

USING AUTO CADD TO CREATE A PIRATES MAP TO BURIED TREASURE

Performance Standard 17A.H

Draw a map with a 100-mile northeast-southwest oriented coastline accordingly:

- *Knowledge:* identify, draw and label ten geographical items on map (i.e., bay, harbor, peninsula, coastal plain, river that empties into the sea, off-shore island, isthmus, delta and mountain range).
- *Reasoning:* identify and logically organize the map using mental maps and concepts of scale, distance and direction.
- *Communication:* produce a map that is well organized and well detailed; express all ideas in a way that provides evidence of knowledge and reasoning processes.

Procedures

1. ***In order to locate, describe and explain places, regions and features on Earth (17A)***, students should experience sufficient learning opportunities to develop the following skills:
 - Translate a mental map into a sketch form to illustrate relative location of, size and distances between geographic features (e.g., cities, mountains, rivers).
 - Demonstrate understanding of how to display spatial information by constructing maps, graphs, diagrams and charts that show such information (e.g., choropleth maps, climographs, population pyramids).
 - Use cardinal and intermediate directions, map scale, map symbols and distance.

Students seeking future employment in drafting related occupations must be proficient in the application of Auto CADD commands dealing with sketch, linetype, layer control, unit selection and coordinate entries. This standard aligns with International Technology Education Association (ITEA) Standard 3 (Students will develop an understanding of the relationships among technologies and the connections between technology and other fields of study.) In addition, it aligns to ITEA Standard 17 (Students will develop an understanding of and be able to select and use information and communication technologies.)
2. Have students review and discuss the assessment task and how the rubric will be used to evaluate their work. Students should rely on their mental maps of the size, shape and configuration of the physical landform features identified to construct an accurate map. Students should also use their knowledge of essential map elements to orient and position the different physical landform features on the map.
3. Provide each student a copy of the “A Pirates Map to Buried Treasure” task sheet. In addition, provide each student with a graphic of the features to be included on their map. (Consult an Atlas showing physical land form features for specific examples.) Ask students to design, draw and label a 100-mile northeast-southwest oriented coastline that contains a minimum of 6 of the following:
 - directional indicator
 - linear scale
 - bay
 - harbor
 - peninsula
 - coastal plain
 - river that empties into the sea
 - mountain range parallel to the coast but 50 miles inland
 - off-shore island
 - isthmus
 - delta

This assessment utilizes Auto CADD in the creation of maps describing features on Earth. Using conceptual skills, the student first creates a mental map and then creates a Computer Aided Drafting (CAD) drawing that correctly illustrates cardinal and intermediate directions, map scale, map symbols and distance. After the coastline is completed, the student will plan a route and label each leg of the route that the pirates would follow as they raid cities and towns along this coastline. The path must change directions and distance at least five times. No single paths will be allowed. Eventually, the treasure will be hidden at a hidden location by turning off the layer showing the treasure’s location. The length of each leg of the route will be determined using polar coordinates. The coordinates will be recorded on a separate piece of paper which will later be used by a treasure hunter who has found the map and plans to look for the treasure.

4. Provide each student with the appropriate drawing units and limits based on the paper size.

5. Evaluate each student's work using the Social Studies rubric as follows, and add the scores to determine the performance level:
- *Knowledge*: Configuration and arrangement of the physical landform features and the distance, direction and scale were thoroughly and correctly identified. The polar coordinate system was correctly utilized to locate the treasure.
 - *Reasoning*: The map was logically organized and applications of mental maps and concepts of scale, distance and direction were appropriate and correct.
 - *Communication*: The map was well organized and well detailed; the knowledge and reasoning were completely and effectively communicated on the map.

