

ELL Adaptation by Shea Lemar

National Standards

GEOGRAPHY

Element 1: The World in Spatial Terms

1. How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information

AZ Standards

MATHEMATICS

Measurement and Data

3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch to the nearest quarter inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units--whole numbers, halves, or quarters.

ELA

Reading

Integration of Knowledge and Ideas

3.RI.7 Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).

Writing

Production and Distribution of Writing

3.W.4 With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.

Arizona Social Science Standards

GEOGRAPHY

The use of geographic representations and tools helps individuals understand their world.

3.G1.1 Use and construct maps and graphs to represent changes in Arizona over time.

SIOP Elements

Preparation

Adapting content
 Linking to background
 Linking to past learning
 Strategies used

Scaffolding

Modeling
 Guided practice
 Independent practice
 Comprehensible input

Grouping Option

Whole class
 Small groups
 Partners
 Independent

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Integrating Processes Reading Writing Speaking Listening	Application Hands on Meaningful Linked to objectives Promotes engagement	Assessment Individual Group Written Oral
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Arizona ELP Standards

Stage III

Basic

Reading

Standard 4: The student will analyze text for expression, enjoyment, and response to other related content areas. The student will demonstrate reading comprehension by:

B-20: identifying content vocabulary within math, science, and social studies texts.

B-22: locating information for a specific purpose. (e.g., *atlas, glossary, textbook, indexes, table of contents, etc.*)

Writing

Standard 1: The student will express his or her thinking and ideas in a variety of writing genres. The student will express his or her thinking and ideas in a variety of writing genres, as demonstrated by:

B-1: writing a narrative paragraph based on imagined or real events that include characters and plot with three or more details using appropriate transitional words, with instructional support.

B-3: taking notes using a teacher selected and student created graphic organizer or cloze notes with instructional support (e.g., *teacher modeling, visuals, word banks, etc.*).

Overview

Maps provide us with information about the land around us—including our neighborhood, city, state, country, and world. Maps have a special language all their own. Map language includes numbers, names, and symbols. These names, numbers, and symbols all represent real things that are usually too big to put on a piece of paper.

Purpose

In this lesson, students will review the elements of a map and apply their knowledge to measure distance and determine direction. This lesson contains adaptations for diverse learners (ELLs).

Key Vocabulary

map – a flat drawing that depicts the Earth
direction – the line along which something faces
elevation – how high a place is above sea level
compass rose – shows directions on a map
distance – the amount of space between two things or places
scale – used to measure distances

Materials

- Graphic Organizer (teacher choice)
- Internet, computer, and projection device
- There is a Map on My Lap by Tish Rabe.
- Arizona Cities with Compass Rose
<https://geoalliance.asu.edu/sites/default/files/maps/AzcitiesCompassLatLong.PDF>
- Landform Regions of Arizona map
<https://geoalliance.asu.edu/sites/default/files/maps/AzLandformRegions4thGrade.pdf>
- Arizona's Topography and Rivers map
<https://geoalliance.asu.edu/sites/default/files/maps/AzLandformRegions4thGrade.pdf>
- Example of Brainstorm Ideas for 3 Maps for Venn Diagram
- Arizona Cities Map—Measuring Distances worksheet and Answer Key
- Arizona Cities Map—Determining Directions worksheet and Answer Key
- Arizona's Topography and Rivers Map—Determining Elevation worksheet and Answer Key
- Map Reading Assessment and Answer Key
- Arizona's Cities with Latitude and Longitude
<https://geoalliance.asu.edu/sites/default/files/maps/AzcitiesNoCompass.PDF>

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Objectives

The student will be able to:

- Identify basic elements of a map: title, symbols, scale, compass directions, and elevation.
- Use scale and compass rose on a map.

Procedures

Two lessons, found on the Arizona Geographic website, that can be done prior to this lesson and will build the foundation for learning elements of a map are: TOADS: An Introduction to Map Reading (grades 2-3) <https://geoalliance.asu.edu/toads> and DOGSTAILS: An Introduction to Map Reading <https://geoalliance.asu.edu/dogstails>

SESSION ONE

1. Introduce the lesson by projecting and explaining or reviewing the key vocabulary words using the vocabulary cards. **(Preparation: Adapting content)**
2. Ask the class to please raise their hands to tell you when they have used maps before **(Preparation: Linking to Background)**.
3. As students contribute ideas, emphasize these key concepts about maps.
 - Maps have a language of their own, they use names, numbers and symbols to speak.
 - You can use maps to find distance.
 - You can use maps to find direction.
 - You can use maps to find elevation.
 - You can have maps for special purposes.
 - Maps are a visual way to convey words and meanings. **(Application: Linked to objectives)**
4. Quickly use websites or maps in your room to show the students different types of maps. Have the students quickly discuss them in class.
Possible websites:
 - <http://www.google.com/earth/index.html>
 - <https://www.cia.gov/library/publications/resources/cia-maps-publications/>
 - <http://www.google.com/>, and search their images using keyword “maps” **(Application: Linked to objectives)**
5. Have students brainstorm words that describe what is found on maps. Use the following questions:
 - What kinds of maps are there?
 - Where do you find maps?
 - What are the parts of a map?
 - What do you find on a map that helps you read and understand it? **(Scaffolding: Comprehensible input)**
6. As a whole class, organize their answers

