

Desert Discovery

An Early Childhood Pavilion

(Specifically designed for Little Learners 5 years old and younger)



833 Las Vegas Blvd. North
Las Vegas, NV 89101
www.ldcm.org

Educator Preparation Materials

Call 702-382-3445
For Field Trip Information

Educator Preparation Materials for *Desert Discovery*

What's Included in This Guide?

Included in this packet is an overview of *Desert Discovery*, an interactive learning environment for children 5 years old and younger. Educational goals of the exhibit and connections to Nevada State Content Standards are provided. We want to make it easy for you to connect the content of a visit to the Museum with your classroom goals – so if you have any additional questions about structuring your visit, please call the Education Department of the Museum at 702-382-3445.

Note to Teachers and Group Leaders:

The materials in this packet are especially designed for teachers and group leaders preparing to bring young children to visit the *Desert Discovery* exhibition at Lied Discovery Children's Museum. The target audience for *Desert Discovery* is children ages five and under and their families/caregivers. Teachers, parents, and group leaders are encouraged to customize the information provided in this packet to suit each child's individual needs. Pertinent connections between exhibit content and the Nevada State Content Standards have been included so that the accompanying educational goals of the exhibit may be incorporated into your curriculum plans.

Overview of *Desert Discovery*

Target Audience: 5 years old and younger

Mission Statement: To develop and host an exhibit that promotes hands-on, interactive learning - an area of true discovery for young children. The exhibit will provide a place to think, plan, and make things happen. It's a place to learn about the desert around us. It is designed to support the unique learning style and activity level of the young child.

Exhibit Component Descriptions:

Boulder Mountain

Here, play becomes serious business as children don hard hats and vests to mine soft-sculpture "boulders" in basic geometrical shapes. By operating a hand-cranked elevator and overhead bucket transportation system, children can send these boulders to their co-workers in *Cactus Construction* for use as building materials.

Cactus Construction

Linked to Boulder Mountain, this area provides space for children to build with a variety of materials ranging from simple to complex. A second hand-cranked elevator system encourages children to recycle their boulders back to the mine. Shape sorter barrels provide opportunities for sorting and categorizing materials, while wheelbarrows, buckets, and a noisy break whistle add to the busy fun!

Desert in the Dark

Do all living things go to sleep when it gets dark? Little Learners can find out when they enter this special part of the exhibit. A pretend bedroom filled with bedtime storybooks, soft animal puppets, and nighttime costumes invites role play to support children’s developing concepts of day and night. Stepping through a child-sized door beneath the magic day-night clock, children find themselves outside in the desert after dark! Through displays, video, and hands-on activities, children will meet five Mojave desert animals who are definitely not asleep!

Baby Oasis

A special place just for little ones who are not yet walking! Baby Oasis is a cozy space filled with exciting materials for babies to manipulate and explore with their hands, eyes, and ears. A mirrored pull-up bar and crawling structure of gently inclined ramps encourage large muscle development. A water pillow and a “peek-a-book palm tree” add elements of surprise and delight.

Parent Resource Room

A colorful room with whimsical windows, this adjacent area offers a comfortable space where families can relax, connect with one another, and share information. Parents, caregivers and educators can find helpful books, magazines, and videos, as well as community resource information. Special programs, guest speakers, and workshops are scheduled on a regular basis. Additional hands-on learning activities for children are offered at the activity tables in this area.

Curriculum Connections with NV State Content Standards

Pre-K /Kindergarten

Reading

Content Standard 2.0- *Students use reading process skills and strategies to build comprehension.*

2.PK.1 Use pictures to aid comprehension

Listening & Speaking

Content Standard 10.0- *Students participate in discussions to offer information, clarify ideas, and support a position.*

10PK.5 Engage in dramatic play to convey experiences, feelings, ideas, or stories.

Math

Patterns, Functions, and Algebra

Content Standard 2.0- *Students solve problems, communicate, reason, and make connections using various methods to analyze, illustrate, extend, and create numerous representations as modeled in practical situations.*

2.PK.1a Sort Objects by similar attributes (eg., size, shape, and color)

2.K.1 Sort and describe objects by similar attributes

Measurement

Content Standard 3.0- *Students use tools and techniques of measurement to determine measurement.*

3.PK.6 Identify day and night.