Examples of Student Work

- [Meets](#)
- [Exceeds](#)

Time Requirements

- Three, 45-minute class periods

Resources

- A Map to Buried Treasure task sheet
- Auto CADD software
- Examples of geographic features
- Atlas with physical land features
- Social Science Rubric

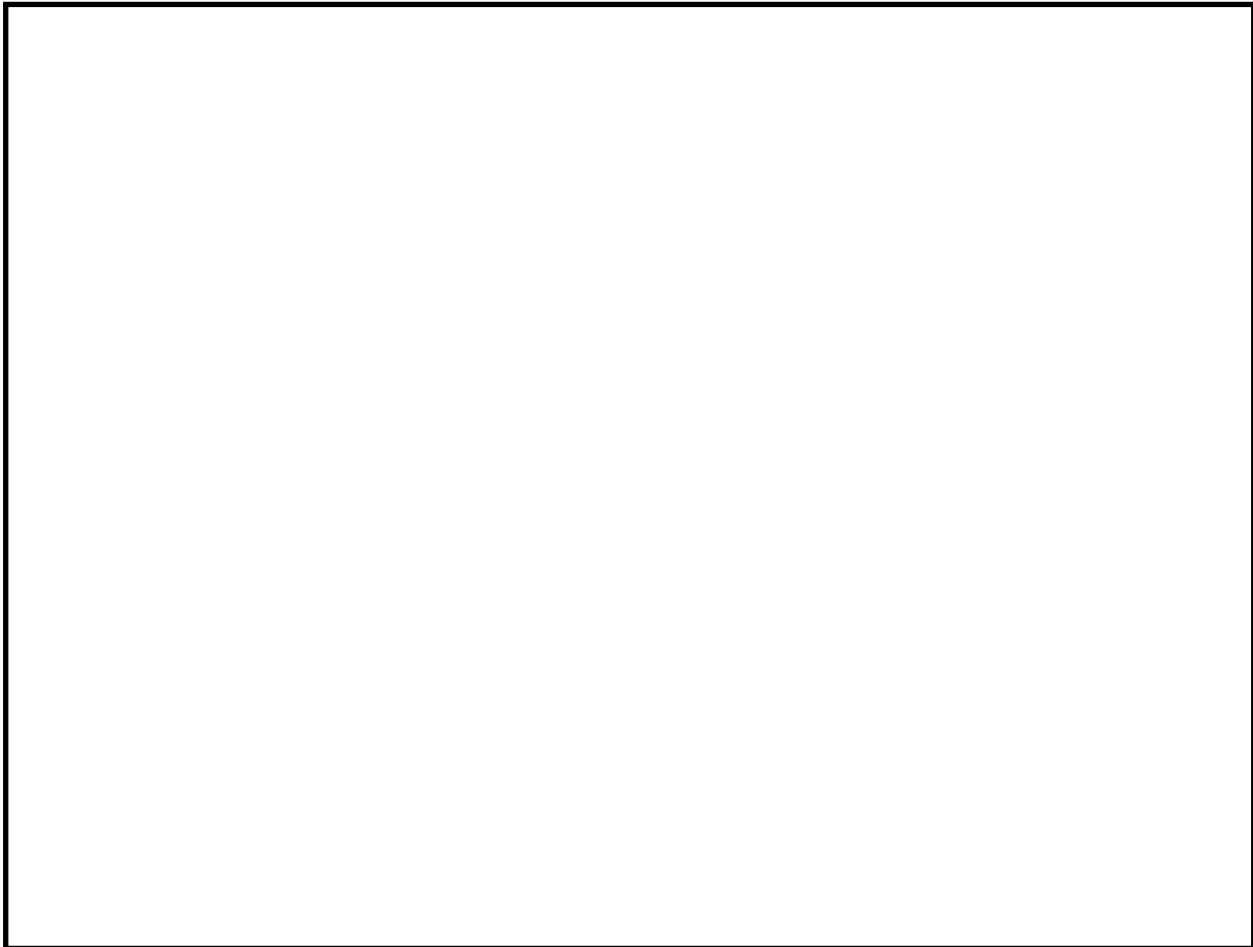
A PIRATES MAP TO BURIED TREASURE

Student Task Sheet

Within the boundary of the area below, design, draw and label a 100-mile northeast-southwest oriented coastline that contains the following:

1. directional indicator
2. linear scale
3. bay
4. harbor
5. peninsula
6. coastal plain
7. off-shore island
8. isthmus
9. delta river that empties into the sea
10. mountain range parallel to the coast but 50 miles inland

When you have completed the coastline, plan out a route and label each leg of the route that the pirates would follow as they raid cities and towns along this coastline. Your path must change directions and distance at least five times. No single paths will be allowed. Eventually, hide the treasure at a hidden location. Keep this location hidden from view by turning off the layer showing the treasure's location. Using polar coordinates, determine the length of each leg of the route. Record your coordinates on a separate piece of paper which will later be used by a treasure hunter who has found the map and plans to look for the treasure.



