

Form Meets Function

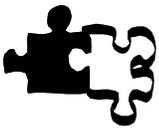
Great Basin National Park Quarter

Grades Nine through Twelve



OBJECTIVE

Students will understand and explain some of the distinct ecosystems and natural features of Great Basin National Park.



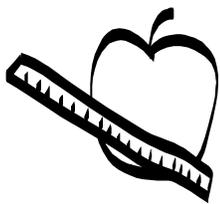
SUBJECT AREA CONNECTIONS

- Social Studies (Geography)
- Art



SUMMARY

1. Display and examine the “Great Basin National Park Quarter” page or use the zoom feature on the coin’s page at www.usmint.gov/mint_programs/atb/?local=GreatBasin. Locate Great Basin National Park on a class map. Note its position in relation to your school’s location. As background, explain to the students that the United States Mint began to issue the quarters in the America the Beautiful Quarters® Program in 2010. By the time the program ends in 2021, there will be a total of 56 designs. Each design will focus on a different national site—one from each state, territory and the District of Columbia.
2. Distribute the “What Are Ecosystems?” worksheet. As a class, discuss the term “ecosystem.” Record student responses and a definition on chart paper. Have the students record the definition on their worksheets.
3. Divide the class into seven groups. Have the students brainstorm what they can tell about the features in the quarter design and answer the questions on the bottom of the worksheet. Then discuss the Bristlecone Pine, record student responses on chart paper and, if necessary, provide the correct answers for the worksheet.
4. Assign each group one natural feature from the “What Are Ecosystems?” worksheet. Using available classroom and online resources, have each group research the assigned feature, fill in the definition and create an artwork that illustrates the feature.
5. Have each group present their definition and artwork to the class. Have all the students note all the correct definitions on the “What Are Ecosystems?” worksheet so they have information on all seven features.
6. Have the students create a map incorporating all of these ecosystems and natural features. Invite them to invent a location or use an existing one. Review the directions on the “Ecosystems Map Rubric” with the class.



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ASSESSMENT

Use the students' maps and the rubric to assess whether they have met the lesson objective.



RESOURCES

- Worksheets:
 - "öGreat Basin National Park Quarterö
 - "öWhat Are Ecosystems?ö
 - "öWhat Are Ecosystems? Keyö
 - "öEcosystems Map Rubricö (1/2 page per student)
- Age-appropriate, relevant Web sites, such as:
 - Great Basin National Park I eb site: www.nps.gov/grba/index.htm
 - Great Basin National Park Landforms info: www.nps.gov/grba/naturescience/naturalfeaturesandecosystems.htm
 - America the Beautiful Quarters® Program: www.usmint.gov/mint_programs/atb/
 - Great Basin National Park Bristlecone pine: www.nps.gov/grba/planyourvisit/identifying-bristlecone-pines.htm
 - Great Basin National Park quarter image with zoom feature: www.usmint.gov/mint_programs/atb/?local=GreatBasin
 - Map example: www.archives.gov/legislative/features/nm-az-statehood/us-map.html
 - Map example: [memory.loc.gov/cgi-bin/map_item.pl?data=/home/www/data/gmd/gmd7/g7822/g7822c/ct000749.jp2&style=setlmap&itemLink=r?ammem/gmd:@filreq\(@field\(NUMBER+@band\(g7822c+ct000749\)\)+@field\(COLLID+setlmap\)\)&title=A%20description%20of%20the%20sea%20coasts%20...%20in%20the%20East%20Indies%20%2f%20by%20William%20Hacke](http://memory.loc.gov/cgi-bin/map_item.pl?data=/home/www/data/gmd/gmd7/g7822/g7822c/ct000749.jp2&style=setlmap&itemLink=r?ammem/gmd:@filreq(@field(NUMBER+@band(g7822c+ct000749))+@field(COLLID+setlmap))&title=A%20description%20of%20the%20sea%20coasts%20...%20in%20the%20East%20Indies%20%2f%20by%20William%20Hacke).
 - Map example: [memory.loc.gov/cgi-bin/map_item.pl?data=/home/www/data/gmd/gmd4/g4390/g4390/lh000044.jp2&style=setlmap&itemLink=D?gmd:1:./temp/~ammem_Zeqz::&title=\[Map%20showing%20Caribbean%20area%20including%20West%20Indies%20and%20Gulf%20of%20Mexico](http://memory.loc.gov/cgi-bin/map_item.pl?data=/home/www/data/gmd/gmd4/g4390/g4390/lh000044.jp2&style=setlmap&itemLink=D?gmd:1:./temp/~ammem_Zeqz::&title=[Map%20showing%20Caribbean%20area%20including%20West%20Indies%20and%20Gulf%20of%20Mexico).



