

The Beautiful Barren: The Great Deserts

Grade Level: Grade Six

Presented by: Phyllis Powell, Lubbock Christian School, Lubbock, Texas

Length of Unit: Three Weeks

I. ABSTRACT

The Beautiful Barren is designed to teach general and specific information about the world's deserts. The general information concerns how a desert is defined, the different types, how deserts are formed, the role of wind and water in the desert and how life has adapted to survive in harsh conditions. The specific information is presented by student teams who research an assigned desert and produce a "travel poster" that covers the required information. Experience is gained in library and Internet research. Skills in note taking are emphasized.

II. OVERVIEW

A. Concept Objective

1. The students will gain knowledge of the names, locations and conditions of the world's major deserts.
2. The students will gain skills in both library and Internet research.
3. The students will begin to develop the skill of note-taking during an informative lecture.
4. The students will gain understanding of the special conditions that create deserts.
5. The students will understand the role of water and wind in desert.
6. The students will understand the various ways life has adapted to desert.

B. Content covered from *Core Knowledge Sequence*, p. 137.

1. What is a desert? Hot and Cold deserts
2. Major deserts in
 - a. Africa: Sahara, Kalahari
 - b. Australia: a mostly desert continent
 - c. Asia: Gobi, much of the Arabian Peninsula
 - d. North America: Mojave, Chihuahuan, Sonoran
 - e. South America: Patagonia

C. Skills

1. The student will develop note-taking skills during an informative lecture.
2. The student will conduct research in books and periodicals for information.
3. The student will conduct research on the Internet for information.
4. The student will create a map to show the location of a specific desert.
5. The student will organize information to suit a specific format.
6. The student will practice speaking skills during a five- to ten-minute presentation.
7. The student will use notes to learn and retain information
8. The student will draw diagrams to illustrate concepts.

III. BACKGROUND KNOWLEDGE

A. For Teachers:

1. Hirsch, Jr., E.D., *What Your Sixth Grader Needs To Know: Fundamentals of a Good Sixth Grade Education*, New York, New York: Dell Publishing, 1993, ISBN 0-385-31467-1, pp.88 – 94.
2. Lye, Keith, *Our World Deserts*, Morristown, New Jersey: Silver Burdett Press, 1987, ISBN 0-382-09501-4.
3. MacQuitty, Miranda, *Eyewitness Books: Desert*, New York, New York: Alfred A. Knopf, Inc., 1994, ISBN 0-679-96003-1.

B. For Students

1. The student should have a basic knowledge of the continents of the world.
2. The student should have a basic knowledge of what is necessary for plant growth.
3. The student should have basic skills in library research.
4. The student should have basic knowledge of computer skills.

IV. RESOURCES

1. "Desert Animal Printouts," All About Nature, EnchantedLearning.com, 2000, <http://www.allaboutnature.com/biomes/desert/desert.shtml>
2. Sands, Stella, *Deserts*, New York, New York: Kids Discover, February 1993, Volume 3, Issue 2, pp. 1-19.
3. Copies of Appendices A – M [Note: Appendix I is not included with this unit].

V. LESSONS

Lesson One: Noting the Facts of the Desert

A. *Daily Objectives*

1. Concept Objectives:
 - a. Students will gain understanding of the special conditions that create deserts.
 - b. Students will understand the role of water and wind in the desert.
 - c. Students will understand the various ways life has adapted in the desert.
2. Lesson Content:
 - a. The definition of desert and the conditions under which deserts form.
 - b. The effects of water on the desert in aquifers, oases, and occasional deluges.
 - c. The role of wind in the formation of desert geography
 - d. The various types of plants suited to the desert and their methods of adapting.
 - e. The various animals of the desert and how they adapt.
 - f. The methods used by people to adapt to the arid conditions of the desert.
3. Skill Objectives:
 - a. The student will develop note-taking skills during an informative lecture.
 - b. The student will use notes to learn and retain information.
 - c. The student will draw diagrams to illustrate concepts.

B. *Materials*

1. A copy of the schedule of study.
2. Pictures of various desert scenes.
3. A copy for each student of the Desert Facts Sheets (see Appendix A).
4. Overhead projector
5. Overhead transparencies of the Desert Facts Sheets (see Appendix A).
6. Diagrams of the forming of deserts (see Appendix C) on transparency or to copy onto the board.
7. Diagrams of the formations of sand dunes (see Appendix D) on transparency or to copy onto the board.
8. Diagrams of aquifers and oases (see Appendix E) on transparency or to copy onto the board.
9. Marker board with various colors of dry erase marker

C. *Key Vocabulary*

1. Precipitation – moisture from the air; e.g. rain, snow, fog, dew, etc.
2. Evaporation – moisture leaving liquid form and escaping to the air
3. Atmosphere – the whole mass of air surrounding the earth
4. Permeable – having pores or openings that permit liquids or gasses to pass through
5. Aquifers – underground layers of permeable rock through which water runs
6. Erosion - the wearing away of the earth's topsoil

7. Drought – a period of time without precipitation

D. *Procedures/Activities*

DAY ONE

1. Put students in groups of four or five. Have them brainstorm words that have to do with the desert. After a few minutes, create a master list on the board. Applause for team with the most words.
2. Introduce the desert by passing around pictures of desert scenes and having students comment on what life would be like there.
3. Pass out a schedule of the unit and briefly overview the upcoming study.
4. Pass out a copy of the Desert Facts Sheets to each student. Explain the procedure of filling in the appropriate words as the information is covered each day.
5. Begin lecture and discussion to practice the skill of “jotting” down the words. Define desert, describe the different types of deserts, and briefly discuss the Arctic and Antarctic as deserts. The teacher may model the process using transparencies of the Desert Facts Sheets.
6. Assign study of information for quiz on Day Two.