SOCIAL SCIENCE RUBRIC

NAME _____ DATE _____

- Exceeds standard (total points 11 - 12) Approaches standard (total points 5 - 7)
 Meets standard (total points 8 - 10) Begins standard or absent (total points 1 - 4)

	Knowledge of evidence from the social sciences: facts/ supporting details; themes/ issues; and concepts/ideas	Reasoning: Analysis, evaluation and synthesis of evidence	Communication: Demonstrates knowledge and reasoning through oral, written, visual, dramatic or mixed media presentation
4	<ul style="list-style-type: none"> • Key concepts/themes/ issues/ideas are thoroughly identified, defined and described. • Significant facts/ supporting details are included and accurately described. • Has little or no factual inaccuracies. 	<ul style="list-style-type: none"> • Identifies and logically organizes almost all relevant evidence. • Uses appropriate and comprehensive critical thinking skills and habits of mind to analyze, evaluate and synthesize evidence. • Reaches informed conclusions based on the evidence. 	<ul style="list-style-type: none"> • Almost all ideas in the presentation are expressed in a way that provides evidence of the student's knowledge and reasoning processes. • The presentation is well focused with a well-defined thesis. • Presentation shows substantial evidence of organization. • Presentation shows attention to the details of specific performance conventions.
3	<ul style="list-style-type: none"> • Key concepts/themes/ issues/ideas are identified, defined and described. • Facts/supporting details are included. • May have a major factual inaccuracy, but most information is correct. 	<ul style="list-style-type: none"> • Identifies and organizes most of the relevant evidence. • Uses partial critical thinking skills and habits of mind to analyze, evaluate and synthesize evidence. • Reaches informed conclusions based on the evidence. 	<ul style="list-style-type: none"> • Most ideas in the presentation are expressed in a way that provides evidence of the student's knowledge and reasoning processes. • The presentation demonstrates a focus and thesis with several narrative gaps. • Presentation demonstrates adequate evidence of organization. • Presentation has mistakes in attention to the details of specific performance conventions.
2	<ul style="list-style-type: none"> • Some key concepts/ themes/issues/ideas are identified, defined and described. • Some facts/supporting details are included. • Has some correct and some incorrect information. 	<ul style="list-style-type: none"> • Identifies some relevant evidence and omits most of the other evidence. • Uses unclear, inappropriate or incomplete critical thinking skills and habits of mind to analyze, evaluate and synthesize evidence. • Reaches incomplete or inaccurate conclusions based on the evidence. 	<ul style="list-style-type: none"> • Some ideas in the presentation are expressed in a way that provides evidence of the student's knowledge and reasoning processes. • The presentation demonstrates an inadequate focus and thesis. • Presentation demonstrates inadequate evidence of organization. • Presentation has insufficient attention to the details of specific performance conventions.
1	<ul style="list-style-type: none"> • Few or no key concepts/ themes/issues/ideas are identified, defined and described. • Few or no facts/supporting details are included. • Information is largely inaccurate, absent or irrelevant. 	<ul style="list-style-type: none"> • Important evidence relevant to the problem is not identified. • Critical thinking skills and habits of mind are absent. • Conclusions are lacking, absent or unclear. 	<ul style="list-style-type: none"> • Expression of almost all ideas in the presentation is unclear. • The presentation demonstrates little focus and lacks a thesis. • Presentation demonstrates little or no evidence of organization. • Presentation has multiple mistakes in attention to the details of specific performance conventions.
Score			