Spatial Relationships and Geometry

Content Standard 4.0- *Students represent, verify, and apply spatial relationships and geometric properties.*

4.PK.1 Identify circles, triangles, and squares

4.K.1 Identify two-dimensional shapes (circles, triangles, rectangles including squares) regardless of position.

4.PK.2 Identify positions (e.g., in front, behind, next to, up, down, inside, outside, on top).

4.K.2 Use position words (e.g., middle, before, down) to place objects

Problem Solving

Process Standard 6.0: *Students will develop their ability to solve problems by engaging in developmentally appropriate problem solving opportunities in which there is a need to use various approaches to investigate and understand mathematical concepts in order to: formulate their own problems; find solutions to problems from everyday situations; develop and apply strategies to solve a wide variety of problems; and integrate mathematical reasoning, communication and connections.*

6.1 E/S K Select, modify, develop, and apply strategies to solve a variety of mathematical and practical problems and to investigate and understand mathematical concepts.

6.2 E/S PK & K Apply previous experience and knowledge to new problem-solving situations. **6.6 E/L PK & K** Try more than one strategy when the first strategy proves to be unproductive.

6.8 E/L PK & K Apply solutions and strategies from earlier problems to new problem situations.

Mathematical Communication

Process Standard 7.0: *Students will develop their ability to communicate mathematically by solving problems in which there is a need to obtain information from the real world through reading, listening, and observing in order to: translate this information into a mathematical language and symbols; process this information mathematically; and present results in written, oral and visual formats.*

7.2 E/L PK & K Use inquiry techniques (eg. discussion, questioning, research, data gathering) to solve mathematical problems.

7.7 E/S PK & K Use physical materials to represent and communicate mathematical ideas.

7.15 E/L PK & K Use everyday language to explain thinking about strategies and solutions to mathematical problems.

Mathematical Reasoning

Process Standard 8.0: *Student will develop their ability to reason mathematically by solving problems in which there is a need to investigate significant mathematical ideas and construct their own learning in all content areas in order to justify their thinking; reinforce and extend their logical reasoning abilities; reflect on and clarify their own thinking; and ask questions to extend their thinking.*

8.8 E/L PK & K Ask question to reflect on, clarify, and extend thinking.

Mathematical Connections

Process Standard 9.0: *Students will develop the ability to make mathematical connections by solving problems in which there is a need to view mathematics as an integrated whole, identifying relationships between context strands, and integrating mathematics with other disciplines, allowing the flexibility to approach problems in a variety of ways within and beyond the field of mathematics.*

9.1 E/L PK & K Link new concepts to prior knowledge.

Social Studies

Social-Emotional Development

Content Standard 1.0: Self-Confidence- *Students will participate in activities that foster independence, self-expression, and persistence.*

- 1.PK.1a** Make independent choices from diverse interest centers or activities.
- 1.PK.1b** Select materials to use in order to express individuality.
- 1.PK.2a** Express ideas for activities, initiate and participate in discussions with teachers or peers.

Content Standard 2.0: Self-Direction- *Students will demonstrate self-direction by attaining skills in self-management, self-help, and routines.*

- 2.PK.1b** Move through routines and activities with minimal adult/ teacher direction.
- 2.PK.3a** Use toys and materials with care.
- 2.PK.3b** Clean up or put away toys and materials when finished.

Content Standard 5.0: Pro-Social Behaviors- *Students will demonstrate positive social behaviors in play and group settings.*

- 5.PK.1a** Play independently.
- 5.PK.1b** Play in pairs and small groups.
- 5.PK.1c** Engage in dramatic play.
- 5.PK.1d** Initiate play, or enter into play with a group of children already playing.
- 5.PK.2a** Participate in cooperative groups to complete a task.
- 5.PK.2b** Take turns with teacher support.
- 5.PK.2c** Share some of the time.

Science

Physical Science

Content Standard 1.0: Forces and Motion—*Students understand that forces such as gravitational, electrical, and magnetic influence the motion of objects.*

- 1.PK.1** Explore and demonstrate how objects move.
- 1.K.1** Investigate and describe how objects move.

Content Standard 2.0: Structure and Properties of Matter—*Students understand that materials have distinct properties which depend on the amount of matter present, its chemical composition, and structure.*

- 2.PK.2** Sort objects according to observable properties (e.g. by shape and color).

Life Science

Content Standard 6.0: Structure and Function—*Students understand that all life forms, at all levels of organization, use specialized structures and similar processes to meet life’s needs.*

6.PK.1 Identify humans, animals, and plants.

