

**EXPLORE YELLOWSTONE  
MARTIN CHILDREN'S DISCOVERY CENTER  
SENSORY AWARENESS**

**EDUCATOR GUIDE**



**MUSEUM** OF  
THE **ROCKIES**

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Dear Educator,

Thank you for choosing to bring your students to the *Explore Yellowstone* Martin Children's Discovery Center at the Museum of the Rockies (MOR), where our mission is to inspire visitors to explore the rich natural and cultural history of America's Northern Rocky Mountains. A visit to the Discovery Center is a great way to help your students visualize concepts and spark their curiosity about a new topic.

Studies have shown that learning in museums is not limited to the time spent within their walls, but is heavily influenced by prior knowledge and experiences and continues long after the visit has ended. For these reasons, preparing your students for their museum visit and then extending their experience afterward will enhance the educational aspect of the field trip experience.

To aid you in linking this museum visit to your curriculum, the Museum of the Rockies' Education Department has created this guide. Inside, you will find details on the *Explore Yellowstone* Martin Children's Discovery Center, including a map of the exhibit and education goals. We have also assembled complementary classroom activities for various grade levels. We hope that these resources will help you prepare pre- and post-visit activities for your students that tie into your curriculum.

MOR is committed to providing the richest possible learning experience for your students and welcomes your questions and feedback. We look forward to seeing you at the Museum of the Rockies soon!

Sincerely,

Education Department  
Museum of the Rockies

## EXPLORE YELLOWSTONE GENERAL OVERVIEW

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Exhibit's Appropriate Age Levels: Birth through 8 years of age (or 2<sup>nd</sup> grade)

*Curriculum is appropriate for preschool through 5<sup>th</sup> grade students.*

Exhibit Overall Goal:

Introduce children to the wonders of Yellowstone National Park in a hands-on, immersive environment that empowers children to discover a lifelong passion for nature, science, and the Yellowstone experience.

Exhibit Description:

Explore Yellowstone is an immersive exhibit. From the moment kids enter through the Roosevelt Arch, they are surrounded by landscape scenes from Yellowstone. Murals surround them while overhead clouds float in the blue sky. In one area, children can “fish” with magnetic fishing poles for cutthroat and lake trout that have ball bearings sewn in their snouts and learn which fish to return to the “lake.” Mammoth terraces and bubbling mud pots help teach the concepts of thermal features and a “smell tube” lets them get a whiff of hydrogen sulfide. In the campground kids learn campground etiquette like bear-proofing food and removing litter or listen to stories and sing songs around the “campfire.”

A tot area, framed by murals of the Grand Canyon of the Yellowstone, gives infants a safe place to play while their parents watch from benches made of polished logs. Older kids can climb the fire tower and use binoculars to look for smoke, or play in a life-size eagle’s nest and learn about habitats.

In the lodge, children can dress up and pretend to be people working in Yellowstone. They can “cook” with an authentic wood stove that has a fake fire burning in the coal box or sit on child-size lodge pole furniture in front of the fireplace and read. A big clock over the fireplace helps them time the next eruption of “Old Faithful,” the largest of three cloth geysers. At the end of their visits, children can make post cards or drawings to take home before they exit through the Roosevelt Arch.

**Exhibit Layout:**

Eight discovery zones, each with a focus on different area of Yellowstone, provide just enough design, detail and props to suggest a time and place for children to become a part of Yellowstone.



## BAT AND MOTH

*The blind-folded student bat finds the student moth in a circle, using the sense of hearing*

### APPLICABLE AGES:

Pre K – 5<sup>th</sup> grade

### LOCATION:

At the museum, in your classroom or outdoors

### RESOURCES AND MATERIALS:

- Blindfolds

### PURPOSE:

This lesson will help students learn how their senses work independently and together.

### OBJECTIVES:

Students will be able to:

1. Use their sense of hearing to find prey
2. Work in teams to play game and accomplish goal
3. Explain how bats locate their prey

### VOCABULARY:

Echolocation	Moth
Bat	Concentration
Adaptation	

### ACTIVITY:

Have the group form a circle and discuss echolocation. Choose a member of the group to be the bat and to be blindfolded in the middle of the circle. Designate one to five others to be moths and ask them also to come to the center of the circle. The bat tries to catch the moths. Whenever the bat calls out “Bat!” the moths call back “Moth!” Or you can use bells to be attached at different locations on each moth that jingles as they are running around the circle. The bat tracks down and tags the moths by listening to their responses.

