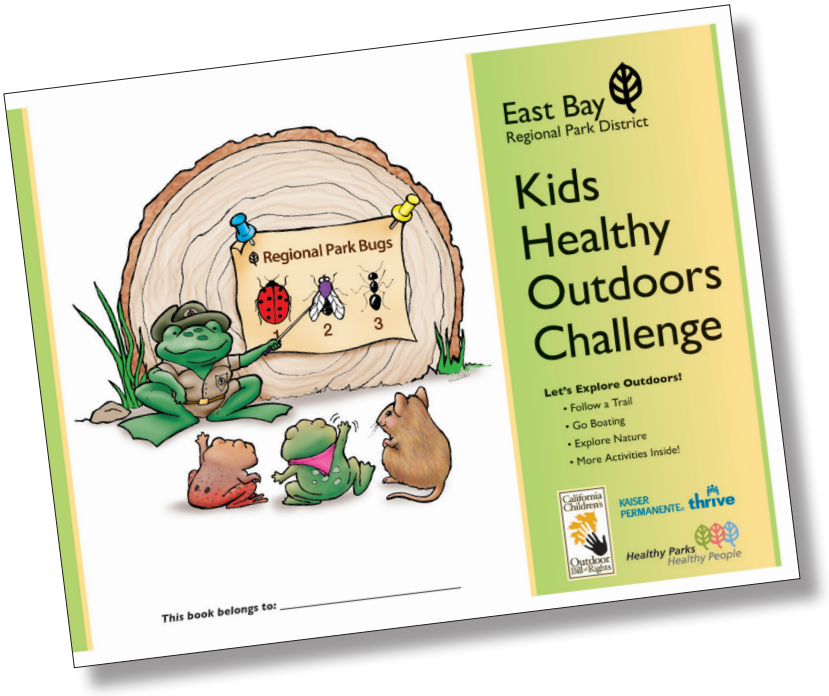
KIDS HEALTHY OUTDOORS CHALLENGE

Teacher's Guide



East Bay Regional Park District
Healthy Parks Healthy People

Regional Parks Foundation
Supporting East Bay Regional Parks

Kaiser Permanente thrive

The San Francisco Foundation

Alameda County Fish & Wildlife Advisory Commission

Tesoro Foundation
Education • Safety • Environment

The Snyder Family Foundation

Updated 9/2017

Kids Healthy Outdoors Challenge Teacher's Guide

Table of Contents

A. INTRODUCTION TO *KIDS HEALTHY OUTDOORS CHALLENGE* & THE CALIFORNIA CHILDREN'S OUTDOOR BILL OF RIGHTS

The Kids Healthy Outdoors Challenge curriculum is for third grade classrooms throughout Alameda and Contra Costa Counties. This curriculum was funded with assistance from Kaiser Permanente, the Contra Costa County Fish and Wildlife Committee, and The San Francisco Foundation, and the Regional Parks Foundation.

Its goal is *connecting children (and their educators and families) to the outdoors and recreational opportunities, promoting health and well-being, physical activity and life-long parks use—particularly in EBRPD parks.*

Benefits to kids: The observed benefits of programs like the *Kids Healthy Outdoors Challenge* (often called Environment as an Integrating Context for learning (EIC) programs) are broad ranging. They include the potential for:

- better performance on standardized measures of academic achievement in reading, writing, math, science, and social studies;
- reduced discipline and classroom management problems;
- increased engagement and enthusiasm for learning; and,
- greater pride and ownership in accomplishments.

EBRPD is defining "success" as **completing the Introductory lesson + 3 out of the 10 lessons** in the guide, and we have designed *Kids Healthy Outdoors Challenge* lessons to support California Curriculum Content standards, including upcoming Core Content Standards. Teachers can select those lessons which are most supportive of their classroom learning goals.

Ultimately, we hope that every lesson in this guide will support your classroom teaching and that teachers will encourage students to complete *as many lessons as they can.*

California Children's Outdoor Bill Of Rights

With recent concerns about youth detachment from nature and outdoor activities, lack of physical exercise and increased health risks, the California Roundtable on Recreation, Parks and Tourism created The California Children's Outdoor Bill of Rights. The California Children's Outdoor Bill of Rights is a list of fundamental nature-based experiences that every child in California should have the right to experience before entering high school.

- *Mission:* To encourage California's children to participate in outdoor recreational activities and discover their heritage.

- *Objective:* That every child in California, by the completion of their 14th year, have the opportunity to experience each of the activities listed within the California Children's Outdoor Bill of Rights:

1. Connect to the Past
2. Play in a Safe Place
3. Explore Nature
4. Follow a Trail
5. Plant A Seed
6. Camp Under the Stars
7. Ride a Bike
8. Learn to Swim
9. Go Boating
10. Go Fishing

The Kids Healthy Outdoors Challenge has been designed specifically to align with and support these activities, and this *Teachers Guide* is the accompaniment to the *Kids Healthy Outdoors Challenge* booklet you will pass out to your classroom. This guide has been designed with teachers and their students in mind. The curriculum provides either a lesson that is linked directly to the information in the *Kids Healthy Outdoors Challenge* booklet, or is a lesson linked to and enhancing the key concept. The lessons often reach across disciplines, addressing standards in English, Math, Science, Social Studies, and PE. We hope that these lessons will help bring the outdoors into the classroom, as well as bringing the class out of doors!

Some of the lessons in the Kids booklet, especially those at the back of the booklet, may be harder to conduct in a classroom setting. EBRPD understands this, and has included them in hopes that children and families will explore these activities out of school.

Teachers can help by guiding kids through these lessons using the following instructions, as time allows, and helping ensure that children and families know where to go to enjoy outdoors activities by sending copies of the booklet home with parent information letters.

Sample Parent Letter

As you kick off the *Kids Healthy Outdoors Challenge* in your classroom, we recommend sending a letter home to parents and guardians, telling them about the project and inviting their participation.

A sample letter is included on the following page.

B. SAMPLE PARENT LETTER

Dear Parent:

This year, our classroom has the chance to participate in an innovative program from the East Bay Regional Park District. It is called the *Kids Healthy Outdoors Challenge*, and it is designed to encourage third graders to enjoy nature and the outdoors, with connection to their classroom work.

The *Kids Healthy Outdoors Challenge* is based on the California Children's Outdoor Bill of Rights, which says that kids should spend lots of time outdoors. Many studies show that children who participate in outdoor activities are healthier, do better in school, have better social skills and self-image, and lead more fulfilled lives. The "bill"—which was established by the California Department of Parks and Recreation—recommends ten outdoor activities that every kid has the "right" to try before the age of 14, things like learning to follow a trail, explore nature, and ride a bike.