6.K.1 Observe and describe animal attributes.

Content Standard 8.0: Heredity and Diversity—*Students understand that life forms are diverse, and that they pass some characteristics to their offspring.*

8.PK.1 Investigate animals and their offspring.

8.PK.2 Explore and identify a variety of animals and plants.

Environmental Sciences

Content Standard 15.0: Ecosystems—*Students will demonstrate an understanding that ecosystems display patterns of organization, change, and stability as a result of the interactions and interdependencies among the life forms and the physical components of the Earth.*

15.PK.1 Identify animals and their homes.

15.K.1 Recognize that animals live in different places.

Scientific Inquiry: Processes and Skills

Content Standard 21.0: Scientific Values and Attitudes—*Students understand that science is an active process of systematically examining the natural world.*

21.PK.1a Observe their world.

21.PK.1b/21.K.1 Ask questions about the world.

Content Standard 22.0: Communication Skills—*Students understand that a variety of communication methods can be used to share scientific information.*

22.PK.3 Share ideas with others.

22.K.3 Share information and ideas with others.

Creative Arts

Creative Thinking

Content Standard 1.0 *Children approach problems in a creative manner.*

1.PK.1 Use a variety of approaches to solving problems in math, science and other cognitive areas.

1.PK.3 Adapt environment or abilities to reach a motor challenge such as climbing or reaching an object.

Content Standard 3.0: *Children create a variety of connections between and among activities, domains, ideas, experiences and/or people.*

3.PK.1 Combine objects in a variety of ways.

3.PK.2 Categorize experiences, people and ideas in a variety of ways.

3.PK.3 Create stories and scenarios by combining experiences and ideas.

Dramatic Play

Content Standard 1.0: *Students recognize the components of theatrical production including script writing, directing, and production.*

- 1.PK.1** Act out a role observed in his/her life experiences, for instance, mother, baby, doctor.
- 1.PK.2a** Make up new roles, for instance, from experience and familiar stories.
- 1.PK.2b** Direct peers and/or follow directions from peers in creating dramatic play schemes.
- 1.PK.3** Act out roles that involve another child(ren) in a related role, for instance, mother and baby, grocer and shopper.
- 1.PK.6** Use available materials as either realistic or symbolic **props** as part of dramatic play.
- 1.PK.7** Use dress-up clothes or **costumes** and other **props** in dramatic play.

Content Standard 2.0: *Students understand and demonstrate the role of the actor in the theater.*

- 2.PK.1** Discriminate among persons, animals, and objects by identifying characteristics (e.g., the sounds animals make).
- 2.PK.2** Imitate roles observed in child's life experiences.
- 2.PK.3** Assume the role of a familiar person or thing and talk in the language/ tone appropriate for that person or thing.

Content Standard 5.0: *Students make connections with theater, the other arts, and academic disciplines.*

- 5.PK.3** Use language arts, math, science, and other disciplines in dramatic play (e.g., finger plays, counting, grocery store, life cycles).

Visual Arts

Knowledge Content Standard 1.0: *Students know and apply visual arts media, techniques, and processes.*

- 1.PK.3** Use a variety of **media, techniques,** and **processes** in art activities that are of the child's creation without a model.

Application Content Standard 2.0: *Students use knowledge of visual characteristics, purposes, and functions.*

- 2.PK.4** Identify color, shape, and texture through art experiences.

Physical Development

Physical Development Content Standard 2.0: *Students demonstrate competency in many movement forms and proficiency in a few movement forms.*

- 2.PK.1** Demonstrate a basic form in walking, running, climbing, jumping, hopping and walking up and down stairs.

Physical Development Content Standard 6.0: *Students demonstrate the ability to perform a variety of fine motor skills.*

- 6.PK.2** Demonstrate the muscle strength, dexterity, and control needed to manipulate item.

Suggestions for Pre-Visit Activities:

What is a Desert? Do the children in your group understand and use the word “desert” in their conversation? If not, you may want to lay the groundwork by including one or more desert books when you read stories at Circle Time (check those listed in the bibliography). Encourage children to talk about any experiences they have had in the desert. Many new neighborhoods in Las Vegas are located in or adjacent to the desert – the children who live in these areas will be familiar with the appearance of the desert, but may not know its name. Other children may know about deserts from family outings at Red Rock Canyon or other area trips.