It takes good concentration to be a successful bat. So this game is good for developing concentration, especially when the bat must chase several moths at the same time. Add some excitement by bringing two moths into the circle at once. Encourage the bats to hunt as a team. Once everyone has had a turn in the circle, discuss adaptations of predators and prey. How is our hearing compared to animals’ with a keen sense of sound?

### TYING IT ALL TOGETHER:

After the game, lead a discussion asking how easy or hard it was to find the moth when being blind-folded as the bat. Ask if it became easier as each student bat worked to find the moth, and if it did get easier, why? Discuss how it felt to work as a team of bats. Lead the discussion to how our senses work together, but also work independently.

*Adapted from: [Sharing the Joy of Nature with Children](#) p.95-Joseph Cornell*

## EAGLE EYES

*The challenge of finding a hidden, camouflaged pencil allows students to develop their observational skills*

### APPLICABLE AGES:

All grades

### LOCATION:

At the museum, in your classroom or outdoors

### RESOURCES AND MATERIALS:

- A pencil (preferably the same color as the area it will be hidden in)

### PURPOSE:

This lesson will help students develop their observational abilities and acting skills.

### OBJECTIVES:

Students will be able to:

1. Increase their ability to see detail in their surroundings

### ACTIVITY:

The class will gather in a group, all facing into the middle of the group, with their eyes closed, heads down, and hands over their eyes. The leader hiding the pencil will walk around the group, pausing occasionally to hide their actions, and during one of the pauses place the pencil in an inconspicuous spot.

After a few more times walking around the group, the leader will announce that the pencil is hidden and everyone can open their eyes.

The class is instructed to search for the pencil, and if/when they spot the pencil, not to say or do anything to alert the rest of the class, but to casually walk to a designated spot and wait there until either the whole class has spotted it or the others are clearly not going to see it.

The action starts again, with everyone closing their eyes, and the leader hiding the pencil again in increasing difficult places to see it.

### TYING IN ALL TOGETHER:

When the last round has been played, ask the group why learning to observe so well be a good skill to develop. In what other situations would careful observations be useful, or even critical? (Many professions, scientific experiments, outdoor activities such as hunting and fishing, other)

Ask the group if they felt that they improved their observational skills with each round; do they think it is a skill that can be developed?

*Adapted from Nature's Playground, Fiona Danks and Jo Schofield;, pg. 59*

## HUMAN CAMERA

*Students work in pairs to 'take a picture' with their eyes only of an element of their environment*

**APPLICABLE AGES:**

Pre K – 5<sup>th</sup> grade

**LOCATION:**

At the museum, in your classroom or outdoors

**RESOURCES AND MATERIALS:**

For Extension: Pencil and Paper

**PURPOSE:**

Students will become more visually sensitive to textures and shapes in their immediate environment

**OBJECTIVES:**

Students will be able to:

Increase their observational skills

Observe objects more closely in the Explore room

Control their voices and eyesight more readily

**ACTIVITY:**

Tell them they are all going to have the opportunity to take photos of the Explore Room by using human cameras.

To do this, they will lead a partner with closed eyes into the room or outdoors. Remind them to be responsible with the individuals they are in charge of during this activity. When they come to some element they would like to share with their partner, they will begin to focus the partner's closed eyes on that chosen element. Once the photographer has the head of the camera (the partner with the closed eyes) focused on what it is they would like to photograph, they gently pull down on the earlobe of their partner and this is the indicator to the human camera that they are to 'take the picture', meaning to open their eyes. The eyes should stay open for about five seconds, and then the earlobe is to be released and the eyes are to return to the closed position.

The experience can be more effective when focusing in on small elements in the room or outdoors. Alternatively, the students can take a panoramic by slowly rotating the human camera's head and then finish the photo by releasing the earlobe once again.

Inform the students they are to take five photographs each and then switch roles.

Ask the students to think of adjectives to describe what it is they see during the exposure time and not merely to think what the object or element is.

**TYING IT ALL TOGETHER:**

Once all the students have completed both roles of the photographer and the camera, have them gathered back into a circle to share their words describing what it is they experienced. Perhaps have them share one photo that sticks out in their mind as their favorite. Ask them if the images they have imprinted in their minds are similar to any of the images they may have of their local landscapes? What were some of the major differences? Ask them if anyone knows what it may mean to take a mental picture? Have a discussion on what significance there may be in using the all senses to capture the overall room instead of just a camera, (their eyes).