DAY TWO

7. Begin with short quiz over information from Day One.
8. Define and describe each set of conditions in which deserts form while students practice filling in the blanks on their facts sheets. Teacher may model.
9. Present diagrams on overhead or the board for students to copy down.
10. Assign study of information for quiz on Day Three.

DAY THREE

11. Begin with short quiz over information from Day Two.
12. Begin lecture and discussion over aquifers, oases, and water caused erosion. Students practice note taking. Teacher may model.
13. Assign study of information for quiz on Day Four.

DAY FOUR

14. Begin with short quiz over information from Day Three.
15. Begin lecture and discussion of wind erosion and its role in geological formations in the desert. Also, cover the various types of sand dunes and their causes. Students practice note-taking. Teacher may model.
16. Assign study of information for quiz on Day Five.

DAY FIVE

17. Begin with quiz over information from Day Four.
18. Begin lecture and discussion of life in the desert covering plants, animals and people. Students practice note-taking.
19. Assign study of information for quiz during next class period.

E. *Assessment/Evaluation*

1. Teacher will evaluate each day’s quizzes for the retention of information.
2. A test will be given at the end of the unit covering the information from Lesson One and Lesson Two.

Lesson Two: How many deserts can one planet have?

A. *Daily Objectives*

1. Concept Objectives:
 - a. The students will understand the unique conditions of one of the world’s deserts.
 - b. The students will become familiar with the names and locations of the world’s deserts.
2. Lesson Content:
 - a. The world’s major deserts

3. Skills Objectives
 - a. The student will conduct research in books and periodicals for information.
 - b. The student will conduct research on the Internet for information.
 - c. The student will create a map to show the location of a specific desert.
 - d. The student will organize information to suit a specific format.
 - e. The student will practice speaking skills during a five- to ten-minute presentation.
- B. *Materials*
 1. Desert Project Checklist (see Appendix F)
 2. Desert Project Information Gathering page (see Appendix G)
 3. Books and periodicals containing information about specific deserts
 4. A list of Internet sites for use in research (see Bibliography B)
 5. Access to a computer lab with Internet capabilities
 6. Butcher paper for poster backgrounds
 7. Glue sticks
 8. Scissors
 9. Markers
 10. Colored paper
 11. Instructions for the game, "Oasis"(see Appendix H)
 12. Maps of the world with the deserts shaded in (see Appendix L)
 13. Copies of the unit test with the presentation evaluation (see Appendix J)
- C. *Key Vocabulary*
 1. Latitude—the imaginary lines on a globe or map that circle the earth east and west
 2. Longitude—the imaginary lines on a globe or map circle the earth north and south.
- D. *Procedures/Activities*

DAY ONE

 1. Begin with quiz over information from Day Five.
 2. Explain the requirements of the "travel" poster to be produced during these lessons.
 3. Hand out and explain the checklist and the information gathering page.
 4. Assign partners, or allow the students to form groups of twos or threes. Assign each team a specific desert on which to gather information.
 5. Begin independent research over the world's deserts. Provide books and periodicals for research, or arrange access to the library.

DAY TWO - DAY THREE

 6. Continue aiding the students in gathering information on their specific deserts.
 7. Arrange monitored access to the Internet in a computer lab. Students use teacher chosen sites for information gathering.

DAY FOUR – DAY FIVE

 8. Provide butcher paper, glue, scissors, and colored paper for the teams to begin assembling their posters.

DAY SIX - DAY SEVEN

 9. Teams make presentations of their posters.
 10. Give all students maps with the deserts shaded in but without the names (see Appendix L). As each team presents their information, the other students mark their maps with the name beside the desert.

DAY EIGHT – DAY NINE

 11. Review all information presented and selected questions from the team presentations by playing "Oasis" (see Appendix H)

DAY TEN

 12. Test over all information presented during the lectures and selected questions from the team presentations.

- E. *Assessment/Evaluation*
1. Using the form in Appendix J assign the following points for each part of the presentation:
 - a. Information – 30
 - b. References – 10
 - c. Questions – 10
 - d. Grammar – 30
 - e. Presentation – 20
 2. Give unit test covering information given in the lectures and selected questions from the team presentations (see Appendix J).

VI. CULMINATING ACTIVITY

- A. Students create “desert” scenes using watercolor paints and cut paper.
- B. Students create “desert” scenes using glue and various colors of craft sand.