Over the year, we'll be working on new lessons and activities outdoors. The project will include a free field trip to an East Bay Regional Park.

Another goal of the project is to encourage families to spend more time outdoors *together*. Your child will bring home a *Kids Healthy Outdoors Challenge* workbook, and we hope you will review it with him or her. Take a look at the Regional Parks Family Guide (included in the workbook) for things you can do with your families in our very own regional parks. If you would like to be involved in the *Kids Healthy Outdoors Challenge*, contact me as to what activities we can use help or chaperoning. We hope the challenge will inspire the whole family to spend more time outdoors.

Sincerely,

C. OUTDOORS AGREEMENTS

It is very important to set a tone of respect before bringing the class outside. Talking about the outdoor agreements in the classroom before going outside for class activities will help to ensure everyone understands how they should act while they are outside. Posting the agreements in the classroom on a poster, or passing out a handout with the agreements are further ways to encourage students. The agreements also appear in the *Kids Healthy Outdoors Challenge* booklet.

1. **Leave it where you found it**:
    - Animals and Insects: Don't chase, scare, or try to touch animals and insects. Report hurt animals to a ranger. Don't try to help an animal yourself.
    - Plants: Don't pick plants or flowers, dig holes or pick up rocks or pinecones.
2. **Stay on Trails**: Don't take shortcuts – they cause erosion and can be dangerous. Check maps, read signs and stay out of closed areas.
3. **Keep it clean**: Don't litter – trash belongs in trash cans. Take home everything you bring into the parks
4. **Be safe around water**: Stay out of the water unless you're at a posted swim area and a lifeguard is on duty.
5. **Watch your pets**: Dogs must stay in areas where they are allowed. Follow all leash laws. Where dogs are allowed off-leash, make sure they can hear your voice and commands. Also, make sure you keep your pet from disturbing wildlife and digging holes. And of course, pick up their waste and put it in the trash.
6. **Please review with your students** "Exploring Outside: Health & Safety" **in the KHOC Kid's Booklet**. It contains information important to both classes and families using the parks.

D. CLASSROOM MANAGEMENT TIPS

Tips and Tricks for Outdoor Classroom Management

Establish ground rules and outdoor routines. Develop Outdoor Classroom Rules with your students and refer to them often (e.g., No Running. Quiet Voices. Touch Gently).

Establish a set of Outdoor Classroom protocols for collecting tools, lining up, walking through the halls, and returning to class that you use each time the class goes outside. Perhaps go out a different door than the one you use for recess. Identify an outdoor "gathering spot" where students assemble for initial instructions, mid-lesson check-ins, or a closing discussion.

Plan a "sacrificial" lesson. Your first several times out, students will be learning how to work outdoors more than any particular science content. Have an alternative in mind in case you have to go back in because of behavior problems.

Get to know your schoolyard. Before setting out to do science, spend a couple of sessions walking the site; mapping schoolyard areas; practicing routines; identifying harmful plants; and making some observations. Let students poke around, freely explore and "play" with the outdoor materials before studying them.

Be clear about the purpose of going outside. This will help you direct students' attention to what you want them to notice, and assess when they are ready to return to the classroom. Give students a clear task. Having a concrete task helps students focus their observations, and their thinking.

Every student should have something to carry. Having a notebook or "tool" in-hand helps students remember why they're outside. Clipboards, measuring instruments, and other tools can be crucial in keeping students on-task.

Go out often. The more you go out, the easier it gets. Students' ability to work purposefully outdoors increases as they learn what to expect, experience the comfort of a routine, and develop confidence in their own outdoor science skills.

Keep it short. An outdoor experience may be only ten minutes, just long enough to collect the needed data. Begin with short trips outside and increase the time as students' skills and stamina increase.

Learning looks different outdoors. Recognize that voices may be louder, and body movements larger outdoors. Excitement is likely to be high, and expressed more physically than in the classroom. Even so, many teachers have found that students tend to be more on task, more focused and calmer when working outdoors.

Model outdoor skills. Show students how to take field notes by sitting down and recording your own observations: drawing, labeling or writing about the same subject as your students in your science notebook. Your engagement can also help keep the class quiet and focused.

Believe in your students. All students from the highest achieving to the most challenged can work outdoors. Sometimes the most difficult students are the most focused outdoors.

Other Resources:

http://files.dnr.state.mn.us/education_safety/education/facilitators/fireworkshop/classroom_mgmt.pdf

E. INTRODUCING THE CHALLENGE TO YOUR CLASS

The Big Idea/Important Concepts: We want every child to spend more time learning outdoors. Please help us continue to improve the materials by assessing the activities and sharing your comments with us regarding which activities work well, as well as those you find challenging. Your suggestions are greatly appreciated.

Background: The *Kids Healthy Outdoors Challenge* is based on the California Children's Outdoor Bill of Rights, which says that kids should spend lots of time outdoors. Many studies show that children who participate in outdoor activities are healthier, do better in school, have better social skills and self-image, and lead more fulfilled lives. The "bill"—which was established by the California Department of Parks and Recreation—recommends ten outdoor activities that every kid has the "right" to try before the age of 14, things like learning to follow a trail, explore nature, and ride a bike.

Learning Objectives:

- **Every child in the classroom will understand why they are doing the** *Kids Healthy Outdoors Challenge* **and what they'll get out of it.**

Lesson Instructions:

a. Pass out one *Kids Healthy Outdoors Challenge* Kids booklet to each student.

b. Time Required: 20 - 30 minutes

c. Recommended group size—whole class

– Describe the California Children's Outdoor Bill of Rights, and how the *Kids Healthy Outdoors Challenge* has been created to help children achieve as many of activities on that list as they can.

– Explain that this booklet has lots of information and activities for students to do to make it easy for them to enjoy nature and the outdoors, and learn at the same time.

– Let kids explore the booklet, looking through it to see what they notice. Possibly have a scavenger hunt—"What page is the Table of Contents on?" etc.

– Have children "Pair and Share" to talk about each lesson topic with a partner.

– Tell kids about the field trip they'll be taking. If you know what your destination is, show pictures, a map, etc.

Optional: Create a **KWL** chart poster to use throughout the lessons—3 columns; 1st column = **K** (what we already **K**now); 2nd column = **W** (what we **W**ant to know); 3rd column = **L** (what we **L**earned). Fill out the "K" and "W" column now (the "W" can be added to all along), complete the "L" at the end (also can be added to as you go and students learn new things).

Closing Discussion Suggestions: Ask students if they have any remaining questions. If choosing to do the "optional" portion, create the KWL chart (instructions above).