**EXTENSIONS:**

Students can draw or write about what they observed after it is their turn to be the human camera.

*Adapted from: Garden Earth Naturalists, Univ. of Georgia*

## I SPY!

*The classic game of one person giving clues for an object spotted and everyone else guessing what it is*

**APPLICABLE AGES:**

Pre-K - 5<sup>th</sup> grade

**LOCATION:**

At the museum, in your classroom or outdoors

**RESOURCES AND MATERIALS:**

None

**PURPOSE:**

This lesson will help students increase their powers of observation

**OBJECTIVES:**

Students will be able to:

1. Increase observational skills
2. Increase awareness of objects and sights in the Explore room
3. Improve vocabulary

**VOCABULARY:**

Any objects that the leader chooses to use as the “I Spy” object and applicable descriptive words

**ACTIVITY:**

The leader spies something and gives a one-word description: “I spy something green.” The other students try to figure out what the leader sees. If the students can’t figure out what the leader spies the leader gives another description: “I spy something green and hairy”. This game is played until the students guess what the leader spies. The person who guesses the right object becomes the next leader.

**TYING IT ALL TOGETHER:**

You could ask the group when it real life would they need or want to use the observational skills that they just worked on. (Hunting and fishing, bird watching, science experiments, other?)

## SHARP EYES

*Working in teams, after careful observation students change their appearance, and then try to spot the changes in each other*

**APPLICABLE AGES:**

All grades

**LOCATION:**

At the museum, in your classroom or outdoors

**RESOURCES AND MATERIALS:**

None

**PURPOSE:**

This lesson will help students practice careful observational skills

**OBJECTIVES:**

Students will be able to:

1. Be aware of the importance of the sense of sight
2. Heighten ability to notice small details

**ACTIVITY:**

Divide the class into two equal teams and have them face each other about four or five feet apart. At a signal, each person looks carefully at the player opposite them, noting as much as possible about their appearance. At another signal, both lines turn around so they face in opposite directions. Each person then alters something in his appearance (untie a shoelace, fasten a button, take off a shoe, fold lip a pant leg, etc.). At a third signal, the two lines turn and face each other again, and each player tries to spot the changes in the player opposite them. The team with the greatest number of correct answers wins.

**TYING IT ALL TOGETHER:**

In any setting where you want the students to be especially observant, you might introduce "Sharp Eyes" by telling the students that they are about to explore a special world. In order to really get to know this world, they must use all of their senses and be very observant, just like they did in the game.

This short game can also serve as a warm-up before an outdoor experience. In playing it, the students realize that they must be very observant if they are to notice the things around them.

*Adapted from: Project Seasons, Shelburne Farms, pg 151*

## SHATTERED RAINBOW

*Students match the exact color of small pieces of colored paper to something in their environment*

### APPLICABLE AGES:

Pre K – 5<sup>th</sup> grade

### LOCATION:

At the museum, in your classroom or outdoors

### RESOURCES AND MATERIALS:

- Many small pieces of paper, colored with a very wide range of colors (colors should be in the color range of the area you are asking the students to observe and match; paint sample chips are an excellent option)

### PURPOSE:

This lesson will help students increase their observational skills and increase their recognition of color in their environment

### OBJECTIVES:

Students will be able to:

1. Accurately assess and match colors
2. Improve their observational skills

### VOCABULARY:

None

### ACTIVITY:

Tell a story to the students about how you were out on a hike on a beautiful, sunny day and as the clouds rolled in out of nowhere, a beautiful rainbow appeared. As you were watching it, a huge bolt of lightning cracked the rainbow, shattering it. As the pieces started falling, you and your friends gathered as many as you could – very quickly because they were disappearing rapidly. You put them in a magic bag that you have with you today (now toss the pieces into the air).

Explain that each student should collect a certain number of pieces.

When they are sitting back down, tell them that they now have to find something in the environment that matches EXACTLY to their color chip. When they find objects that match ask students to show them to you or a friend (no picking or moving objects). Encourage the students to be strict with whether or not something matches because it is possible to find EXACT matches.

### TYING IT ALL TOGETHER:

After the students have succeeded (or not) in matching their color pieces, and have handed them all back in, have them gather together to discuss their adventure. Was it easy to match the color? Did they find many similar colors but not the exact color? Did they realize before how many shades of colors there were in the world? Speak about how human eyes can be very sensitive to color differences, and that people can develop their color senses.