A simple way to define the desert for young children: Explain that a desert is a place that has:

- Lots of sand
- Lots of rocks
- Lots of mountains
- Some animals and plants
- ...But only a *little bit* of water

Older preschoolers may understand the desert in the context of other habitats they have learned about; that is, understanding that some living creatures live in the jungle, some living creatures live in the forests, some living creatures live in or near the ocean, and some living creatures live in the desert.

About the Mojave Desert: The exhibition, *Desert Discovery*, is based on the desert in which Las Vegas is located- the Mojave Desert. The smallest of the North American deserts, the Mojave is called a high desert because its elevation averages from about 3,000 feet to 5,500 feet above sea level. Mountains to the south and west prevent most rain clouds from getting to the Mojave desert, and the average winter rainfall is only 5-8 inches. Summers are hot and dry with temperatures averaging about 105 degrees. Winters can get very cold, and snow is not uncommon. Much of the desert is covered with shrubs rather than cacti. Creosote bushes are common, and in the spring, wildflowers cover the desert with orange, yellow and purple blossoms. The Joshua tree, a tall, spiny, yucca, is found almost exclusively in the Mojave Desert. Among the animals found in this desert are: the desert tortoise, the black-tailed jackrabbit, the cottontail rabbit, the roadrunner, the desert spiny lizard, the coyote, the bobcat, the barn owl, the bighorn sheep, the bat, the red-tailed hawk, the ladder-back woodpecker, the kangaroo rat, the pocket mouse, the desert hairy scorpion, the sidewinder, the kit fox, and the pack rat.

From *America's Deserts: Guide to Plants and Animals*
By Marianne Wallace

Preparing to visit Desert in the Dark, Boulder Mountain, and Cactus Construction

Desert In The Dark:

Major Concept: Do all living things sleep at night? Let's find out!

In order to establish a link with their personal lives, this part of the exhibit is designed to begin in a replica of a child's bedroom. Here, children find materials that encourage exploration of the concept of day and night. They can put on a desert animal puppet show with a nighttime theme, or try on a bedtime costume and act out familiar bedtime rituals. Bedtime stories and a special day/night clock that changes window lighting from dawn to dusk reinforce children's understanding of day and night. Leaving the bedroom through the child-sized door, children find themselves out in the desert at night where they will see representations of five nocturnal Mojave desert animals, learn some of their special characteristics, and see video footage of the animals.

Meet The Animals of Desert In the Dark: Before visiting the Museum, it may be helpful to talk with the children about the animals the children will be "meeting" during their visit to Desert In The Dark. Pictures of the animals can be found in many of the books and web resources listed in the Bibliography. Young children will understand simple information such as:

Coyote

- **What does it look like?** Something like a small German Shepherd dog; grayish brown with a bushy tail and pointed nose.
- **Where is its home?** In a den dug into a rocky ledge or under a fallen log.
- **What does it eat?** Almost anything, but its favorite thing is meat from small animals which it catches.
- **How does it stay cool?** By sleeping in its den in the daytime when it is hot and coming out at night when it is cooler.
- **What is something special about the coyote?** It "talks" to other coyotes using its own language of howls, yips, yelps, wails, huffs, woofs, barks, and growls.
- **What children can do at the Museum:** They can move their hand down the neck of the coyote model to activate a burst of amazing coyote conversation!

Barn Owl

- **What does it look like?** A large bird with big eyes, a pale heart-shaped face, and white, light brown and dark brown feathers.
- **Where is its home?** In an old building, a hollow tree, or a hole in a rocky cliff.
- **What does it eat?** Rats, mice and other small animals.
- **How does it stay cool?** By sleeping in the shadows in the daytime when it is hot and **coming out at night when it is cooler.** Its feathers help keep the sun away from its skin.

- **What is something special about the owl?** It can balance on a branch by gripping with its feet the way we grip with our hands. The owl's big eyes help it to spot small animals in the dark but it must turn its whole head to look around.
- **What children can do at the Museum:** They can step onto footplates on a floor-level "branch" and hear a hoot from an owl model when they find their center of balance.