Additional Resources: *EBRPD—Community Outreach Orientation Packet*

Lesson 1
Connect with the Past

The Big Idea/Important Concepts: You can connect to local history, community history and Native Americans right here in the East Bay – history is all around us.

Background:
(This information can also be found in the Lesson 1 in the *Kids Healthy Outdoors Challenge booklet.)*
Why do we learn about the past and different cultures? Learning about the past and history is important because it helps us understand ourselves, our surroundings, and how they came to be the way they are. Everything happening in the world today is connected to the past, and to the decisions and lives that came before us. We must know about the past and the worlds' cultures to really understand the present—what is happening now.

In our region, some of major tribes were called the Ohlone and Bay Miwok. They have left many traces, all around us. "Culture is a person's way of life. Every different group of people has a culture. Even though some things are the same in different cultures, many things are also unique from culture to culture. By learning about different cultures, we can learn a lot about ourselves and the world we are a part of. . . . .The first people of the United States are often called Native Americans or American Indians. Even though they are called by one name, there were hundreds and hundreds of American Indian cultures. In fact, in California alone, there were probably over 1,000 different groups of American Indians." *(Source: Beverly Ortiz et al., EBRPD Ohlone and Bay Miwok Curriculum; Student Resources: http://www.ebparks.org/activities/educators/Ohlone_Curriculum)*

Learning Objectives:
- Students will be able to describe the American Indian nations in their local region long ago and in the recent past. Students will be able to describe national identities, religious beliefs, customs, and various folklore traditions in local Native American tribes.
- Students will be able to recognize one local landmark within their community and describe the historical connection to today.

Standards:
History/SS, #3.2
History/SS, #3.2.1
History/SS, #3.3.3
Core Content, Reading: RL #1, RI #1, RI #7, Writing W #1 and 2

Lesson Instructions #1

Materials needed:
- Map of California
- Poster board or oversized piece of paper
- Map of Native Peoples of the East Bay (EBRPD)

Time Required: 60 minutes

Recommended group size: Whole class; may divide into smaller groups

Instructions:
Have students locate their school or city on a regular map. Using the Map of Native Peoples of the East Bay (EBRPD), compare the two locations. Discuss the similarities and differences of the area during the time when Native Americans lived there with the community today: what does it look like, how many people lived in one area, how they lived, worked and played; what did the homes look like, how many languages were spoken, how did they travel and move around.

Identify the primary tribe that is located closest to school or community. The Native Americans living in the East Bay are considered Ohlone or Bay Miwok. Compare the numerous tribes of the Ohlone or Bay Miwok to the community and family structure today.

Closing Discussion Suggestions: Have the class select what they think is the most significant similarity or difference between the community then and today; implement a simple voting system to encourage independent thinking.

Extension Activities:
Write from the perspective of an Ohlone child. What would be the hardest part of your life? If you were an Ohlone Indian, what would you use to grind food? Where would you live? What would you eat?

Additional Resources:
EBRPD Ohlone and Bay Miwok Curriculum/guide
Ohlone Indians: The first people of the Tri-Valley
Life of the California Coast, Bobbie Kalman
Local Historical Societies
Oakland Museum of California

Lesson Instructions #2: Past Meets Present

Materials needed:
- Map of local community or town
- Poster board or oversized piece of paper
- Civic brochures from Chamber of Commerce, local city or town hall, or local parks and recreation office
- History brochures from local historical society or volunteer organization

Time Required: 60 minutes

Recommended group size: Whole class; may divide into smaller groups

Instructions:
Begin a discussion with students about the names of very familiar or famous landmarks in your town or city; even the name of your school. Select one or several landmarks and research how it was named; was it named after a person, a story or legend, a family, the way of life. Identify how many landmarks or items have the same name: school, park, street, building, or plaza.

What was the contribution of the family, person, or way of life to the community today? Why do we remember the contribution?

Extension Activities:
Have students research their own family heritage and write about one tradition or contribution from a long time ago that the family still does today.

Lesson 2
Play in a Safe Place

The Big Idea:
Many children do not have frequent opportunities to be outside and play. Being and playing in the outdoors is very important for children's development. The U.S. Centers for Disease Control recommends to exploring different physical activities not only during P.E., but during other lessons as well (e.g., a nature walk during science class). In short, this lesson seeks to create opportunities within the school day to meld learning and being outdoors.

Additionally, the CDC's *Physical Activity Guidelines for Americans* say that children need 60 minutes of play with moderate to vigorous activity *every day* to grow into a healthy weight. Exercise helps prevent a range of chronic diseases like cancer, strokes and heart disease. It builds lean muscle, strong bones, reduces fat and the risk of obesity.

Background: Throughout history, children have often found many ways to play outside. For example, American Indians native to the bay area had many ways for children to play.

"Ohlone, Bay Miwok and other American Indians peoples had many fun games and toys. Sometimes parents made the toys, including dolls, and the game pieces, for their children. Sometimes children made these things themselves, using leaves, stones, sticks and other natural objects." *(Source: Beverly Ortiz et al., EBRPD Ohlone and Bay Miwok Curriculum; Student Resources: http://www.ebparks.org/activities/educators/Ohlone_Curriculum)*

Learning Objectives: Students will learn that the outdoors can be a safe place to play, and different about many ways that they can play outside.

Standards:
History/SS 3.2.1
PE # 1.1, 2.1, 5.1-5.6
Common Core—Math—Fractions, Measurement, Geometry: #3.NF.1, 3.MD.5, 3.G.1-2
Common Core—ELA—Writing, #W2-3

Lesson Instructions #1: Play a Native American Game Outside
(Three options are given below.)

Game #1: The Moccasin Game[1] (An Ojibwa Game)

Materials needed:
- 4 Moccasins (can substitute cones, bowls, etc. Or use kids shoes to make it similar to the way the Native Americans played it).
- Pebbles (can substitute marbles or other small items)

Time Required: One round—5 minutes. Play as many rounds as you wish.

Recommended group size: Whole class—students take turns being the singer, the finder, and the keeper. Or break into smaller groups of 3 and have many games going at once.

Instructions:
The Moccasin Game was a noisy game. You had to get permission from the village elders to play the Moccasin Game. To play, you needed four moccasins, a pebble, and a stick. You can also have a drum to keep the beat (optional). The players were divided into two sides, the finders and the keepers.

The Singer: One player of each team was the singer. The singer's job was to encourage his or her own team.

The Keeper: One player was the keeper. His job was to hide the pebble in one of the moccasins. The keeper would move his hands rapidly over the moccasins. Even after he dropped the pebble, he would continue to move his hands rapidly, to fool the other team. When the singing stopped, he stopped.