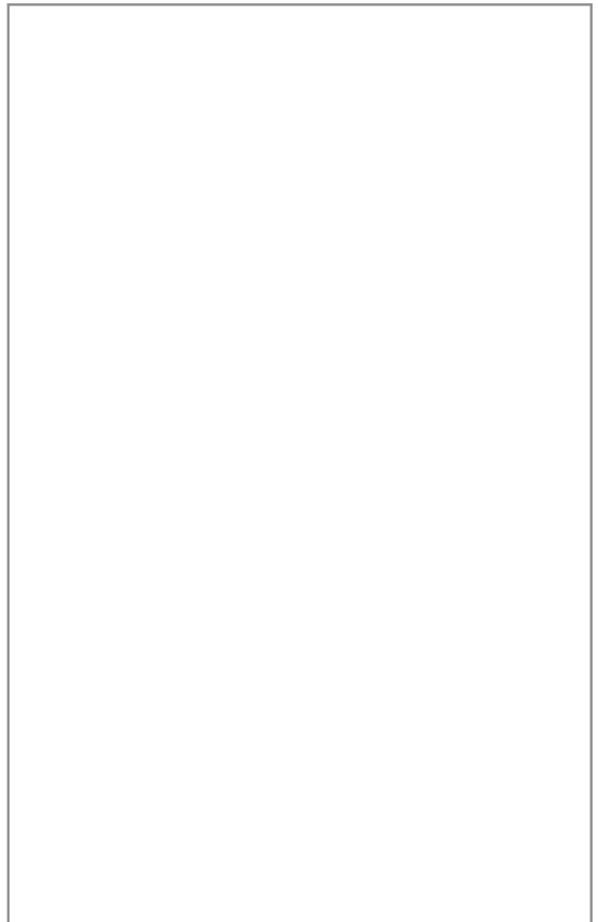
Name _____

What Are Ecosystems?

Directions: Define "ecosystem" below. Become an expert on one of the features of Great Basin National Park. Research the assigned feature then write a definition in the box on the left and create an image of it on the right. As you share your results with the class, complete the rest of the definitions below through the other presentations.

Ecosystem: _____

Ecosystem/ Feature	Definition
Desert	
Playa	
Glacier	
Mountain	
Moraine	
Fault	
Cave	



Predict the answers to the questions and write them in the "Prediction" column. When the correct answers are given, write them in the "Actual" column.

Question	Prediction	Actual
What ecosystem do you think the Bristlecone Pine tree on the quarter belongs in? Why?		
Which natural features from the list above are present in the image?		