using any type of projected and distributed graphic organizer. Subtitles of organizer could include Kinds of Maps, Purposes of Maps, Map Vocabulary. Have students individually complete the distributed graphic organizer. **(Scaffolding: Comprehensible input, Application: Promotes engagement)**
7. End the session by reading There is a Map on My Lap by Tish Rabe.

SESSION TWO

1. Project and distribute the following maps:
Arizona Cities with Compass Rose
<https://geoalliance.asu.edu/sites/default/files/maps/AzCitiesCompassLatLong.PDF>
Landform Regions of Arizona map
<https://geoalliance.asu.edu/sites/default/files/maps/AzLandformRegions4thGrade.pdf>
Arizona's Topography and Rivers map
<https://geoalliance.asu.edu/sites/default/files/maps/AzLandformRegions4thGrade.pdf>
2. Direct students to find the Salt River. (Do not tell students which map to use.) Give students a few minutes to look at the maps. Then pose the question: Which map would you use to help you find the Salt River? Why? **(Application: Promotes engagement)**
3. Have students look again at the three maps. Ask, “What are the similarities and differences between these three maps?” With students, make a list of things that they see on each map. Record these on the whiteboard.
4. Draw and project a Venn diagram with 3 circles to compare the three maps. Label each circle with one of the Arizona map titles and label the intersecting area with Common to These Maps. Distribute paper so students can draw their own Venn diagram. **(Scaffolding: Guided practice)**
5. Have students look at the list on the whiteboard and as a class, decide where each item should go on the Venn diagram. Write the items in the projected Venn diagram and have students complete their individual copies. **(Scaffolding: Guided practice, Modeling)**
6. Say to students, “Maps are drawings that depict the Earth or any part of it, large or small. Let’s review the parts of a map. Maps have titles that tell the name of the map. The title often tells you specific information that can be found on the map.”
7. Look at the three maps. Discuss the titles and purposes of each map. Ask students who would use each of the maps and for what purpose. (Topography maps show changes in elevation as well as water bodies.)
8. Say, “Symbols are representations of important features on the map. Look at each map and study the symbols and meanings.”

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9. Say, “A compass rose shows the directions on a map. Sometimes it includes only cardinal directions. Sometimes it also includes intermediate directions.” Discuss cardinal and intermediate directions.

10. Say, “A scale on a map is used to measure distances using inches and centimeters. Look at each map and determine what the scale measures.”

11. Review how to use a scale to measure distance. **(Application: Linked to objectives)** Collect up the maps.

SESSION THREE

1. Briefly remind students how to measure on a map. If needed, project You Tube video (1.27 min) <https://www.youtube.com/watch?v=V3QxrX0MYu4> **(Scaffolding: Comprehensible input, Application: Promotes engagement)**

2. Distribute the Arizona Cities with Compass Rose map, the Arizona Cities Map--Measuring Distances worksheet and small pieces of paper. Explain the directions and model how to measure.

(Scaffolding: Guided practice, Modeling; Assessment: Written, Individual)

3. When students have completed measuring, distribute the Arizona Cities Map—Determining Directions worksheet. Remind students on how to use the compass rose and give them time to complete the worksheet. **(Assessment: Written, Individual)**

4. Have students complete the Map Reading Assessment using the Arizona’s Cities with Latitude and Longitude map (no compass rose). <https://geoalliance.asu.edu/sites/default/files/maps/AzcitiesNoCompass.PDF> **(Assessment: Individual, Written)**

Assessment

Mathematics and Geography

The Arizona Cities Map--Measuring Distances and the Arizona Cities Map—Determining Directions worksheets can be graded. Mastery will be considered a score of 80% or higher on each worksheet.

ELA and Geography

The graphic organizer and the Venn Diagram can be graded for completeness. Mastery will be considered a score of 90% or higher on recording the ideas produced in class.

Extensions

Students can use the Arizona’s Topography and Rivers—Determining Elevation worksheet for further map reading practice.

Sources

Knowlton, J. (1985). *Maps and Globes*. New York: Harper Collins Publishers, Inc. ISBN 0064460495

Sweeney, J. (1996) *Me On the Map*. New York: Dragonfly Books, Crown Publishers. ISBN 0517885573

Rabe, Tish. (2002) *There’s a Map on My Lap!* New York: Random House. ISBN 978-0-375-81099-2