VII. HANDOUTS/WORKSHEETS

Appendices A – M [Note: Appendix I has been cut and is not included with this unit]

VIII. BIBLIOGRAPHY

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Leopold, A. Starker, *Life Nature Library: The Desert*, Alexandria, Virginia: Time-Life Books, 1978.

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Nature Encyclopedia, London, England: Dorling Kindersley Limited, 1998, pp. 86-87, ISBN 0-7894-3411-3.

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2. Internet Resources:

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“Desert Questions and Answers: Excerpts from the Arizona-Sonora Desert Museum *Book of Answers*”, Arizona-Sonora Desert Museum, Tucson, AZ, http://www.desertmuseum.org/desert_qanda.html

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“EcoQuest: Desert Edition: An Interactive Webquest”, <http://members.aol.com/Questsite/1/2.html>.
“The Living Desert: Deserts of the World”, ©The Living Deserts; EZ Web Services Inc.
<http://www.livingdesert.org/deserts.htm>.
“Namib: Africa’s Burning Shore”, The Living Edens, Readers Digest World, PBS Online, 1997,
<http://www.pbs.org/edens/namib/> .
“Patagonia: Life at the End of the Earth”, The Living Edens, Reader’s Digest World, PBS
Online, 1997, <http://www.pbs.org/edens/patagonia/>.
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Walker, A.S., “Deserts: Geology and Resources”, US Geological Survey, National Parks
Service, Department of Interior, 1998, <http://pubs.usgs.gov/gip/deserts/contents/>.
“What’s It Like Where You Live? The Desert”, The Evergreen Project, Inc., 1998;
<http://mbgnet.mobot.org/sets/desert/index.htm>.

Appendix A – The Beautiful Barren

Deserts Fact Sheets

- Deserts cover about _____ of the earth's land surface.
- A desert is defined as a region where there is _____ or _____ of _____ per year. Also, a desert is a region where the precipitation is _____ the rate of _____.
- Precipitation: _____
- Evaporation: _____
- Arid: _____
- Types of Deserts:
 - a. _____; called the _____; contains vast acres of dunes
 - b. _____; called the _____; contains gravel and some sparse _____
 - c. _____; called the _____; made up of bare bed rock.
- Deserts can be _____ or _____
The defining condition is _____..
- _____ and _____
regions are types of deserts because of _____
_____.

Deserts form in different ways:

- _____: formed when air at the _____ (called the _____) rises and spreads to around _____ and _____ latitudes (called the _____). It _____ as it _____ and becomes dry _____ bringing no moisture and zapping any from the surface.

Diagram:

Little _____ causes _____ to escape into the _____ easily. This also causes _____ to escape quickly at _____, causing extreme drops in _____.

- _____: formed when _____ winds full of _____ encounter coastal _____. The moisture is dropped on the _____ side. The air sweeping over the mountains to the other side is _____ leaving little moisture for _____.

Diagram:

- _____: formed by _____ that are too _____ to pick up moisture: the winds blow onto the coast creating very _____ conditions.

- _____: some regions are _____ from the _____ for the moisture to _____.

- People: People's _____ or _____ can cause deserts to occur.

Examples: _____

- **Water** is found in the desert deep _____ in _____ - layers of underground, _____ rock. These are usually between layers of _____ rock. When the water escapes from the aquifer to the surface an _____ is formed.

- An oasis (_____ - plural) is _____.
- There are three kinds of oases:
 1. _____: where people have _____ through the impermeable rock.
 2. _____: where an _____ has caused the _____ of earth to _____ and the water in the aquifer pushes its way up the slit caused in the impermeable rock.
 3. _____: where the _____ has worn away the _____ and the _____ exposing the aquifer to the surface.
- Water causes _____ in many deserts:
 1. When rains fall they often come _____. In _____ or _____ the water washes the _____ down with it, leaving no soil for _____. The debris that lands at the base of the hill forms an _____.
 2. Water collects in _____ lake beds called _____. When the water _____, it leaves _____ such as _____, _____, and _____ covering the surface.
- **Wind** also causes erosion in the desert.
 1. Wind catches up _____ and carries it along, causing a _____ effect. Formations like _____, _____, _____, and _____ are formed this way.

2. Wind also causes _____,
or the wearing away of the surface, causing depressions.
This is the cause of _____.

• Winds are also the cause for the many shapes of sand dunes:

1. Longitudinal dunes: ridges running in the _____
_____ as the wind is blowing. Diagram:

2. Seif dunes: occur when one wind blows into the main
wind at a _____. Diagram:

3. Barchan dunes: _____ shaped, occur
when the blown sands hit a barrier, like a _____.
Diagram:

4. Star dunes: occur when winds _____
_____ many times. Diagram:

Plants in the desert have different ways of surviving the harsh conditions.

- _____ or _____ appear only when there is rain. The rest of the time they lie _____ as hardy _____.
- _____ have developed many ways to prevent drying out.
 - a. _____ grow very slowly and can store large amounts of water
 - b. _____ grow very deep _____ that can use underground water sources.
 - c. _____ stores water in underground _____.

