

Activity One: Describing Places

Individual Report

What are some of the reasons why cartographers create maps that describe the earth's many places? How many different kinds of maps can you identify that would be useful in traveling around the state of California? Explain the function of each map that you identify.

Evaluation Criteria

- Response includes a listing of at least three reasons why cartographers create maps that describe earth's many places.
- Response gives examples to support the different reasons.
- Response incorporates an analysis of the reasons why cartographers create many different types of maps for the same place.
- Response identifies at least four different kinds of California maps and clearly explains the function of each.

Why Do People Create Maps?

Revised 9/00

Activity One: Describing Places

EC	Exceeds the EC	Meets the EC	Progressing Towards the EC	Minimally addresses the EC
A. Response includes a listing of at least three reasons why cartographers create maps that describe earth's many places.	More than 3 reasons for creating maps (20%)	3 reasons for creating maps (17%)	2 reasons for creating maps (15%)	1 reason for creating maps (12%)
B. Response gives examples to support the different reasons.	More than one example for at least one reason and at least one example for each of the other reasons why cartographers create maps (30%)	An example for each reason why cartographers create maps (26%)	1 or more reasons have no example why cartographers create maps (23%) if 2 reasons have examples (20%) if 1 reason has an example	Faulty examples why cartographers create maps (18%)
C. Response incorporates an analysis of the reasons why cartographers create many different types of maps for the same place.	At least one specific example to support at least one reason (30%)	Demonstrates understanding that many different types of maps needs to be created to meet different needs (26%)	Demonstrates incomplete understanding (23%)	Demonstrates lack of understanding or misunderstanding (18%)
D. Response identifies at least four different kinds of California maps and clearly explains the function.	More than four different types of maps and/or goes beyond types of maps included in the activity and/or brings in personal experience or knowledge (20%)	Four different types of maps and description of function of each (17%)	Three different types of maps and description of function of each (15%)	One or two different types of maps and description of function of each (12%)

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Individual Report

How do cartographers help city planners? Why is it crucial to think about the different ways in which cities can grow? Do you think the city you live in was planned? Why or why not? What patterns of growth do you see in the city in which you live?

Evaluation Criteria

- Response includes a listing of at least three ways that cartographers help city planners.
- Response discusses at least two of the cities in the Resource Cards.
- Response refers to at least three different city growth patterns.
- Response includes at least three justifications that demonstrate whether or not your city was planned.

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Activity Two: Planning

EC	Exceeds the EC	Meets the EC	Progressing Towards the EC	Minimally addresses the EC
List at least three ways that cartographers help city planners	Lists more than three ways that cartographers help city planners (20%)	Lists three ways that cartographers help city planners (17%)	Lists two ways (15%)	Lists one way (12%)
Discusses at least two of the cities in the Resource Cards	Discusses more than two cities in the Resource Cards in connection to the ways cities can grow (25%)	Discusses two cities in the Resource Cards in connection to the ways cities can grow (21%)	Discusses one city in the Resource Cards in connection to ways cities can grow, or two cities, without a clear connection to the ways cities can grow (19%)	Discusses one city in the Resource Cards without clear connection to the ways cities can grow (15%)
Response makes reference to at least three different city growth patterns	Response refers to more than three different city growth patterns either in relation to how cartographers help city planners, or in describing the patterns of growth seen in his/her own city (25%)	Response refers to three different city growth patterns (21%)	Response refers to two different city growth patterns (19%)	Response refers to one city growth pattern (15%)
Response includes at least three justifications demonstrating whether or not his/her city was planned	Response includes more than three justifications demonstrating whether or not his/her city was planned (30%)	Response includes three justifications demonstrating whether or not his/her city was planned (26%)	Two justifications (23%)	One justification (18%)

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Activity Three: Tracing Movement

Individual Report

What are some of the reasons that people create maps to trace movement? How does tracing the movement of people, goods, and ideas help you understand the relationships and interdependence of people and places around the world?

Evaluation Criteria

- Response includes a list of at least three reasons why people create maps to help them make decisions about the relationships between people and places.
- Response includes evidence and examples to support the three reasons why people create maps to help them make decisions about the relationships between people and places.
- Response includes a clear and coherent explanation of the interdependence of people around the world.
- Response addresses why people create maps to trace movement.