## SOUNDS AROUND

*Students detect the variety of sounds around them by closing their eyes, being silent and listening*

**APPLICABLE AGES:**

Pre K – 5<sup>th</sup> grade

**LOCATION:**

At the museum, in your classroom or outdoors

**RESOURCES AND MATERIALS:**

None

**PURPOSE:**

This lesson will help students increase their ability listen and pay attention to different sounds in their environment

**OBJECTIVES:**

Students will be able to:

1. Increase their awareness of sounds in nature and elsewhere
2. Attempt to be silent for periods of time

**ACTIVITY:**

Have the group close their eyes and hold up both fists and lift a finger for every new sound that they hear.

**TYING IT ALL TOGETHER:**

This activity can take place in any environment, in a classroom or any indoor space, or outdoors.

This is an especially wonderful way to make children aware of the sounds (and the stillness) of nature. For fun, see if you can count to ten without hearing a bird song. Vary the game by listening for general animal sounds-or for any sounds at all, like wind in the grass, falling leaves, rushing water.

If you are playing indoors, after listening to all the sounds, discuss what the origins of the sound may be. Is it human generated? Is it mechanical or electrical? What action is being performed when the sound is made? Can it be tied to an action?

Discuss how the sound can be a clue to what is taking place in the environment around them.

**EXTENSIONS:**

To get children to concentrate more deeply on any (natural or other) setting, ask them how many different colors and shades of colors they can see in front of them without moving from where they are standing.

*Adapted from: Sharing Nature With Children, Joseph Cornell, pg.38*

## THE SHAPE OF THINGS

Students seek to find and match shapes in the environment to shapes on their simple shape necklace

### APPLICABLE AGES:

Pre K – K

### LOCATION:

At the museum or in your classroom

### RESOURCES AND MATERIALS:

- A pre-made “shape” necklace made out of shapes listed above (have one piece of each shape, with the name of the shape printed on the piece)

### PURPOSE:

This lesson will help students become familiar with basic geometrical shapes, and to observe those shapes in the world around them.

### OBJECTIVES:

Students will be able to:

1. Identify common shapes appearing in natural and built environments

### VOCABULARY:

Circle	Oval
Square	Geometry
Triangle	Rectangle

### ACTIVITY:

Hand out the necklaces to each student. With your own necklace or shape pieces, hold up each shape and say the name, then have students find the same shape on their necklace. Go through all the shapes together.

Go for a walk with the class. Play I Spy with the shapes. When you see an object with an obvious shape, say “I spy a \_\_\_\_\_” and hold up the corresponding shape on your necklace. Give the class time to look around and find the object. As the students become experienced in seeing and finding the shapes, encourage them to find shapes and call out “I Spy” for others to seek and find.

### TYING IT ALL TOGETHER:

Gather the group together and review the shapes along with their name.

### EXTENSIONS:

For very young students, add the color and the shape as you play ‘I spy’

Have students draw the shapes on paper.

Have students draw objects they see on their walk, and then hold a ‘show and tell’ to share their observations with the class.

*Adapted from: Project Learning Tree, Environmental Experiences for early childhood, pg. 19*

## TOUCH BOXES

*Students put their hand in a closed box to feel an object's texture and shape, using their sense of touch*

**APPLICABLE AGES:**

Pre K – 1<sup>st</sup> grade

**LOCATION:**

At the museum or in your classroom

**RESOURCES AND MATERIALS:**

- Box with a hand-sized hole in the side
- Objects to place inside the box that the teacher might want to lead a discussion about after the objects are revealed

**PURPOSE:**

This lesson will help students become familiar with the sensitivity of the sense of touch

**OBJECTIVES:**

Students will be able to:

1. Use their senses of touch to determine what might be in the box

**VOCABULARY:**

None

**ACTIVITY:**

Explain to the students that there are surprise objects that are not alive inside the touch boxes. Ask the student to feel objects within each of the touch boxes. Ask them not to say a word about what they felt or what they think is inside until everyone has had a chance to feel inside the boxes.

**TYING IT ALL TOGETHER:**

Gather the group together to discuss what they felt. What did you feel inside the boxes? What do you think was inside the boxes?

*Adapted from: Nature's Playground, Fiona Danks and Jo Schofield, pg. 182*

FEEDBACK

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Please contact the Education Department with any questions, comments or suggestions regarding this curriculum.

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