Sidewinder

- **What does it look like?** A pale cream, tan or gray snake with dark blotches down its back. Protuberances on its head look something like horns, but they are really special scales that protect its eyes.
- **Where is its home?** In a hole, burrow or crevice in a rocky ledge.
- **What does it eat?** Small animals such as mice and lizards.
- **How does it stay cool?** By staying in the shade of bushes and rocks during the day and coming out at night when it is cooler.
- **What is something special about the sidewinder?** So that its whole long body doesn't have to touch the hot sand at once, the sidewinder developed a special way to travel. It touches the ground at just two points and pushes the rest of its body sideways. The sideways motion leaves sets of parallel tracks that look something like the letter "J" or "S."
- **What children can do at the Museum:** They can pull a segmented snake model along its track to explore the pattern of a snake's movement.

Bat

- **What does it look like?** A small brown or brownish-black animal with very big wings. It has large ears and a small face with a snout. Although it has wings, a bat is not a bird.
- **Where is its home?** Bats live with other bats in caves, hollow trees, rock crevices, under bridges or in abandoned buildings or mine tunnels.
- **What does it eat?** Mostly insects and sometimes nectar from flowers. In the evening, you might see bats fluttering around a streetlight, looking for insects that have been attracted by the light.
- **How does it stay cool?** By sleeping in a cool cave or crevice by day and becoming active only at night.
- **What is something special about the bat?** It roosts upside-down during the day, folding its large wings to its sides and uses its back feet for hanging on. The bat is often misunderstood by people. It is a shy, clean, and helpful animal.
- **What children can do at the Museum:** They can fold and unfold the wing of a bat model hanging upside down in its cave. This gives children an opportunity to explore the size of the bat's wing in relationship to its body, and how it works.

Pack Rat

- **What does it look like?** Something like a house rat, with soft grayish-brown fur.
- **Where is its home?** In a nest at the base of a large cactus or bush, or dug into the side of a rocky ledge.
- **What does it eat?** Cactus plants, seeds, yucca pods, bark, fruit, and insects
- **How does it stay cool?** It lines its nest with thick layers of things it finds in the desert. These thick walls help keep out the heat. It also brings juicy cactus pieces into the nest. Their moisture helps keep the nest cool.
- **What is something special about the pack rat?** It likes bright, shiny things, such as bottle caps, gum wrappers, broken bits of mirror, coins, and keys. Some people call it a "Trade Rat" because it will put down something it is carrying to pick up something else it likes better.
- **What children can do at the Museum:** They can lift a small door near the base of the bat cave, peek into a pack rat's nest, and name some of the items they see.

Boulder Mountain and Cactus Construction

Major Concept: Planning, communication, and cooperation are needed to get a job done.

These two areas provide opportunities for children to plan and work together to reach a goal. Children in Cactus Construction are builders, and children in Boulder Mountain can provide the building materials. All the children must think, plan, and make decisions about how building materials can get from Point A to Point B. The children must also communicate and cooperate in order to devise a system to keep it running smoothly.

Before your visit to the Museum, it would be helpful to talk with children at Circle Time about:

"Working Together": How do people work together- in families, in preschool, and in grownups' jobs? Point out instances in which children in your group have already reached a shared goal by working together (such as each child helping at Clean-Up Time in order to have time for an extra story; or working together to create a group mural). Let them know they will be able to use their "working together" skills to transport "boulders" and build with them when they get to the Museum.

"Grownups' Work": In order to understand the concepts of the Boulder Mountain mine and the Cactus Construction area, it would be helpful to explore the children's understanding of two grownups' jobs – miner and builder.

- **Miner:** Do the children understand the concept of mine or quarry? Some children may relate it to the work of the seven dwarves in the Disney movie, Snow White. Others may have ideas they have gained from television programs, cartoons, or western movies. Listen for any misinformation. If the children are unfamiliar with the concept, explain that special materials people need and want are sometimes found deep under the ground. Some of these things are gold, silver, and stone for building. The holes or pits are called mines, and the people who dig down and bring these materials up to the

surface are called miners. Talk about the clothing and equipment miners might need- hard hats with a headlamp, gloves, picks, shovels, wheelbarrows, etc.

- **Builder:** Certainly a more familiar occupation to young children in the Las Vegas area, a builder may be among the occupations of the parents of children in your group. If so, a visit from one of them at Circle Time would be a great way for children to learn more about this kind of work. Prepare the children to ask the builder what special clothing and tools are needed by builders, and how he or she plans building projects, gets the building materials, and works with others to get the job done.