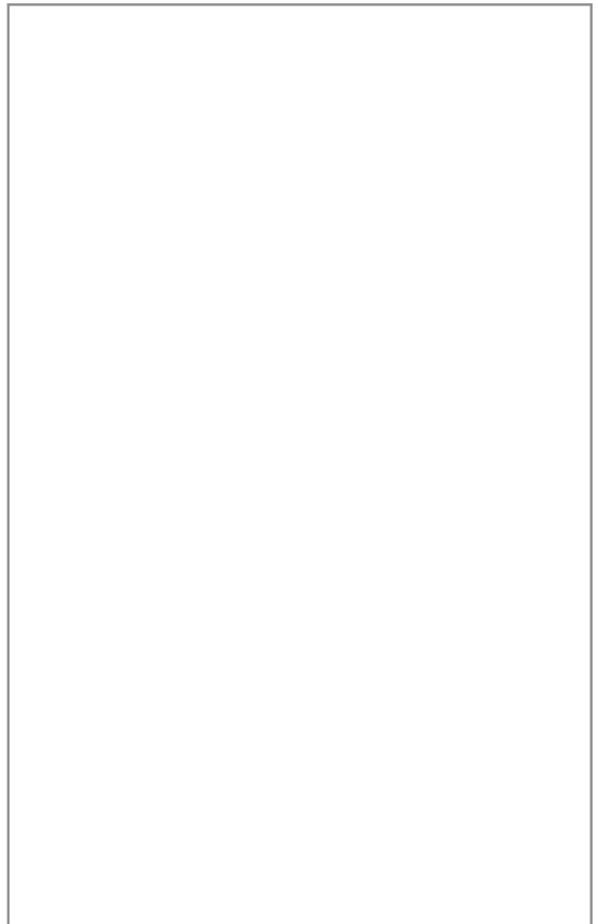
Name _____

What Are Ecosystems? Key

Directions: Define “ecosystem” below. Become an expert on one of the features of Great Basin National Park. Research the assigned feature then write a definition in the box on the left and create an image of it on the right. As you share your results with the class, complete the rest of the definitions below through the other presentations.

Ecosystem: **A system formed by the interaction of a community of organisms with their physical environment.**

Ecosystem/ Feature	Definition
Desert	An arid, barren region that receives less than 10 inches (25 cm) of precipitation per year.
Playa	A flat basin that collects water in wet seasons but dries up in warm seasons.
Glacier	A perpetual body of ice formed in a region of perpetual snow and that moves slowly under its own weight.
Mountain	A large rock outcropping resulting from shifts in the Earth's crust.
Moraine	An accumulation of earth and stones that a glacier moves and deposits.
Fault	A fracture in the Earth's crust; dislocation caused by a slipping of rock masses along a plane of fracture.
Cave	A hollow place in the earth with unique geographic features and life forms.



Predict the answers to the questions and write them in the “Prediction” column. When the correct answers are given, write them in the “Actual” column.

Question	Prediction	Actual
What ecosystem do you think the Bristlecone pine tree on the quarter belongs in? Why?	[Varies]	It grows in the mountain ecosystem because it thrives in rocky, windy conditions.
Which natural features from the list above are present in the image?	[Varies]	Moraine.



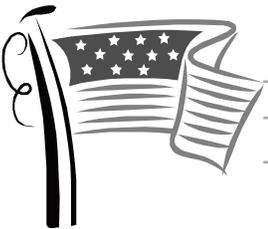


Name _____

Ecosystems Map Rubric

Directions: Incorporate all seven ecosystems and natural features into a map. The location can be a real place or imaginary, but it must be plausible. Include a key explaining the different items. Follow the rubric to ensure that you do your best work.

Criterion	4	3	2	1	Self	Teacher
Ecosystems and Natural Features	All 7 are included.	Only 6 are included.	Only 5 are included.	Fewer than 5 are included.		
Appropriate Location and Use	Map is entirely accurate and features are placed plausibly.	Map is mostly accurate and features are placed plausibly.	Map is somewhat accurate and features are placed somewhat plausibly.	Map is marginally accurate or features are not placed plausibly.		
Spelling and Grammar	No errors.	1 or 2 errors.	Several errors.	Numerous errors.		
Artwork	Clear and clean.	Mostly clear and clean.	Somewhat clear and clean.	Rather messy or rushed.		
Totals						

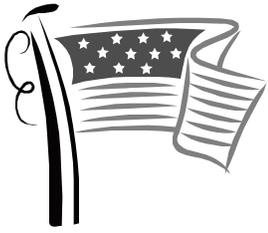


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Great Basin National Park Quarter



The United States of America

