



March 12-14, 1998

## **DESERTS**

**Grade Level:** 6th grade

**Presented by:** Jane Conner and Elaine Benen, Forestville Elementary School, Great Falls, VA

**Length of Unit:** Nine Lessons (16 Days)

### **I. ABSTRACT**

**This unit, Deserts, explores the mysteries of some of the most unfriendly but beautiful places on earth, and it introduces students to the geography of the Middle East. Students will learn the definition of a desert, how and why deserts have developed in certain areas; they will also learn about the location, landforms and special features of the world's greatest deserts. This geography unit is integrated into other disciplines, including reading and research, writing, and art. Activities designed to accommodate the four learning styles are included in each lesson.**

### **II. OVERVIEW**

#### **A. Concept Objectives**

- 1. Students will gain an understanding of the geology of the world's greatest deserts.**
- 2. Students will develop an understanding of desert**

**formation, naturally and**

**man-made.**

**3. Students will develop an awareness of the variety and uniqueness of desert landforms.**

**4. Students will develop an awareness of the adaptations living things must make in**

**order to survive in desert environments.**

**5. Students will develop an awareness of the location of the Middle East.**

**B. Core Knowledge Sequence to be covered**

**1. Formation of deserts**

**2. Great deserts of the world**

**3. Geography of the Middle East**

**4. Composition of a business letter**

**5. Writing poetry**

**C. Specific skills to be taught**

**1. Define and identify various desert features.**

**2. Identify the way deserts are formed.**

**3. Compare and contrast adaptations of living things to a desert habitat.**

**4. Locate the world's greatest deserts.**

- 5. Research information about the world's greatest deserts.**
- 6. Access web sites for information about a specific desert from bookmarked sites on the internet.**
- 7. Locate countries, major cities and major landforms of the Middle East.**
- 8. Create a haiku about a specific desert.**
- 9. Produce a standard business letter.**

### **III. BACKGROUND KNOWLEDGE**

#### **A. For teachers**

- 1. Lerner, Carol. A Desert Year. New York: Morrow Junior Books, 1991.**
- 2. MacQuitty, Miranda. Eyewitness Books: Desert. New York: Alfred A. Knopf, 1994.**
- 3. Parker, Steve and Jane. The Changing World: Deserts & Dry Lands. San Diego:**

**Thunder Bay Press, 1996.**

#### **B. For students**

- 1. Maps and globes**
- 2. Deserts**
- 3. Mediterranean region**

#### **4. Weather/meteorology**

### **IV. RESOURCES**

#### **A. Audio-Visual Aids**

**Desert Dwellers. Poster. Scholastic, Inc.**

**Deserts. Filmstrip. National Geographic Society, 1987.**

**Exploring a Desert Habitat. Poster. Frank Schaffer Publications.**

**Eyewitness: Desert. Videotape. DK Vision, 1996. 35 min.**

#### **B. Books**

**Amsel, Sheri. Habitats of the World: Deserts. Austin, Texas: Raintree Steck- Vaughn Publishers, 1993.**

**Arnold, Caroline. First Facts: A Walk in the Desert. New Jersey: Silver Press, 1990.**

**Arnold, Caroline. Watching Desert Wildlife. Minneapolis: Carolrhoda Books, Inc., 1994.**

**Bernard, Robin. Deserts. New York: Scholastic Professional Books, 1995.**

**Berry, C. E., ed. Sky and Earth. Alexandria, Virginia: Time-Life Books, 1992.**

**Clark, John, et al. Encyclopedia of Our Earth. New York: Shooting Star Press, Inc., 1995.**

**Cloudsley-Thompson, John. The Living Earth: Desert Life. London: Aldus Books Limited, 1975.**

**Dixon, Dougal, ed. The Planet Earth (Volume 4). Chicago: World Book, Inc., 1992.**

**Follman, Ilene. Life in the Desert. St. Louis, Missouri: Milliken Publishing Company, 1995.**

**Guiberson, Brenda Z. Cactus Hotel. New York: Henry Holt and Company, 1991.**

**Higginson, Mel. This Earth of Ours: Deserts. Vero Beach, Florida: The Rourke Corporation, Inc. 1994.**

**Hirsch, E. D., ed. A First Dictionary of Cultural Literacy. New York: Houghton Mifflin Company. 1996.**

**Hirsch, E. D., ed. What Your Sixth Grader Needs to Know: Fundamentals of a Good Sixth-Grade Education. New York: Dell Publishing, 1993.**