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Activity Three: Tracing Movement

EC	Exceeds the EC	Meets the EC	Progressing Towards the EC	Minimally addresses the EC
List at least 3 reasons	Lists more than 3 reasons (bringing in personal knowledge) (20%)	Lists 3 reasons (17%)	Lists 2 reasons (15%)	Lists 1 reason (12%)
Give evidence or examples for at least 3 reasons	Gives more than 3 examples or pieces of evidence, including information from outside the activity (20%)	Gives 1 example or piece of evidence for each of 3 reasons (17%)	Gives 1 example or piece of evidence for each of 2 reasons (15%)	Gives 1 example or piece of evidence for 1 reason (12%)
Explain interdependence of people around the world	Gives a clear, coherent explanation of how more than 1 of the reasons listed contributes to or requires interdependence of people around the world (30%)	Gives a clear, coherent explanation of how at least 1 of the reasons listed contributes to or requires interdependence of people around the world (26%)	Interdependence not explained clearly (23%)	Interdependence minimally addressed (18%)
Ties activity to the Big Idea	Explains how maps that trace movement could help people make informed decisions about problems not mentioned in the activity (30%)	Explains how maps that trace movement have helped people make informed decisions (26%)	Summarizes information previously given in response (23%)	Minimally addresses the Big Idea (18%)

Activity Four: Understanding Change

Individual Report

Why and how do maps change over time? What would a map of your community have looked like a hundred years ago? What will it look like a hundred years from now? Justify your answers logically.

Evaluation Criteria

- Response includes at least three reasons why maps change over time.
- Response includes a clear description of what a map of your community would have looked like a hundreds years ago and lists at least three items that would have been on that map.
- Response includes a clear description of what a map of your community will look like a hundred years from now and lists at least three items that will be on that map (examples must be justified logically.)
- Response addresses why people create maps for understanding change

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Activity Four: Understanding Change

EC	Exceeds the EC	Meets the EC	Progressing Towards the EC	Minimally addresses the EC
List at least 3 reasons why maps change	Lists more than 3 reasons (20%)	Lists 3 reasons (17%)	Lists 2 reasons (15%)	Lists 1 reason (12%)
Give a past description with at least 3 items found in community	Gives a past description with more than 3 items found in community (25%)	Gives a past description with 3 items found in (21%)	Gives a past description with 2 items found in community (19%)	Gives a past description with only 1 item found in community (15%)
Give a future description with at least 3 items found in community with justification for items	Gives a future description with more than 3 items found in community with justification for items (30%)	Gives a future description with 3 items found in community with justification for items (26%)	Gives a future description with 2 items found in community with justification for items (23%)	Gives a future description with only 1 item found in community with justification for item (18%)
Ties activity to the Big Idea	Explains how maps have helped people understand political, economic, social, or geologic changes in their world, and predicts how such maps will continue to help people understand changes in the future (25%)	Explains how maps have helped people understand political, economic, social, or geologic changes in their world (21%)	Summarizes information previously given in response (19%)	Minimally address the Big Idea (15%)

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Activity Five: Understanding Forensic Science

Individual Report

Describe why forensic scientists create maps and explain how these maps can be used. Why has the development of various forms of “forensic mapping” so important in solving crimes?

Evaluation Criteria

- Response clearly explains why forensic scientists map human physiology.
- Response includes accurate descriptions of at least 2 types of “forensic maps”.
- Response includes clear explanations of how each type of “forensic map” is used.
- Response includes details describing both the importance of and limitations of “forensic maps”.

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Activity Five: Understanding Forensic Science

EC	Exceeds the EC	Meets the EC	Progressing Towards the EC	Minimally addresses the EC
Explains why scientists map human physiology	Explains why scientists map human physiology and gives specific examples (20%)	Explains why forensic scientists map human physiology (17%)	Incomplete explanation of why scientists map human physiology (15%)	Inaccurate explanation of why scientists map human physiology (12%)
Includes descriptions of at least two types of forensic maps	Includes descriptions of more than two types of forensic maps (20%)	Includes descriptions of two types of forensic maps (17%)	Includes description of one type of forensic map or an incomplete description of two (15%)	Incomplete description of one type of forensic map (12%)
Explains use of at least two types of forensic maps	Clear explanations of how more than two types of forensic maps are used (30%)	Clear explanations of how two types of forensic maps are used (26%)	Describes one or gives an incomplete description of how two types of forensic maps are used (23%)	Incomplete explanation of how one type of forensic map is used (18%)
Describes importance and limitations of forensic maps	Describes importance of and limitations of forensic maps with specific applications (30%)	Describes clearly both the importance and limitations of forensic maps (26%)	Describes either the importance of or the limitations of forensic maps (23%)	Incomplete description of either the importance or limitations of forensic maps (18%)