Motor Skills: In addition to these learning areas, Boulder Mountain and Cactus Construction also lend themselves to the development of physical skills and coordination. Turning hand cranks, climbing stairs, using wheelbarrows, crawling through a tunnel, loading and unloading buckets, and manipulating a variety of fastening systems in the building area are some of the activities that offer opportunities for fine and gross motor practice. Before your visit to *Desert Discovery*, it would be helpful to note any children who might need assistance in these areas and plan ahead to have an adult ready to offer support if needed.

Baby Oasis:

Major Concept: Babies use their senses to explore and build motor skills.

Located in the center of the area, Baby Oasis, is easily identified by a tall, curving palm tree which is sure to catch the eye of the children in your group. Before your visit, you might explain that an oasis is a place in the desert which has water. Because there is water, there are usually trees, flowers, birds and other living creatures. To avoid having to stop children on their way to climb into the Oasis, it would be helpful to explain to them in advance that this area is for babies. It contains rattles, nesting cups and other toys specifically designed for babies. All of the other areas- Boulder Mountain, Cactus Construction, and Desert In the Dark- are for children their ages.

During the Visit

Before beginning your tour, divide your children into small groups, each with one or more adults.

Welcome to *Desert Discovery*! Point out the lettering on the large sign and tell the children what it says. Pause at the entryway and encourage the children to pretend that they are stepping through the doorway into the desert. Notice that the floor looks and feels a little like sand. Look for other things that would let us know we are in the desert (Models of mountains, animals, cacti, etc.) Let children name the colors they see. Point out the Baby Oasis and remind the children that it is a safe place just for babies. Encourage children to look around and see if they can recognize Boulder Mountain, Cactus Construction and Desert In The Dark from your pre-visit description.

Boulder Mountain and Cactus Construction: Some children will be builders and some will be miners. The play begins when one of the builders uses the field phone to call Boulder Mountain to order a shipment of boulders. The Boulder Mountain miner relays the order to the workers in the cave, who send up the requested boulders in the elevators. Other workers on

the deck place these boulders in the bucket transport system and turn the crank to send them to Cactus Construction. Wheelbarrows may also be used to transport the boulders. Upon the arrival of the shipment, the builders are encouraged to count and sort their inventory into the barrels. Builders may use the return bucket transport to send boulders back to the mine for recycling.

Desert in the Dark: Children in this group will be able to discuss and role play bedtime routines. They may enjoy hearing a bedtime story or putting on a puppet show. Located near the puppet theater window you will find Story Starter cards such as this one:

1. Pretend that one of the owl puppets is a child and the other is the parent.
2. Pretend that it's getting light outside and it's time for the owls to go to sleep, but little owl isn't tired.
3. What excuses does little owl give to the parent owl to try to stay up longer?
4. What does the parent owl do or say to help the little owl get to sleep?

Children may pretend to go to sleep and then wake up, tiptoe out of bed, and slip out through the child-sized door to visit the adjoining "desert" to see what the nocturnal animals are doing. Encourage the children to try each of the activities.

Additional activity stations may include exploring sand, creating a mini-desert, and/or building with a variety of materials.

Suggestions for Post-Visit Activities

One of the marks of a successful field trip is that the learning continues after the children have returned to their classroom. While interest is still running high, talk about the visit to *Desert Discovery* at the Museum.

- Review of the sequence of the visit: Begin by asking, "Can you remember the first thing we did when we got to the Museum? What did we do next? What did we do at Boulder Mountain? What did we do just before we left the Museum?" This type of review helps children create order from a jumble of impressions and ideas.
- Share opinions and impressions: Conversation in the car, on the bus, or post-field trip Circle Time is a great time for each child to talk about his or her impressions. Adults can facilitate by making sure every child gets a chance to talk, and by asking questions, such as "What surprised you during our field trip? What was the funniest thing that you saw?"

Children continue to construct knowledge as they recall and process the new information and ideas through play in the days following a field trip.

In the Dramatic Play Area: Props such as bedtime story books, robes and slippers, pillows, blankets, soft animals, and a clock may encourage children to reenact their experience of finding desert animals awake and busy at night. Children might also role play as miners and builders with the addition of props such as hard hats and gloves.

In the Block Area: Children may want to construct a block version of Boulder Mountain's elevator and bucket transportation system. A variety of small manipulatives could be added for

transport purposes, as well as toy people and vehicles. Children may also want to try out new ideas they learned about building during their work in Cactus Construction.