The Finder: One player was the finder. The finder had to turn each moccasin over until he found the pebble.

There was a complicated scoring system. You can create a scoring system with your class, or play without scoring. Several rounds were played. A game of Moccasins could go on for hours. It was a very noisy game, and deeply enjoyed by the players.

[1] http://nativeamericans.mrdonn.org/northeast/ojibwa/moccasingame.html

Game #2: Willow Hoop Toss (an Ohlone Game)[1]

Materials needed:
- Hoop (hula hoop, or one made from a branch)
- Sticks (or other small items, if sticks aren't readily available—all the same size)

Time Required: One round—5 minutes. Play as many rounds as you wish.

Recommended group size: Whole class is broken down into smaller groups, an equal number of players at each hoop.

Instructions:
Make hoop from willow wand. Cut three sticks that will fit inside the hoop. Place hoop on ground and stand with your back to the hoop and toss sticks over your shoulder trying for the hoop. Winner gets most sticks in hoop.

(This game can be modified with a hula hoop; you can draw a circle on the ground, or use stones to make a circle. You can use a stick from the ground.)

Game #3: Walnut Game (an Ohlone Game)

Materials needed:
- Six walnuts, one half of each walnut painted, dyed or etched—this can be done in class with walnuts and tempera paint. (Can substitute chips with two colors)

Time Required: One round—2 minutes. Play as many rounds as you wish.

Recommended group size: Whole class—broken down in to groups of 2—4.

Instructions:
Shake walnuts up in a basket. Count your score.

All sides up of same color ••••• 5 points
Four sides up of same color •••• I point

Closing Discussion Suggestions:
How was it different playing outdoors? Discussion of team vs. tribe concept—teams are a group of people working towards the same goal, how is this similar to the Native American tribes?

[1] http://pacificahistory.wikispaces.com/Ohlone+Games

Lesson Instructions #2: Scavenger Hunt (to be played in a park or other outdoor setting)

Materials needed: "Outdoor Scavenger Hunt" worksheet (see following pages) and clipboard

Time Required: 30 minutes

Recommended group size: Two teams

Instructions:

– Divide into two groups, each with an adult leader
– Send groups to separate ends of the park
– Each group walks, observes, and tries to check the following items off of the checklist as they are spotted, and give other information about what they see.

Closing Discussion Suggestions: Come together to compare and contrast what you found in different parts of the park. What did you find in common? What was different between the two sides of the park?

Optional: Prize for the team that found the most objects?

Note: You could use the KHOC booklet simple scavenger hunt to practice, then go for a more advanced activity by copying the next two pages to use with the class.

Outdoor Scavenger Hunt

Observe carefully. See how many of the following you can find. Check off as you go, keep track of how many you see, and sketch pictures of things you don't know the name of.

I'm looking for…	☒	Tell Us More – Write and Draw
animal tracks		Whose tracks do you think they were?
feathers		What type of bird did the feathers come from?
trees		What kind of tree do you think you saw?
birds		What kind of bird do you think you saw?
insects		What kind of insect do you think you saw?
nests		Make a sketch of the nest. What animal might have built it?
nuts		What kind of nuts are they?
cones		What kind of tree is the cone from?

bodies of water		What body of water did you spot? A creek? A lake? The ocean?
amphibians		Name the amphibian you saw.
reptiles		Name the reptile you saw. Draw it if you aren't sure of the name.
scat		What kind of animal scat do you think it was?
mammals (pets)		What pets did you see?
mammals (non pets)		Name or draw the mammal you saw.

Write about what you experienced on your scavenger hunt. What was the most unusual thing you saw on your scavenger hunt? What colors did you observe as you looked around? What sounds did you hear? What surprised you?_____

_____

_____

_____

_____

Lesson Instructions #3: Build a Kite [as is in Kids Booklet.]

Materials needed:

- Kite Body: A sheets of brightly colored 8.5" x 11" multipurpose printing paper.
- Kite Spine: A coffee stirrer or an 8" bamboo barbecue/shish kebab stick.
- Kite Tail: Eight feet of florescent surveyor's flagging plastic tape (available at any hardware store), or spiral cut an entire plastic bag into a 1" wide piece.
- 1/2" wide masking tape or any type of plastic tape.
- One roll of string. (At least 200 feet.)
- A 1" x 3" cardboard square on which to wind the string.
- Scissors.
- Hole punch.

Time Required: 30—45 minutes to build the kite, additional time to fly it!

Recommended group size: Whole class—each child makes their own kite, or make one in pairs.

Instructions:

1. Fold a sheet of 8 1/2" x 11" paper in half to 8 1/2" x 5 1/2".
2. Fold the top sheet diagonally. This diagonal line can be determined by making a mark at the kite's top, 1" from the existing fold. Then making a mark at the kite's bottom, 3" from the existing fold, and drawing a line between these marks as your fold guideline.
3. Place tape firmly along your diagonal fold line. (The fold stiffens the paper and acts like a spine so no stick is needed here.)
4. Place your barbecue (BBQ) stick from corner A to corner B and tape it down firmly.
5. Tape 6 to 10 feet of plastic ribbon to the narrow, back end of the kite at C.
6. Flip kite over onto its back and fold the front flap back and forth until it stands straight up. Punch a hole in the flap at D, about 1/3 down from the flap's top corner E. This hole can be reinforced with a piece of tape. Tie one end of the string to the kite's hole and wind the other end onto the cardboard string winder.

Build in classroom; can be flown outside on a windy day.

Closing Discussion Suggestions:
What skills did we use to create the kite? What did you learn when you tried to fly it?

Extension Activity Game: Capture the Flag

Materials:

- Camouflage clothing
- Running or tennis shoes
- 2 old, brightly colored T-shirts

For instructions on how to play, visit:
http://www.ehow.com/how_311_play-capture-flag.html

Extension Activity Game: Naturalist Bingo

Naturalist Bingo: *Find something that . . .*

B	I	N	G	O
You use outside. **Draw it here.**	You can grab while standing on your tippy-toes.	Begins with the letter "N."	Is one of the 5 things that plants need to grow.	You can sink your hands into.
Makes a buzzing sound.	Begins with the letter "I."	Is growing outside. **Draw it here.**	Has seeds.	Is helping plants and animals live.
Is one of the 5 things that plants need to grow.	Flies in the air. **Draw it here.**	 **FREE SPACE**	Is brightly colored.	Begins with the letter "O."
Begins with the letter "B."	Makes you smile.	Is one of the 5 things that plants need to grow.	Is singing. **Draw it here.**	Is one of the 5 things that plants need to grow.
Smells sweet.	Is one of the 5 things that plants need to grow.	Is hidden under something else.	Begins with the letter "G."	Feels sticky. **Draw it here.**

Lesson 3
Explore Nature

The Big Idea: To create a personal relationship to the outdoor environment; to teach students how humans are connected to the environment, that there is diversity in nature, and math happens in nature.