**Lerner, Carol. A Desert Year. New York: Morrow Junior Books, 1991.**

**Macquitty, Miranda. Eyewitness Books: Desert. New York: Alfred A. Knopf, 1994.**

**Madgwick, Wendy. Cacti and Other Succulents. Austin, Texas: Steck-Vaughn Library, 1992.**

**Parker, Steve and Jane. The Changing World: Deserts and Dry Lands. San Diego, California: Thunder Bay Press, 1996.**

**Sands, Stella. Kids Discover: Deserts. New York: Kids Discover, 1994.**

**Sayre, April Pulley. Exploring Earth's Biomes: Desert. New York; Twenty-First Century Books, 1994.**

**Sebranek, Patrick and Meyer, Verne and Kemper, Dave. Write Source 2000. Boston: D. C. Heath and Company, 1995.**

**Siebert, Diane. Mojave. New York: Thomas Y. Crowell, 1988.**

**Taylor, Barbara. Desert Life. New York: Dorling Kindersley, Inc., 1992.**

**Classroom Atlas. Chicago: Rand McNally, 1996.**

**World Book's Young Scientist (Volume 4). Chicago: World Book, Inc., 1993.**

### **C. Compact Disks**

**ClarisWorks 4.0. Compact Disk. Claris Corporation, 1996.**

**Earth Explorer. Compact Disk. Sunburst, 1996.**

**Eyewitness Encyclopedia of Science. Compact Disk. Dorling Kindersley, 1995.**

**Grolier Multimedia Encyclopedia. Compact Disk. Mindscape, Inc., 1997.**

**Maps and Facts. Compact Disk. Broderbund, 1994.**

**Microsoft Bookshelf '95. Compact Disk. Microsoft Corporation, 1995.**

**Microsoft Encarta '95. Compact Disk. Microsoft Corporation, 1995.**

**3D Atlas. Compact Disk. Multimedia Corporation, 1994.**

**The Writing Center. Compact Disk. The Learning Company, 1993.**

**D. Encyclopedia: "Desert." World Book Encyclopedia, 1994.**

## **E. Internet Addresses**

**"The A-Z of Camels." [Online] Available  
<http://ww.arab.net/camels/>, (17 November 1997).**

**"The Desert." [Online] Available  
<http://hagar.up.ac.za/egypt/odyssey/week1/desert.html>  
(05 November 1997).**

**"Desert Environment." [Online] Available  
<http://www.desertusa.com/desert.html>  
(17 November 1997).**

## **V. LESSONS**

### **A. Lesson One (1 day): Introduction to Deserts**

#### **1. Objectives**

**a. Students will define “desert.”**

**b. Students will identify and define various features of deserts.**

## **2. Materials**

**a. Children’s Book: Siebert, Diane. Mojave. New York: Thomas Y. Crowell, 1988 (A similar children’s book about deserts may be substituted.)**

**b. Chart paper and markers**

**c. Video: Eyewitness: Desert, 1996.**

**d. Teacher prepared study guide (Appendix A)**

**e. Student pencils**

## **3. Key Vocabulary**

**a. Arid: dry**

**b. Desert: an area of land where less than 10 inches of rain falls per year**

**c. Evaporation: when a liquid turns into vapor or gas**

**d. Precipitation: water reaching the surface of the Earth (rain, sleet, snow, frost, and dew)**

## **4. Procedures/Activities**

**a. Read aloud Mojave by Diane Siebert to introduce the unit.**

**b. Prepare a KWL chart**

**(1) K: Students will brainstorm what they think they know about**

**deserts. Teacher will put ideas on chart paper.**

**(2) W: Students will brainstorm several questions about deserts**

**they would like answered**

**(3) L: Complete at the end of the unit (optional)**

**c. Show video Eyewitness: Desert: students will take notes from video on**

**study guide provided by teacher.**

**d. Class discussion about desert features will follow the video and students**

**will complete study guide.**

**5. Evaluation/Assessment**

*a. Teacher will evaluate students on oral responses following the video.*

*b. Teacher will check students' study guides for completeness and accuracy.*

**6. Standardized Test/State Test Connections**

*a. Oral communication*

***b. Listening skills***

***B. Lesson Two (1 Day): Formation of Deserts***

***1. Objectives***

***a. Students will identify ways deserts are formed by presenting an oral summary of information***

***b. Students will illustrate ways deserts are formed.***

***2. Materials***

***a. Manila paper (12x18 sheet) and crayons for each student***

***b. Overhead projector***

***c. Transparencies***

***(1) Weather Patterns (Appendix B)***

***(2) Cloud Cover (Appendix C)***

***(3) Rain Shadow (Appendix D)***

***3. Key Vocabulary***

***a. Desertification: the creation of new deserts and dry areas from more moist or damper lands by human activities like farming or draining away water***