Desert animals have different ways of coping with the arid conditions of the desert:

- _____, _____, and _____ are plentiful in the desert. Most hide during the hot daytime hours in _____ or _____.
- _____ and _____ are reptiles found in the desert. They also hide during daytime. Snakes get water from _____. Ways that some lizards have adapted are _____ and _____.
- _____ and _____ also have developed different ways of surviving in the desert. Many spend their days in _____ or nests built in _____. Desert animals that have been _____ by humans include _____, and _____.

People have adapted to desert life in two main ways:

- In many cases the inhabitants of a desert are _____ - they move from location to location, following _____ for their _____ or for _____.

- Other peoples settle near oases where some _____ is possible. These often build houses of _____ and/or _____ with thick walls to provide _____.

Some even dig down and create underground houses. There are these type of dwellings that have been used for _____ years.

- The deserts yield many mineral resources including _____, _____, _____, _____, _____, _____, _____.

However, mining can be _____ because the _____ require that almost all needs for living be transported in. Also, the miners usually require _____ to be willing to work in these barren places.

Appendix B

Deserts Fact Sheets

- Deserts cover 1/5 of the earth's surface.
- A desert is defined as a region where there is 10" or less of precipitation per year. Also, a desert is a region where the precipitation is less than the rate of evaporation.
- Precipitation: moisture coming from the air, rain, snow, fog, etc.
- Evaporation: water escaping as gas into the air.
- Arid: dry
- Types of Deserts:
 - a. Sandy deserts: called the erg; contains vast acres of dunes
 - b. Stony deserts: called the reg; contains gravel and some sparse vegetation
 - c. Rock deserts: called the hammad; made up of bare rock
- Deserts can be hot or cold. The defining condition is dryness.
- The Arctic and The Antarctic regions are types of deserts because of low precipitation.

Deserts form in different ways

- Subtropical deserts: formed when air at the equator (called the doldrums) rises and spreads to around 30 N and 30 S latitudes (called the Horse Latitudes). It dries out as it sinks and becomes dry wind bringing no moisture and zapping any from the surface. Diagram.
Little cloud cover causes moisture to escape into the atmosphere easily. This also causes warmth to escape quickly at night, causing extreme drops in temperature.
- Rain Shadow deserts: formed when coastal winds full of moisture encounter coastal mountain ranges. The moisture is dropped on the coastal side. The air sweeping over the mountains to the other side is dry leaving little moisture for vegetation. Diagram.
- Cold Coastal deserts: formed by winds sweeping over arctic waters that are too cold to pick up moisture; the winds blow onto the coast creating very arid conditions.
- Inland deserts: some regions are too far from the ocean currents for the moisture to make it all the way there.
- People: People's poor planning or ignorance can cause deserts to occur.
Examples: Oklahoma Dust Bowl of the 1930s
The Nile river dammed to prevent floods allows the Sahara to creep closer to the previously fertile lands. This process is called desertification.
- **Water** is found in the desert deep underground in aquifers - layers of underground, permeable rock. These are usually between layers of impermeable rock. When the water escapes from the aquifer to the surface an oasis is formed. An oasis (oases - plural) is a place in the desert where water can be found.

There are three kinds of oases:

- Well oases: where people have drilled through the impermeable rock.
- Fault oases: where an earthquake has caused the layers of earth to shift and the water in the aquifer pushes it's way up the slit caused in the impermeable rock.
- Basin oases: where the wind has worn away the top soil and the bedrock exposing the aquifer to the surface.
- Water causes erosion in many deserts.
 1. When rains fall they often come hard and fast. In hills or mountains the water washes the soil and rock down with it, leaving no soil for vegetation. The debris that lands at the base of the hill forms an aluvial fan.

2. Water collects in shallow lakebeds called playas. When water evaporates, it leaves minerals such as salt, gypsum, and borax covering the surface.
- **Wind** also causes erosion in the desert:
 1. Wind catches up sand and carries it along causing a sand blasting effect. Formations like rock pillars, mushroom rocks, and natural arches are formed this way.
 2. Wind also causes deflation or the wearing away of the surface causing depressions. This is the cause of basin oases.
 - Winds are also the cause for the many shapes of sand dunes.
 1. Longitudinal dunes: ridges running in the same direction as the wind is blowing. Diagram.
 2. Seif dunes: occur when one wind blows into the main wind at a right angle. Diagram.
 3. Barchan dunes: crescent shaped dunes, occur when the blown sands hit a barrier, like a rock. Diagram.
 4. Star dunes: occur when winds change directions many times. Diagram.

Plants in the desert have different ways of surviving the harsh conditions.

- Drought evaders or ephemerals appear only when there is rain. The rest of the time they lie dormant as hardy seeds.
- Drought resisters have developed many ways to prevent drying out.
 - a. Cactus grows very slowly and can store large amounts of water.
 - b. Mesquite grows very deep roots that can use underground water sources.
 - c. Cereus stores water in underground bulbs.