Background:
There are many reasons to explore nature. Getting kids outdoors helps to change their perspectives, and promote learning in different ways. This is a different way to learn about English, Math, and Science concepts through nature.

Learning Objectives:
Student will understand what an adaptation is and why birds have different beaks.
Students will be able to recognize diversity in nature. Students will recognize mathematical concepts in nature.

Standards:
Science—Life Science #3.a—Adaptation
Science—Investigation and Experimentation #5
Common Core—Math Operations and Algebraic Thinking—#3.OA
Common Core—Math Measurement and Data—#3.MD

[Note: "Critter Cards" may be used as an extension]

Lesson Instructions #1: I think nature is…

Materials needed:

- Blank paper
- Crayons/markers

Time Required: 20–45 minutes (depending on time given for drawing and discussion)

Recommended group size: Individual activity, group discussion

Instructions:

– Tell students, "today we are going to think about nature."

– Ask them to close their eyes and see pictures of what they think nature is.

– Think-pair-share—turn to a partner and share some of your ideas about what nature is.

– Pass out paper.

– Ask them to draw a picture or write words that describe what they think nature is.

– To close: Have a gallery walk—students put their completed art on their desks. Then everyone stands up, puts their hands behind their back, and walks silently around to observe the art. Everyone takes their seat. Then share thoughts and ideas out as a group. Emphasize the importance of humans needing to protect nature so that it can be healthy and around for a long time.

Lesson Instructions #2: World in a Box (to take place in school yard, garden, or local park)

Materials needed:

- Empty shoe box/scissors [can substitute with a frame made from a string, popsicle sticks, or construction paper]
- Kids Booklet
- Compare-and-contrast worksheet (#2)
- Clipboard
- Pencil
- Optional: Magnifying glass
- An adult helper/aide

Time Required: 60 minutes

Recommended group size: Pairs of two

Instructions:

– Break kids into pairs.

– Model activity of placing frame on ground and discussing what's inside in the classroom *first.*

– Take kids outside and distribute them throughout different areas.

– Give them 15 minutes to draw what they find in their frame or box on Worksheet #1

– Instruct them to find their partner.

– Allow 20 minutes for the pairs to complete Worksheet #2, drawing what's in common in their boxes.

– Classroom discussion: Share with all. Did you all find the same things? What was different? Did everything you find there belong in nature? What would be your prediction of things you'd find in your backyard? A park? A jungle?

Key outdoor agreement: Leave things where you find them!

Lesson Instructions #3: Cricket Thermometer
(Math #3.MD Science—Investigation and Experimentation #5)

Materials needed:
- 6–12 crickets from pet store or bait shop
- Worksheets/clipboard
- Pencil
- Watches/clocks with second hands
- Thermometers

Time Required: 45 minutes –1 hour

Recommended group size: Split class in half. An adult helper is needed.

Instructions:
– Explain what we're doing, and model counting chirps per 15 seconds in classroom.
– Distribute half of the class indoors half outdoors—need to put crickets outside for an hour first.

Instructions to students:

– A cricket makes a great thermometer because it chirps according to the temperature. The colder it is the slower the cricket chirps, and the warmer it is the faster it chirps. You can figure out the temperature in Fahrenheit degrees.
– Using a watch with a second hand, count the number of cricket chirps you hear in 15 seconds.
– Add 40 to this number and you will know the outdoor temperature!
Do the math: _ _ _ _ chirps + 40 = Degrees Fahrenheit
– Release the crickets.

Closing Discussion Suggestions:
Compare outcomes and observations. How much was your cricket chirping? When did crickets chirp the most? What are your findings on temperature indoors and outdoors? Check with the real thermometers—were you correct? Why is this useful to know?

Variations: Half the crickets can go into a refrigerator for an hour before the lesson.

Hint: Teach this lesson *after* classroom teaching about temperature and measurement.

Lesson Instructions #4 Bird Bill Exercise[1]

Materials needed: Timer or clock

Time Required: (Instructor will suggest)

Recommended group size: (As necessary)

Why Do Birds Have Different Beaks?
(*Students can follow along or read out loud for this paragraph in the Kids Booklet)*

All animals have *adaptations*, which is a feature or behavior that helps an animal survive. The type of beak a bird has depends on what kind of food they usually eat in their habitat.

- A bird that lives at water's shore often have long, curved bills to catch shrimp and other small creature.
- Short stubby beak on a bird means that it is land dwelling, and eats seed or insects.
- A bird with a long, thicker beak might search for food out in deeper water, where there are bigger creatures to eat (such as fish).
- Birds with smaller, sharper beaks hammer into trees to find insects, or even eat other small birds and rodents.

"A bird's beak is basically a lightweight, bony elongation of its skull. The beak is covered with skin that produces keratin, the same material found in human fingernails and hair. On most birds, the keratin condenses and dries, forming the beak's hard, glossy, outer covering. The tip and cutting edges of the beak are constantly renewed as they wear away, just as human nails are.

Bird beaks are multi-functional tools. Birds use them to weave nests, defend their territory, attack competitors, groom feathers, communicate, and most significantly, to gather or capture food.

Over the years, a wide assortment of bird beaks has evolved. Though many birds have straight beaks that are adapted to general feeding, some birds' beaks are examples of unique adaptations."[2]

[1] Adapted from "Activity: Bird Beak Buffet"- http://pubs.usgs.gov/of/1998/of98-805/lessons/chpt2/act5.htm, accessed 7/25/12.
[2] "Activity: Bird Beak Buffet"- http://pubs.usgs.gov/of/1998/of98-805/lessons/chpt2/act5.htm, accessed 7/25/12.

In this activity, we will examine types of bird beaks and begin to understand how each type of beak allows different birds to collect the specific type of food they need.

Students, using various objects that provide a model for different bird beaks, will try to "eat" the food and place it in their "stomachs".

Materials:

- "Bird Food" (one paper plate full per group): Bird seed, nuts, raisins, bits of crackers, etc.
- "Beaks" (one set per group): Tweezers, clothes pin, toothpick, straw, spoon.
- "Stomach" (a cup, bowl, or Ziploc-like baggy): The smaller the size the higher the challenge.