***b. Rain shadow: rain falls on the sides of mountains that face a water source***

***rather than on the sheltered sides of mountains***

#### ***4. Procedures/Activities***

***a. Review study guide from Lesson One***

***b. Discuss weather patterns, cloud cover, rain shadow, and desertification***

***using transparencies***

***c. On manila paper, illustrate how deserts are formed.***

***(1) Title a piece of manila paper “How Deserts are Formed.”***

***(2) Fold the paper into four equal rectangles and draw pictures to***

***illustrate (label illustrations).***

***(a) Weather patterns***

***(b) Cloud cover***

***(c) Rain shadow***

***(d) Desertification***

#### ***5. Evaluation/Assessment***

***a. Teacher will evaluate students’ oral responses.***

***b. Teacher will check students’ illustrations for understanding of the four***

***concepts presented in the lesson.***

#### ***6. Standardized Test/State Test Connections***

*a. Listening skills*

*b. Identifying main ideas*

*C. Lesson Three (2 Days): Desert Landforms*

*1. Objectives*

*a. Students will identify various hot and cold desert landforms.*

*b. Students will identify causes of desert landforms.*

*2. Materials*

*a. Paper and pencil for each student*

*b. Research materials from school library*

*c. Vocabulary list for each student created by teacher (Appendix E)*

*3. Key Vocabulary*

*a. Alluvial fan: a fan-shaped deposit of sedimentary materials at the mouth*

*of a ravine*

*b. Arroyo: a deep gully cut by an intermittent stream*

*c. Butte: a hill that rises abruptly from the surrounding area and has sloping*

*sides and a flat top*

*d. Dune: a ridge or hill of wind-blown sand*

*e. Erosion: wearing away the land by physical methods such as rubbing and*

*scraping, and carrying away the eroded results such as rock particles*

*f. Groundwater: water under the ground, in spongy rocks and in cracks,*

*crevices, caves, and tunnels*

*g. Mesa: a flat-topped elevation with one or more clifflike sides*

*h. Mirage: an optical phenomenon creating the illusion of water*

*i. Oasis: a fertile area in a desert where groundwater can reach the surface*

*because of the rock formations*

*j. Sediment: finely divided solid material that settles to the bottom of a*

*liquid*

*k. Wadi: a valley, gully, or riverbed that remains dry except during the*

*rainy season*

**4. Procedures/Activities**

*a. Teacher will briefly discuss desert landforms with class.*

*b. Students will go to the library to complete “Desert Landforms Vocabulary.” (Students may work in pairs, but each student should complete written work.)*

*c. Students should write descriptive paragraphs about desert landforms incorporating their notes and vocabulary from “Desert Landforms*

*Vocabulary” into their final paragraphs.*

#### *5. Evaluation/Assessment*

*a. Teacher will evaluate students’ definitions for accuracy.*

*b. Teacher will evaluate students’ paragraphs for accuracy and for the components of a well-written descriptive paragraph.*

#### *6. Standardized Test/State Test Connections*

*a. Research skills*

*b. Descriptive writing*

*c. English grammar/mechanics*

#### *D. Lesson Four (1 Day): Life in the Desert*

##### *1. Objectives*

*a. Students will list how plants have adapted to desert life.*

*b. Students will list how animals have adapted to desert life.*

*c. Students will compare and contrast adaptations made by plants and animals.*

## *2. Materials*

*a. Chart paper and markers*

*b. Pictures of desert plants and animals*

*c. "Life in the Desert" handout prepared by teacher (Appendix F)*

*d. Venn Diagram prepared by teacher (Appendix G)*

*e. Pencils and paper for students*

## *3. Key Vocabulary*

*a. Adapt: to make fit*

*b. Dormant: when a living thing remains still and inactive, as though asleep,*

*to save energy and survive bad conditions*

*c. Photosynthesis: catching the energy in sunlight and converting it into the*

*energy in foods and nutrients for living and growing*

*d. Nocturnal: active at night*

*e. Succulent: having fleshy tissues designed to conserve*

*moisture*

*f. Bactrain: a camel with two humps*

*g. Dromedary: a camel with one hump*

#### *4. Procedures/Activities*

*a. Teacher will discuss desert plant and animal life (showing pictures of plants and animals that live in the desert).*

