

All Maps Lie: A Look at the Properties and Functions of Maps

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Grade Level	High School
Duration	1-2 class periods plus homework

Geography Standards

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

ELA

Writing

Production and Distribution of Writing

9-10.W.4 and 11-12.W.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Arizona Social Science Standards

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

HS.G1.2 Use geospatial tools and related technologies to construct relevant geographic data to explain spatial patterns and relationships. Key tools and representations such as Google Earth, story mapping, wayfaring apps, and other geospatial technologies

Overview

Maps are tools for understanding the world around us. However, just like other sources of information, maps can be deceiving depending on the purpose of the map's creator.

Purpose

In this lesson students will identify and describe the properties and functions of maps and become more aware of bias that can be fostered by a map.

Materials

- All Maps Lie PowerPoint presentation
- All Maps Lie Note worksheet
- All Maps Lie Choice Board
- All Maps Lie Grading Rubric
- Computer and projection device

Objectives

The student will be able to:

1. Identify the advantages and disadvantages to maps and globes.
2. Identify map projections.
3. Distinguish between large- and small-scale maps.
4. Explain why cartographers use generalization and exaggeration.

Procedures

SESSION ONE

1. Introduce the lesson by asking, "Should believe everything we read or see on social media?" After allowing students to respond, switch the topic to maps. "Should we believe everything we see on a map?"
2. Distribute the All Maps Lie Note worksheet. Project and explain the PowerPoint presentation while students fill in the appropriate sections of the worksheet.
3. Conclude the lesson by showing the last several slides that give examples of the project the students will be completing in Session Two.

SESSION TWO

1. Distribute and explain the All Maps Lie Choice Board and All Maps Lie Grading Rubric to ensure the students know the expectations of the project. If necessary, repeat showing the final slides of Session One's PowerPoint so students can see actual student examples of what is expected.
2. Individual students or groups of students will choose and complete one of the three projects from the choice board. The project can be completed during class time or as homework.

Assessment

ELA and Geography

ELA and geography skills and content can be assessed using the All Maps Lie Grading Rubric. Mastery will be considered a score of 80% or higher on the project.

Extensions

Have the students create their own cartoon strips for the topic.

Have the students set up an exhibit showing maps that lie.

Sources

Map projections courtesy of University of Colorado Boulder.

<https://slideplayer.com/slide/5356275/>

Investigation Map Projections

<https://www.nationalgeographic.org/activity/investigating-map-projections/>