Instructions:
Students work in groups of 4–6, either at a table or around a clean mat on the floor. The plate goes in the middle of the group, filled with assorted "bird food." Students each take one "stomach" and place it in front of them, and one "beak", and hold it in one hand, while the other one stay behind their back.

You will tell them when to go, and keep time (in 15–30 second increments). When you say go, they try to "eat" as much bird food as possible with their "beak." When you say "stop," they should stop, look at how much and what type of foods they were able to pick up. Then pour the food back on the plate, and pass the "beak" to the right. Start again with the new "beak." Repeat as many times as is appropriate.

Extension Activities:

– Bird Watching: take the class bird watching on school grounds, or during a field trip. Discuss and describe the birds they saw. Go home and look for birds around their house. Come back and report to the class what they saw.
– Make bird beak masks with construction paper.
– Build different types of bird feeders and hang them in the schoolyard for daily observation of feeding behaviors.
– Counting, tallying, graphing birds: I saw 3 seagulls, two pigeons, etc.
– Hydrate & dissect owl pellets—available from science supply stores
– Critter Cards—see insert with cards for suggestions of games that could be played.

Additional Resources:
EBRPD Traveling Exhibit/Mobile Visitors Center: Birds, skulls, bones.
Night of the Pufflings, Bruce McMillan, 1997

Lesson 4
Follow a Trail

The Big Idea: Walking or hiking is a fun and interesting way to observe the environment around us, move our bodies, and exercise. Using a map to understand where we are is an important skill that can be learned experientially in the parks while following trails. The U.S. Centers for Disease Control recommends exploring different physical activities not only during P.E., but during other lessons as well (e.g., a nature walk during science class).

Additionally, the CDC's *Physical Activity Guidelines for Americans* say that children need 60 minutes of exercise with moderate to vigorous activity *every day* to grow into a healthy weight. Walking and hiking are one way to make sure children move their bodies. Exercise helps prevent a range of chronic diseases like cancer, strokes and heart disease. It builds lean muscle, strong bones, reduces fat and the risk of obesity.

Background: In an age of reliance on GPS, map reading and following signs is considered by many to be a dying skill. We want students to understand the benefits of being able to follow maps, and rely on their senses, to determine their position in a given place. Map reading also encourages critical thinking.

EBRPD has numerous maps and resources at their website, and in every park. Park Visitor Centers are also a great place to get tips on map reading, and pick up a map for your favorite park!

Learning Objectives: Students will understand that how to create and use maps, and use mathematical reasoning in this process. They will also become more comfortable walking in parks and on trails.

Standards:
History/SS 3.1
Math MR 1.1.1
Science LS 3a

Lesson Instructions #1: Treasure Hunt!

Materials needed:

- Create a "Treasure Hunt!" worksheet. For a sample, visit: http://www.readwritethink.org/files/resources/lesson_images/lesson1126/sample.pdf)
- Blank paper to draw map on
- Pencils
- Optional: Clipboards

Time Required: 30 minutes–1 hour

Recommended group size: pairs/small groups

Instructions:

Have students hide an object or a prize in the park or on the playground (when it is not recess time). It could be a coin, a drawing, or a found object like a feather or a pretty stone. Then make a map of the park showing where things are such as the parking lot, picnic tables, buildings, restrooms, paths, big trees or rocks, etc. Put an "**X**" on the map where you put the hidden treasure. Give the map to a friend and see if they can find the hidden treasure using your map.

Closing Discussion Suggestions:

Why is it important to know how to read a map? To be able to draw a map? What made it easier to understand the maps? What was challenging?

Lesson Instructions #2: Trailblazers and Trackers

Materials needed:

- "Trailblazers and Trackers" Worksheet: http://www.nwf.org/kids/family-fun/outdoor-activities/trail-marking.aspx
- Sticks and stones for making trail markers
- Time Required: 30 minutes per session
- Recommended group size: 5—15 per group

This exercise is best done at a park. Divide into two groups called ***Trailblazers*** and ***Trackers***. The Trailblazers will mark a trail making trail signs like the examples on the worksheet. At the end of the trail, the Trailblazers will hide and wait for the Trackers to find them. About 15 minutes after the Trailblazers leave, the Trackers will start following the trail signs. When the Trackers find the Trailblazers, the teams switch roles and play again.

Tracking Tips:

- Take at least one grown-up for each group.
- Stay together as a group and use marked trails.
- Use your senses to observe and find the trail markers, and other signs of which way the first group went.

Closing Discussion Suggestions:

What senses did you use to help you? What did you find challenging?

Extension Activities:

– Workbook activities—Use the lessons in the *Kids Healthy Outdoors Challenge* workbook to support lessons on animal adaptations.

– *Letter to a Naturalist:* Write a letter to the naturalist at the park, thanking him/her and telling him/her what you learned.

– *Exploring Park Maps*—The East Bay Regional Parks offer maps for many of the their parks. Get a class set, and use to support a lesson in map reading.

Additional Resources:

Classroom map activities for practice: http://mapzone.ordnancesurvey.co.uk/mapzone/info.html

Lesson 5

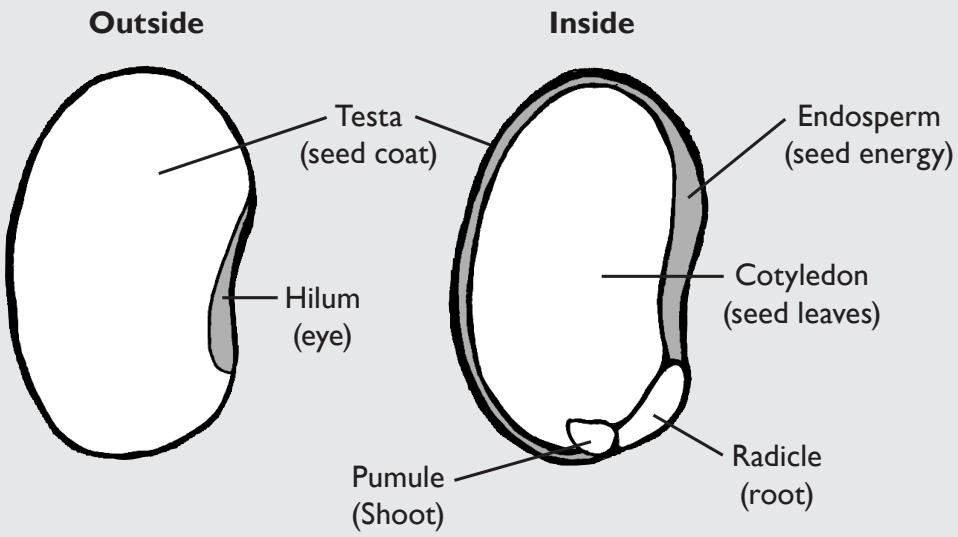
Plant a Seed

The Big Idea: A seed is a package containing life. Inside each seed lives a tiny plant.