*b. Students will read “Life in the Desert” and make list of adaptations made by plants and list of adaptations made by animals.*

*c. Teacher and class will discuss individual lists and make one class list of adaptations on chart paper.*

*d. Students will complete Venn Diagrams comparing plant and animal adaptations.*

#### *5. Evaluations/Assessment*

*a. Teacher will evaluate students’ oral responses.*

*b. Teacher will check Venn Diagrams for accuracy.*

#### *6. Standardized Test/State Test Connections*

*a. Reading comprehension*

*b. Comparison and contrast*

### *E. Lesson Five (3 Days): Great Deserts of the World*

#### *1.Objectives*

- a. Students will locate world's greatest deserts on map.*
- b. Students will research specific information about world's greatest deserts.*
- c. Students will orally present information from their research.*

## *2. Materials*

- a. Blank world map prepared by teacher for each student (Appendix H)*
- b. Markers or colored pencils and paper*
- c. Atlases*
- d. Research materials available in the library*

## *3. Key Vocabulary*

- a. Erg: continuous expanse of sand*
- b. Sahel: narrow band of grassland that separates the desert from the grasslands of the central African plains*
- c. Shamal: northwesterly wind on Arabian Peninsula causing frequent sandstorms*
- d. Sinks: low areas that may hold water; they lie in valleys*
- e. Steppe: dry grassland in the Gobi Desert*

## *4. Procedures/Activities*

*a. Students will be given a blank map and will locate greatest deserts. (1) Arabian Peninsula*

*(2) Australia*

*(3) Chihuahuan Desert*

*(4) Gobi Desert*

*(5) Kalahari Desert*

*(6) Mojave Desert*

*(7) Patagonia*

*(8) Sahara Desert*

*(9) Sonoran Desert*

*b. Students will research specific information about each desert and record it.*

*(1) location*

*(2) size*

*(3) temperature*

*(4) rainfall*

*(5) interesting fact*

*c. Students will present information to their 3rd grade buddies and display student-made maps.*

*5. Evaluation/Assessment*

*a. Teacher will evaluate students' maps for accuracy.*

*b. Teacher will evaluate students' research.*

## *6. Standardized Test/State Test Connections*

*a. Map skills*

*b. Research skills*

## *D. Lesson Six (One Day): Geography of the Middle East*

### *1. Objectives*

*a. Students will locate countries of the Middle East.*

*b. Students will locate major cities, bodies of water, and landforms in the Middle East.*

### *2. Materials*

*a. Map*

*b. Globe*

*c. Pictures or slides of the Middle East*

*d. Student atlas*

*e. Blank map of the Middle East for each student  
(Appendix I)*

### *3. Key Vocabulary*

*a. Peninsula: land surrounded by water on three sides*

*b. Gulf: a part of ocean or sea extending into the land*

#### ***4. Procedures/Activities***

***a. Brainstorm what countries are in the Middle East and locate them on a map and globe.***

***b. Show pictures or slides of the Middle East emphasizing the desert areas.***

***c. Locate the following places in the Middle East and place them on blank map:***

***(1) Landforms and geographic areas***

***(a) Arabian Peninsula***

***(b) Anatolian Peninsula***

***(c) Taurus Mountains***

***(d) Atlas Mountains***

***(e) Sahara Desert***

***(f) Arabian Desert***

***(g) Mesopotamia***

***(2) Bodies of water***

***(a) Tigris River***

***(b) Euphrates River***

***(c) Mediterranean Sea***

***(d) Red Sea***

*(e) Black Sea*

*(f) Arabian Sea*

*(g) Persian Gulf*

*(3) Major cities*

*(a) Alexandria*

*(b) Cairo*

*(c) Mecca*

*(d) Jerusalem*

*(e) Damascus*

*(f) Baghdad*

*(g) Teheran*

*(h) Istanbul*

## *5. Evaluation/Assessment*

*a. Teacher will evaluate students' oral responses.*

*b. Teacher will check students' maps for completion and accuracy.*

## *6. Standardized Test/State Test Connections*

*a. Geographical terms*

*b. Map and globe skills*

## ***G. Lesson Seven (3 Days): Desert Travel Brochure***

### ***1. Objectives***

***a. Students will research information about a specific desert.***

***b. Students will create a travel brochure of a specific desert.***

### ***2. Materials***

***a. Research materials found in library***

***b. White paper (8 1/2x11)***

***c. Crayons, markers, or colored pencils***

***d. Travel brochure assignment (Appendix J)***

### ***3. Key Vocabulary***

***a. Brochure: pamphlet or booklet, particularly containing descriptive or***

***advertising information***

***b. Pamphlet: unbound booklet***

### ***4. Procedures/Activities***

***a. Discuss travel brochures (Appendix J) and assign students to make a travel brochure about a desert of their choice.***