In the Art Center: Document the visit through drawing, painting, or modeling. For example, you might provide a large piece of butcher paper and invite children to fill it with drawings and dictated comments about the visit. Spark memories by asking a few questions: “What did we see in the pack rat’s nest?” “What did the coyotes sound like?” Title it (for example, “What We Learned About Desert Animals” or “What We Did At the Museum”) and put it on display. Another day, ask the children to remember the desert colors they saw in *Desert Discovery*, and use those colors for easel painting.

In the Science Center: Remember the sandy-looking floor in *Desert Discovery*? Encourage the children to find out more about sand. Ask them for their ideas about sand. What is it made of? Where does it come from? Provide some sand, some broken shells and several kinds of rocks – a large boulder, some pebbles, and rocks of differing degrees of hardness. Explain that the tiny grains of sand came from bigger rocks and shells. The ocean’s powerful waves smash rocks and shells into tiny bits which we call sand. Use the hand lenses to examine the little grains of sand. Can you guess what kind of rock or shell they came from?

At the Sensory Tables: Continue to explore sand by adding a variety of sand play tools such as funnels, nets and sieves, shaker bottles, pitchers, cardboard tubes, muffin tins, combs, and toy cars and people. Add a spray bottle of water and explore the ways wet sand differs from dry sand in its appearance, texture, smell, and moldability.

Self-Care Skills: As a follow-up to a visit to *Desert Discovery*, adults and children might have a conversation about ways to stay safe when hiking or exploring out in the desert. Safety precautions that seem obvious to adults may not occur to children, and it is important to make clear guidelines such as these:

- Stay with an adult at all times.
- Carry water and drink it often.
- Stay within sight of your car.
- Keep hands and feet out of cracks and crevices.
- Carry a whistle and use it to signal for help if you need it.
- Remember that desert animals are wild animals and may not be friendly.

Taking Care of Our World: Support children in their growing understanding of the importance of caring for our world. Explain that it is wonderful to look at the beautiful things in the desert, but people must not take away things from the desert. For instance, picking a flower might mean that its seeds won’t be there to sprout and grow new flowers next year. Animals might go hungry because they were depending on those seeds and flowers for food. Even taking rocks away could mean less shelter from the sun for some creatures.

Vocabulary

Bask *To warm the body by lying in the heat of the sun*

Burrow	<i>A hole that an animal digs in the ground to make a home</i>
Cactus	<i>Any of the many spiny plants of the American Southwest. Their leafless stems, which are like barrels or pipes, are used to store water. As the water is used up during the dry season, the stems shrink and become deeply grooved</i>
Camouflage	<i>To color something so that it is not easily seen, especially by an enemy</i>
Communicate	<i>To pass information back and forth</i>
Den	<i>An animal's home</i>
Desert	<i>A region that receives less than 10 inches of rain in a year. The deserts cover about one seventh of the earth's land area</i>
Diurnal	<i>Refers to an animal active during the day</i>
Dune	<i>A hill of sand or other tiny particles that shift around in strong winds and has very little plant or animal life</i>
Ecosystem	<i>A particular environment and the plants and animals that live in it</i>
Environment	<i>The large area that makes up an animal's home (sky, rocks, dirt, etc.)</i>
Evaporation	<i>When water turns into tiny droplets of vapor in the air. This process happens each morning to the dew that has fallen during the night in the hot desert</i>
Fangs	<i>Large pointed teeth, such as those of a snake that inject poison into its prey</i>
Habitat	<i>The specific kind of area where an animal or plant naturally lives</i>
Mojave	<i>The smallest of the North American deserts</i>
Mammals	<i>Animals with hair or fur that maintain a constant body temperature and produce milk to feed their young</i>
Nocturnal	<i>Refers to animals which are most active at night</i>
Oasis	<i>Place of permanent water supply in a desert</i>
Predators	<i>Animals that hunt other animals for food</i>
Prey	<i>Animals that are hunted for food</i>
Reptiles	<i>Scaly vertebrates, such as snakes and lizards, that creep and crawl</i>
Rodents	<i>Plant-eating mammals that gnaw with their teeth</i>
Sand	<i>Fine, loose grains of mineral matter formed by the disintegration of rocks</i>
Scales	<i>Hard plates that cover the bodies of some animals</i>
Succulents	<i>Plants that can store large amounts of water</i>

Talons	<i>Long, curved, very sharp claws</i>
Territory	<i>A piece of land that an animal defends to prevent other animals from using it</i>
Wash	<i>A sandy and/or rocky channel that water flows through during desert rains. It is dry most of the time</i>