Desert animals have different ways of coping with the arid conditions of the desert:

- Insects, spiders, and scorpions are plentiful in the desert. Most hide during the hot daytime hours in rocky crevices or underground holes.
- Snakes and lizards are reptiles found in the desert. They also hide during daytime. Snakes get water from their prey. Ways that some lizards have adapted are transparent eyelids and scales or webbing on their feet.
- Birds and mammals also have developed different ways of surviving in the desert. Many spend their days in burrows or nests built in shade. Desert animals that have been domesticated by humans include camels, and hairy yak.

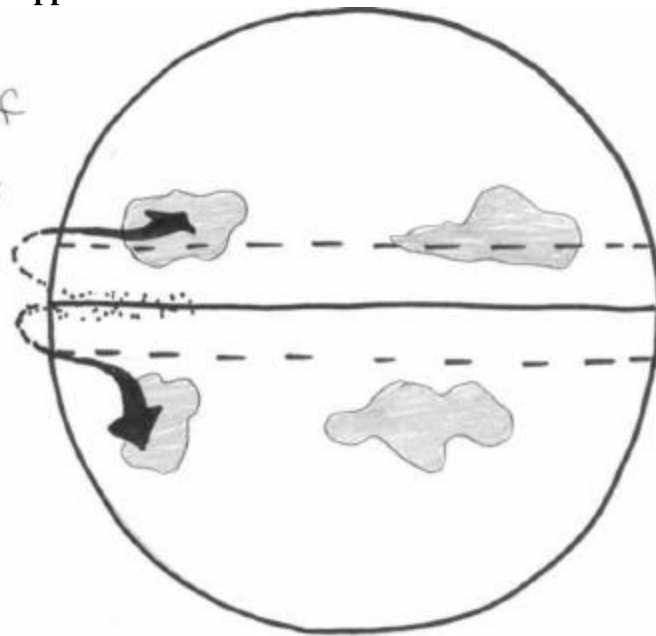
People have adapted to desert life in two main ways

- In many cases the inhabitants of a desert are nomads - they move from location to location, following good grazing for their herds of goats or sheep or for hunting.
- Other peoples settle near oases where some agriculture is possible. These often build houses of mud and/or rock with thick walls to provide insulation.
Some even dig down and create underground houses. There are these types of dwellings that have been used for 2000 years.

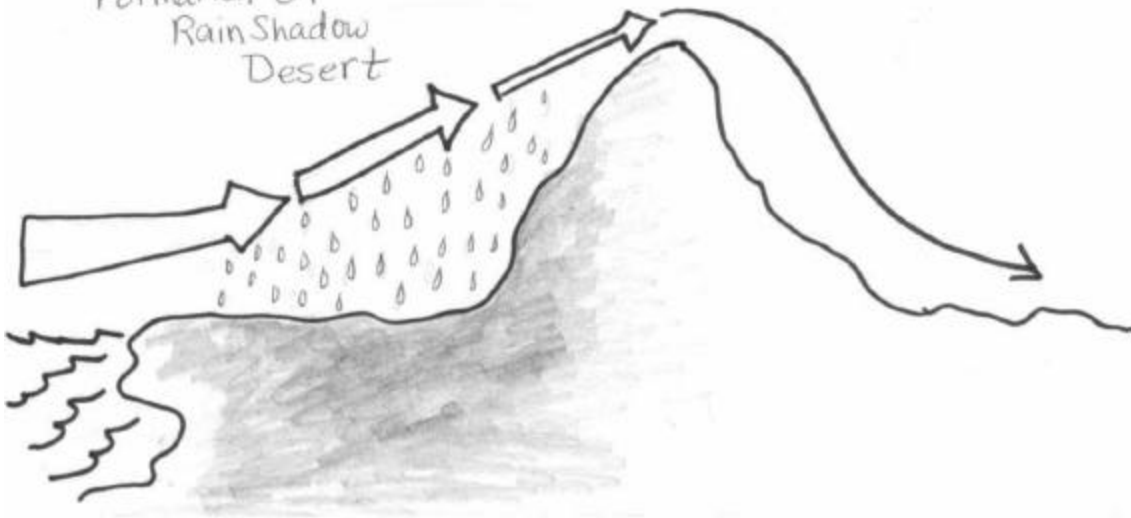
The deserts yield many mineral resources including oil, natural gas, salt, gypsum, copper, gold, silver, and iron. However, mining can be expensive because the harsh conditions require that almost all needs for living be transported in. Also, the miners usually require high salaries to be willing to work in these barren places.