Background:
Seeds vary between different plants in size and shape. Most seeds have similar structures. They are surrounded by a hard outside called the *testa* or *seed coat*. Just beneath the testa is the *endosperm*. The endosperm is where energy is stored in the seed. It contains protein, fats, and starches which provide energy for the developing seedling. The cotyledons provide a similar function. These are the seed leaves and they also contain storage of food for the developing plant. The cotyledons in some cases are major photosynthetic producers during germination. [Refer to the diagram showing different parts of the seed and function of each part (e.g., the *testa or seed coat* protects the embryo).]

Learning Objectives: Students will understand that:
– Seeds contain the parts needed to being life, given the right environment.
– Each part of a seed serves a function in allowing a seed to become a plant.

Standards:
Science—Life Science #3a, c and d
Science—Investigation and Experimentation #5
Health Ed-Growth and Dev #1.1.G
Health Ed—Personal/Comm Health-#8-8.2
ELA Core—Writing-#W.2, Research #W.7-8



Lesson Instructions #1: Dissect a Seed

Materials needed:
- For each student: a lima bean or other large seed, soaked in water overnight
- "Dissect a Seed" worksheet
- Clipboard
- Pencil
- A paper plate (or napkin/construction paper work surface)

Time Required: 45 minutes (Don't forget to soak the bean overnight!)

Recommended group size: Whole class activity

Steps:
- Soak lima beans over night
- Model for students (following steps 6-11)
- Pass out clipboards with worksheets and pencils
- Pass out paper plates (or other work surface)
- Pass out one seed per child

Instructions to students:
- Remove seed coat
- Use fingernails to split seed in half
- Lay seed on work surface
- Observe the seed parts
- Draw what you see (on your worksheet)
- Label the parts of the seed on your worksheet

Optional Extension:
– ON the worksheet, write the function of each part you see, below its name.
–Students pair to share drawings

Closing Discussion:
What did you see? Was anything missing? What do you think would happen if the seed was missing a part?

Lesson Instructions #2: **Grow a Seed**

Materials needed:

- Clean glass or jar or clear plastic cup (you choose per student, pair, or group)
- Construction paper
- Scissors
- Paper towels
- Water
- Soaked beans or other seeds
- A permanent marker

Time Required: 15–30 minutes per day

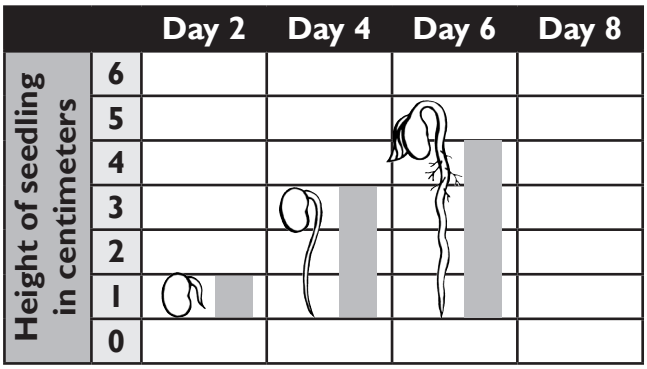
Recommended group size: Whole class activity

Instructions:

See "Make a Seed Viewer" activity at the website: http://extension.illinois.edu/gpe/case3/c3a.html
Follow the procedures in the guide for planting the seeds.

Optional: Turn the seed viewer exercise into a classroom experiment by growing it in different places: on the windowsill vs. in a dark cupboard; with different amounts of water.

– Predict outcomes with the class for each of these different seeds—students will write and draw their predictions for each seed on the worksheet (see Appendix)
– Collect data each day: height of the seedling; color; etc. Create a poster sized graph for the data to be posted in the class. (See example.)



Closing Discussion Suggestions:

What part grew first? Why do you think that happened? Did any seeds not germinate? Did some grow faster than others? Why do you think that is?

Extension Activities:

If your school has a garden, you can tie this lesson to an exploration of seed grown in the garden.

Lesson 6
Camp Under the Stars

The Big Idea: We can learn a lot about the world and the universe by looking at the stars.

General Background:
About Stars:*

- Are formed initially from gas and dust. They are composed mainly of the hydrogen gas.
- Are very hot and give off huge amounts of energy in the form of heat and light.
- Our Sun is a medium sized star.
- Have a life-span of about 10 billion years, after which they will cease to exist.
- Are very far away from Earth. The closest Star is about 23.5 trillion miles away.
- Go through many stages in their lifetime. Some of the names for these stages are Red Giant, Planetary Nebulae, White Dwarf, Neutron and even Black Holes.

Learning Objectives: Students will learn about the night sky and the stars.

Standards:
Science—Earth Science #4
History/SS 3.2.1 and 3.2.2
ELA Core—Reading For Literature #RL—1, 2, 4, 5, 7.
ELA Core—Writing, #W2-3
P.E. #5.1

*Taken from the website "Astronomy For Kids," http://www.frontiernet.net/~kidpower/stars.html, accessed on July 21, 2012)

Lesson Instructions #1: Vincent Van Gogh's *Starry Night Project*

Background:
Vincent Van Gogh and "Starry Night:" Vincent Van Gogh (1853–1890) was born in Holland. He painted in the *Impressionist* style (bright, vivid colors), and became famous as a painter while living in Paris, France. "Starry Night" was painted in 1889 from Van Gogh's hospital room, and depicts the view of the stars and French countryside outside his window.

If you have SmartBoard access, this website is an excellent resource:
http://www.mykidsart.com.au/Vincent_van_Gogh_Famous_Artists_My_Kids_Art.html

Materials needed:

Books: *The First Starry Night* by Joan Shaddox Isom
Vincent's Colors by Metropolitan of Art
Van Gogh and the Colors of the Night by Heughten, Pissaro, Stolwijk, Van Gogh

For each student:
(1) 9 x 12 white construction paper
(1) 4 ½ x 12 black construction paper
(1) Watercolor set
(1) Ruler
(1) Box of crayons
(1) Glue stick
(1) Scissors

Time Required: One hour (with time allotted for paint to dry after step 2—city scape can be made during the drying time).

Recommended group size: Class project, with each student creating their own picture.