Desert Discovery Suggested Resource List

Books About the Desert

These simple books are appropriate for young children, ages 3 and under:

- Albert, R. *Alejandro's Gift*
- Brooks, D. *You Can Count in the Desert*
- Marsh, T.J. *Way Out in The Desert*
- Nicholson, S. *Animal Babies in Deserts*
- Northwood Books for Young Readers. *Desert Babies*
- Tracqui, V. *My Home is the Desert*

These more detailed books about the desert are appropriate for ages 4 and up:

- Allred, S. *The Desert Alphabet Encyclopedia*
- Benke, B. *The Artist in the Desert*
- Bessen, B. *Look Who Lives in the Desert: Bouncing and Pouncing, Hiding and Gliding, Sleeping and Creeping*
- DK Publishing. *Desert*
- Fredericks, A. *Around One Cactus: Owls, Bats, and Leaping Rats*
- Gaarder-Juntti. *What Lives in the Desert?*
- Guiberson, B. *Cactus Hotel*
- Hine, E. *Desert Opposites*
- Hodge, D. *Desert Animals*
- Keats, E.J. *Clemintina's Cactus*

MacAulay, K. and Kalman, B. *Desert Habitat*
Mora, P. *The Desert is my Mother (El Disierto Es Mi Madre)*
O'Connor, S.D. *Finding Susie*
Pallotta, J. *The Desert Alphabet Book*
Sill, C. *About Habitats: Deserts*
Soffer, R. *North American Desert Life Coloring Book*
Steiner, B. and Himler, R. *Desert Trip*
Storad, C. *Desert Night Shift: A Pack Rat Story*
Storad, C. *Life in the Slow Lane: A Desert Tortoise Tale*
Trumbauer, L. *A Year in the Desert*
Wadsworth, G. *Desert Discoveries*

Books About Bedtime

Both adults and young children will enjoy these books as conversation starters as well as bedtime stories:

Bang, M. *Ten, Nine, Eight*
Boynton, S. *Dinosaur's Binkit*
Boynton, S. *Night-Night, Little Pookie*
Buller, J. and Shade, S. *I Love You, Good Night*
Burke, T. *Sophie's Big Bed*
Falkin, L.C. *Snuggle Bunnies*
Fox, M. *Time for Bed*
Harper, J. *Night, Night Baby Bundt: A Recipe for Bedtime*
Hest, A. *Kiss Good Night*
Imperato, T. *Good Morning, Good Night!: A Touch and Feel Bedtime Book*
Katz, K. *Counting Kisses: A Kiss and Read Book*
Metaxas, E. *It's Time to Sleep, My Love*

Nemet, A. *Five Little Sleepyheads*

Oxenbury, H. *Say Goodnight*

Rathmann, P. *10 Minutes till Bedtime*

Ross, M. *Snug as a Bug*

Scotton, R. *Go to Sleep, Russell the Sheep*

Wise Brown, M. *Goodnight Moon*

Yarrow, P. and B. *The Peter Yarrow Songbook: Sleepytime Songs*

Web Sites:

<http://www.desertusa.com/index.html>

Offers links to a variety of information about desert animals and plants

www.nbmjg.unr.edu/educ.htm

K-12 educational materials from the Nevada Bureau of Mines and Geology

<http://mojavedesert.net/>

Information about the Mojave Desert

<http://edtech.kennesaw.edu/web/desert.html>

Features extensive links to all aspects of the desert environment

To learn more about the desert, you may want to plan a visit to one of these local resources:

Red Rock Canyon National Conservation Area

20 miles west of Las Vegas

702-363-1921 <http://www.redrockcanyonlv.org/>

Las Vegas Natural History Museum

900 Las Vegas Blvd. N.

702-384-3466 <http://www.lvnhm.org/>

Nevada State Museum and Historical Society

700 Twin Lakes Dr.

702-486-5205

Las Vegas Springs Preserve

333 S Valley View Blvd, Las Vegas, NV

(702) 822-7700 <http://www.springspreserve.org/html/>

Marjorie Barrick Museum of Natural History at UNLV

4505 Maryland Parkway, Las Vegas, Nevada 89154

702-895-3381

To learn more about mines, visit:

A Simulated Mine

Gordon McCaw Elementary School

57 Lynn Lane

Henderson, NV 89015

Phone: 702-799-8930; FAX: 702-799-8930