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Activity Six: Understanding Earth's Systems

Individual Report

How can maps help us understand the earth's physical systems? What kinds of decisions do these maps help us make?

Evaluation Criteria

- Response includes at least three ways that maps can help us understand the earth's physical systems.
- Response incorporates evidence and examples to support the three ways that maps can help us understand earth's physical systems.
- Response includes at least two types of decisions that can be made by the use of maps of earth's systems.
- Response includes an explanation of why people create maps to explain the earth's physical systems and how they interact with one another.

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Activity Six: Understanding Earth's Systems

EC	Exceeds the EC	Meets the EC	Progressing Towards the EC	Minimally addresses the EC
List at least 3 ways	Lists more than 3 ways (20%)	Lists 3 ways (17%)	Lists 2 ways (15%)	Lists 1 way (12%)
Give evidence and examples for at least 3 ways	Gives evidence and examples for more than 3 ways (25%)	Gives evidence and examples for 3 ways (21%)	Gives evidence and examples for 2 ways (19%)	Gives evidence and examples for 1 way (15%)
List and justifies at least 2 types of decisions	Lists and justifies more than 2 types of decisions (25%)	Lists and justifies 2 types of decisions (21%)	Lists 2 and justifies 1 type of decisions (19%)	Lists and justifies 1 type of decisions (15%)
Interconnectedness of Systems	Applies knowledge of the use of maps and the interaction of physical systems in new and novel ways (30%)	Explains the use of maps to understand earth's physical systems and how those systems interact with one another (26%)	Explanation of the use of maps to understand earth's physical systems and how those systems interact with one another is unclear (23%)	Minimally attempts to explain the use of maps to understand earth's physical systems and how those systems interact with one another (18%)

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Activity Seven: Illustrating Characteristics

Individual Report

Why do atlases contain maps depicting several different characteristics of the same place? Explain and give examples. Which maps would be more important to you if you were planning a vacation? Moving to a new country? Running an important/export business? Why?

Evaluation Criteria

- Response includes clear explanations of why atlases contain many different types of maps.
- Response includes at least 3 different examples of maps that can be found in an atlas and at least 2 reasons why atlases include each type of map you identified.
- Response includes at least two maps that would be important to you in planning a vacation, at least two maps that would be important to you if you were moving to a new country, and at least two maps that would be important if you were running an import/export business.
- Response explains why each of those maps would be important to you, given the particular situation.

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Activity Seven: Illustrating Characteristics

EC	Exceeds the EC	Meets the EC	Progressing Towards the EC	Minimally addresses the EC
Explain why atlases contain many different types of maps	Gives more than 3 types of maps (10%)	Gives 3 types of maps (7%)	Gives 2 types of maps (6%)	Gives 1 type of maps (5%)
Give at least 2 reasons for each type of map	Gives more than 2 reasons for each type of map (30%)	Give 2 reasons for each type of map (26%)	Give 1-2 reasons for each type of map (23%)	Give only 1 reason for each type of map (18%)
Give at least 2 maps each needed for taking a vacation, moving to a new country, and running an import/export company	Gives more than 2 maps each needed for taking a vacation, moving to a new country, and running an import/export company (30%)	Gives 2 maps each needed for taking a vacation, moving to a new country, and running an import/export company (26%)	Gives 1-2 maps each needed for taking a vacation, moving to a new country, and running an import/export company (23%)	Gives only 1 map each needed for taking a vacation, moving to a new country, and running an import/export company (18%)
Give reason for each of the maps chosen	Gives more than 6 total reasons (30%)	Gives 6 reasons (26%)	Gives 4-5 reasons (23%)	Gives 2-3 reasons (18%)

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