***b. Research individual deserts.***

*c. Create travel brochure.*

## *5. Evaluation/Assessment*

*a. Teacher will evaluate students' research skills.*

*b. Teacher will evaluate students' travel brochures.*

## *6. Standardized Test/State Test Connections*

*a. Research skills*

*b. Advertising techniques*

## *H. Lesson Eight (2 Days): Desert Haiku*

### *1. Objectives*

*a. Students will recall information about deserts.*

*b. Students will create original haikus.*

### *2. Materials*

*a. Research materials about deserts.*

*b. White construction paper (9x12)*

*c. Water colors*

*d. Fine tipped black markers*

*e. Paper and pencils*

*f. Examples of haiku poetry*

### *3. Key Vocabulary*

*a. Haiku: an unrhymed verse form of Japanese origin having three lines containing 5, 7, and 5 syllables respectively, usually about nature*

*b. Water color wash: to cover with a thin coat of water color paint*

#### *4. Procedures/Activities*

*a. Introduce haiku poetry to students.*

*b. Create individual haiku about deserts.*

*c. Using water colors of desert colors, have students apply a water color wash to white construction paper; allow to dry overnight.*

*d. On dry water color wash, use fine tipped black pen to write haiku and illustrate.*

#### *5. Evaluation/Assessment*

*a. Teacher will evaluate students' understanding of deserts from information in haiku.*

*b. Teacher will evaluate students' haikus for proper poetic form.*

#### *6. Standardized Test/State Test Connections*

*a. Research skills*

*b. Poetic form*

### *I. Lesson Nine (2 Days): Desert Business Letter*

## ***1. Objectives***

- a. Students will compose a business letter using accepted form.***
- b. Students will complete business letter using word processing skills.***

## ***2. Materials***

- a. List of organizations to contact about protection of deserts (Appendix K)***
- b. Paper and pencil***
- c. #10 envelope and stamp***
- d. Computer and word processing program***

## ***3. Key Vocabulary***

- a. Business letter: letter written for a specific purpose which includes a heading, inside address, salutation, body, closing, and signature***
- b. #10 Envelope: an envelope measuring approximately 9 1/2 x 4 1/4 in.***

## ***4. Procedures/Activities***

- a. Discuss form of a business letter.***
- b. Students write business letter to organization requesting information about desert conservation.***
- c. Students revise and edit letters.***

*d. Complete final letter on computer and mail.*

*5. Evaluation/Assessment*

*a. Teacher will evaluate students' letters for content and form.*

*b. Teacher will evaluate students' use of technology.*

*6. Standardized Test/State Connections*

*a. Business letter form*

*b. Technology skills*

## *VI. CULMINATING ACTIVITY*

### *A. Desert Review*

*1. Objective: to measure what students learned about deserts*

*2. Materials: KWL Chart from Lesson One*

*3. Key Vocabulary: no new vocabulary introduced*

*4. Procedures/Activities: complete KWL Chart (what students have learned about deserts) as a class and record on chart.*

*5. Evaluation/Assessment: teacher will evaluate students's responses to KWL Chart.*

*6. Standardized Test/State Test Connections: recall of information*

## ***B. Desert Test***

- 1. Objective: to measure what students learned about deserts***
- 2. Materials: Desert Test ( Appendix L)***
- 3. Key Vocabulary: no new vocabulary introduced***
- 4. Procedures/Activities: students tested***
- 5. Evaluation/Assessment: teacher will evaluate student's tests***
- 6. Standardized Test/State Test Connections***
  - a. Test taking skills***
  - b. Recall of information***

## ***VII. HANDOUTS/STUDENT WORKSHEETS***

- A. Appendix A (Deserts: A Study Guide)***
- B. Appendix B (Weather Patterns)***
- C. Appendix C (Cloud Cover)***
- D. Appendix D (Rain Shadow)***
- E. Appendix E (Desert Landforms Vocabulary)***
- F. Appendix F (Life in the Desert)***
- G. Appendix G (Plants and Animals Adapt to Desert Climates)***

***H. Appendix H (Deserts of the World)***

***I. Appendix I (The Middle East)***

***J. Appendix J (Desert Travel Brochure)***

***K. Appendix K (Environmental Organizations)***

***L. Appendix L (Desert Test)***

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