Appendix C – The Beautiful Barren

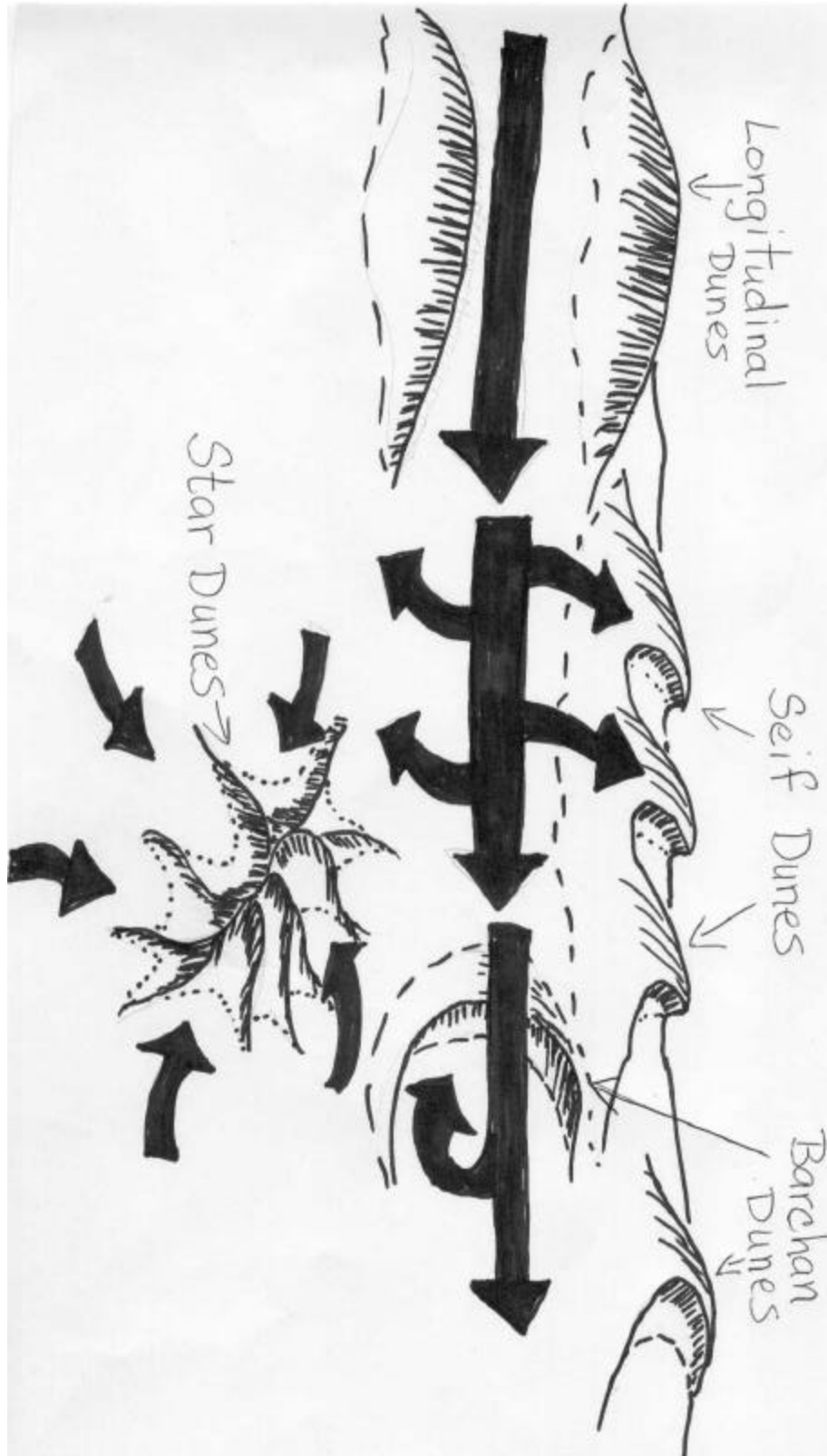
Formation of
Subtropical
Deserts



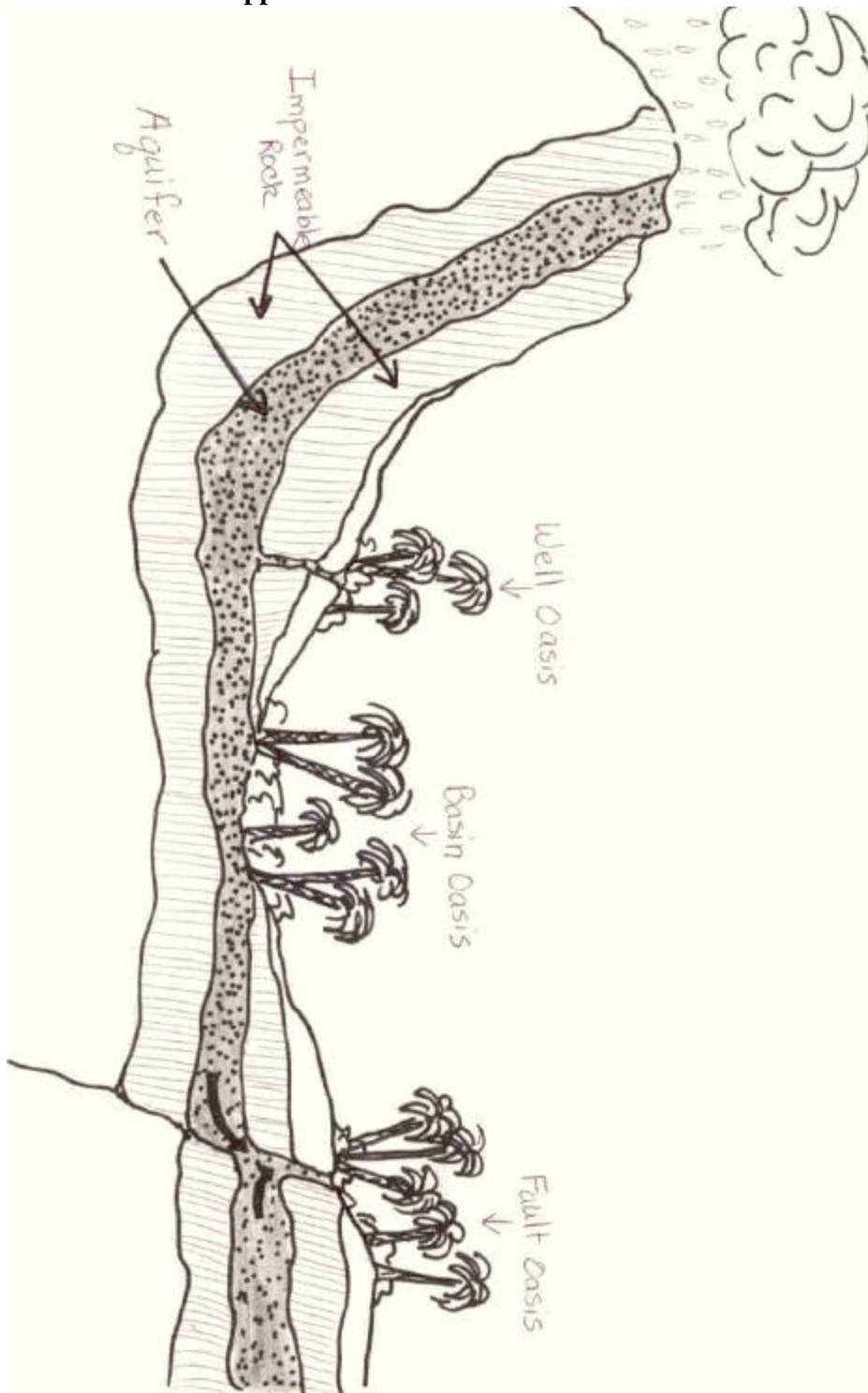
Formation of
Rain Shadow
Desert



Appendix D – The Beautiful Barren



Appendix E – The Beautiful Barren



Appendix F – The Beautiful Barren

Deserts Project Check List

1. _____ Name and location of your desert. (state/states, country/countries, continent, hemisphere, longitude and latitude.)
2. _____ Draw a map of the continent where your desert is located. Show your desert with the area of the desert colored differently from the surrounding areas. Label.
3. _____ Tell about the landscape of your desert.
4. _____ Name and describe the people who mainly live in your desert. Explain ways these people have adapted to life in this desert. Include their food, clothing, dwellings and modes of travel wherever possible.
5. _____ Name and describe kinds of animals that are found in your desert. Explain ways these animals have adapted to life in this desert.
6. _____ Name and describe kinds of plant life that are found in your desert. Explain ways these plants have adapted to growing in this desert.
7. _____ Show one or more pictures that portray something unique to your desert. This may be the people, their dwellings, one or more of the animals, one or more of the plants, or a combination of all of the above. This may be drawn, copied and colored, or off of the computer.
8. _____ Cite at least one reference from the Internet. Choose a site that can easily be found.
 - “Title of site”, Site management, Copyright if available, <http://>
9. _____ Cite at least one reference from books or periodicals.
 - Author (last name, first name), Title, City, State (Country): Publisher, Copyright date, pages cited.
10. _____ Write two questions about your desert that deal with its uniqueness. Ideas are: the plant life, the animal life, how people live there, resources found there.

Appendix G – The Beautiful Barren

The _____ Desert

Location: _____

Landscape: _____

People: _____

Animals: _____

Plant life: _____

References:

1. _____

2. _____

Appendix H- The Beautiful Barren

OASIS!

The students take up places around the room. They must answer 2-3 questions correctly to go to the “oasis” (the desk). If a person is having problems collecting enough questions, a friend, already at the oasis, may go and join them to help. The friend must then stay until the first player can go to the “oasis”.

The game is over when all the class is at the “oasis”. You may have a treat at each desk that can be enjoyed when all the class is back at their desks. One example of a treat is to have one or more moms send cold juice boxes.

[Appendix I – (cut from this unit)]

Appendix J – The Beautiful Barren

The _____ Desert

By _____

Information _____

References _____

Presentation _____

Questions _____

Effort _____

Grammar _____

Appendix K – The Beautiful Barren

The Deserts of the World - Test

- Deserts cover _____ of the world's land surface.
- A desert is defined as:
 - _____
 - _____
- Match these definitions with these words
 - precipitation*
 - evaporation*
 - hammad*
 - arid*
 - erg*
 - reg*
 - horse latitudes*
 - doldrums*

_____ A stony, gravelly desert containing some vegetation.
_____ Latitudes 30° N & 30°S
_____ Moisture coming from the air as rain, snow, fog, etc.
_____ Dry
_____ Vast acres of sand dunes
_____ Water escaping into the atmosphere
_____ Bare rock desert

- Fill in the blanks with the following words:
aquifers *permeable* *fault (oasis)* *oasis*
well (oasis) *impermeable* *basin (oasis)* *wind*

Water is found in the desert in _____. These are underground layers of _____ rock in which water runs. The upper layers of _____ rock prevent the water from coming to the surface. The water is brought to the surface at an _____. _____ oases are where people drill down to the aquifer. _____ oases are where an earthquake has caused the layers to shift and the water has pushed its way up the fault line. _____ oases are where wind has worn away the top soil and the bedrock exposing the aquifer.

- Match the names with the definition of the way deserts form:
Subtropical desert *Rain Shadow desert* *Desertification*
Cold Coastal desert *Inland desert*

_____ Formed when ocean rains fall on the coastal side of the land leaving no moisture for the far side

_____ Formed by overgrazing and/or over planting of grasslands

_____ Formed when air at the doldrums or equator rises & spreads N and S to the horse latitudes becoming hot dry winds that dry out the lands they sweep across

_____ Formed when extremely cold winds cannot bring moisture off the ocean and the coast becomes very dry

_____ Formed when an area is too far from the ocean winds for the moisture to make it all the way

6. Use the words below to fill in the paragraph below:

drought resisters *dormant* *cactus*
drought evaders *mesquite* *cereus*
ephemerals *roots* *bulbs*

Desert plants handle the arid conditions in two ways. _____ or _____ appear only when there is rain. The rest of the time they lie _____ as hardy seeds. _____ have ways to prevent drying out. _____ grows very slowly and store large amounts of water. _____ have deep _____ that tap into underground water sources. _____ store water in underground _____.

7. Name a desert animal and describe how it has adapted to life there or the special properties that it was given to withstand the harsh conditions.

8. Use the words to fill in the blanks below:

nomads *grazing* *hunting*
agriculture *insulation* *oases*

People have adapted to desert life in two main ways. In many cases the peoples of the desert are _____ who move from location to location following good _____ for their herds, or for _____. Those who settle do so near _____ where some _____ is possible. The use mud or rock to build homes with thick walls for good _____.

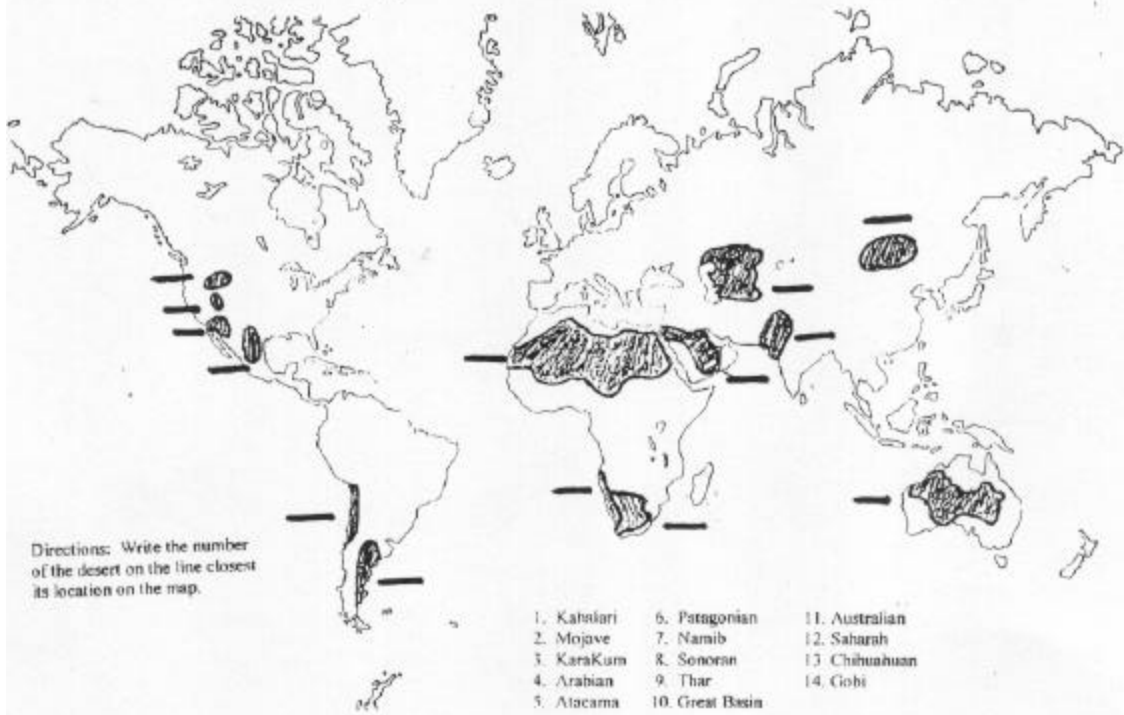
9. Name three minerals that are mined in various deserts.

1. _____
2. _____
3. _____

10. Add questions from the team presentations of specific deserts.

11. Add map to test knowledge of locations of the deserts.

Appendix L – The Beautiful Barren



Appendix M – The Beautiful Barren