Steps:

1. After some building of background knowledge, you are ready to start to make your own Starry Night. Using a 9 x 12 piece of white construction paper and a ruler, measure halfway between the 9" piece of construction paper to draw a line with pencil lightly to create two 4½ pieces. You will be coloring only in the top half of one of your 4½ pieces. This is so that students don't color in the bottom half. Using the colors of your choice, preferably orange, yellow, white, purple, and blue, you will create a Starry Night of your interpretation.
2. When you are finish coloring, erase your pencil line. You will use only black watercolor to paint over the entire 9 x 12 piece of white construction paper. Try not to make it too black. Let it dry completely before doing step 3.
3. Using a 4½ x 12 piece of black construction paper, you will make a city rooftop using your ruler. Model for your students how to use the ruler to create straight lines with the pencil that represents a rooftop city. Using your scissors, cut out the city rooftop you created. **Hint**: Do not have students make a pencil line from the top of the 4½ piece of paper to the bottom. When they cut it out, the city will fall apart. Have them only draw their pencil lines halfway between the 4½ inch piece of paper.
4. Glue your city rooftop to the bottom part of your painting using your glue stick.

Closing Suggestions:
Have a "gallery walk": Students put their completed art on their desks. Then everyone stands up, puts their hands behind their back, and walks silently around to observe the art. Once everyone has had a chance to see the art, take their seat. Then open up the questions: "What did you notice? How is our art similar to Van Gogh's "Starry Night?" How are they different?" If there is time, integrate community building by opening the floor for appreciations for each other's art. "I like how many colors Adam used." "I appreciate how hard Julia worked on her art."

Optional Extension: Cinquain Poetry

Cinquain (pronounced "cin-kain") is a five-line form of poetry, using a wavelike word count of two-four-six-eight-two.

Students learn about cinquain poems, and then create their own poems inspired by the night sky and stars.

Instructions:

Line 1 is the topic of the cinquain, usually a noun. It can be either a two-syllable word or two single syllable words.

Line 2 is four syllables that describe the topic (Adjectives).

Line 3 is six syllables that show action (Action verbs).

Line 4 is eight syllables. This can be a sentence or words that express feeling.

Line 5, the final line, is two syllables. It can be a synonym for the topic or a word that sums up the cinquain.

Example:

Nighttime (2 syllables)

Shining brightly (4 syllables)

Twinkling sparkling swirling (6 syllables)

Beautiful colors of the night (8 syllables)

Starlight (2 syllables)

Brainstorm:
Guide students through writing their own poems.

Lesson Instructions #2: **The Lunar Cycle**

Background:
The cycle of the moon is divided into 4 parts: new moon (where you see no moon at all), first quarter (only half of the moon can be seen), full moon (the entire moon can be seen), and last quarter (only half of the moon can be seen).

The earth orbits the sun. The earth orbits the sun in about 365 days. The earth rotates on its axis a full circle in about 24 hours. The moon orbits the earth and takes about 28 days to orbit the entire planet of earth. The position of the earth, sun or moon affects the phases of the moon and which part of the moon we can see.

The moon does not produce any light, it merely reflects light from the sun. The moon may be seen during the day or nighttime sky.

Materials needed:
- "Phases of the Moon Animated Flipbook" (Flipbook pages are found at the end of this lesson.)
- Pen/Pencil, scissors, stapler

Instructions:
1. Write the names of the moon phases on the correct cards.
2. Cut out numbered sections.
3. Put the cards in numerical order and staple book together.
4. Flip the pages with your thumb to see the moon shape change through each phase.

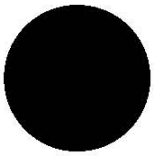
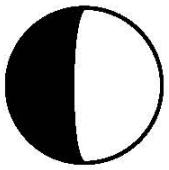
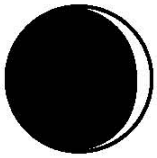
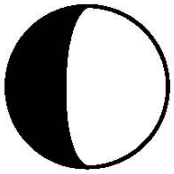
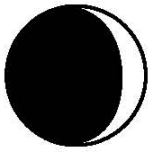
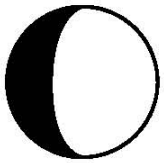
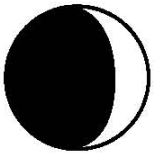
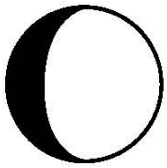
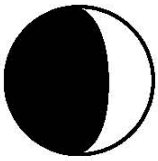
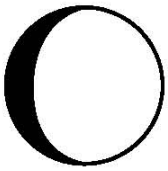
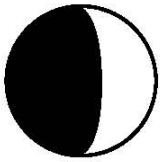
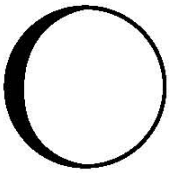
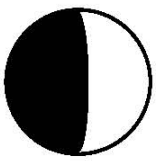
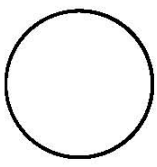
Time Required: 45 minutes

Recommended group size: Done as a class, one per student.

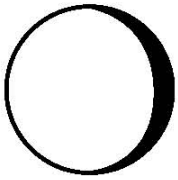
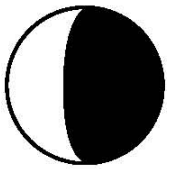
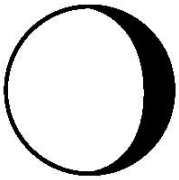
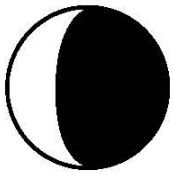
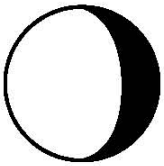
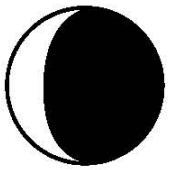
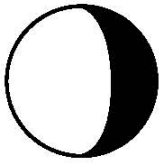
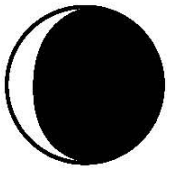
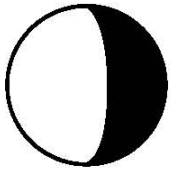
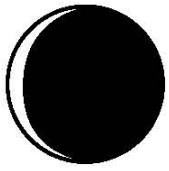
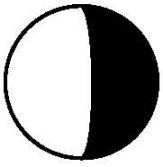
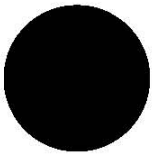
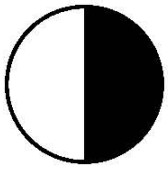
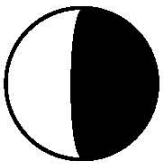
Closing: Have the students write an exit ticket (on a piece of scratch paper or index card) answering a question regarding the lesson. How can you tell if it's a new moon? Why does the moon light up?

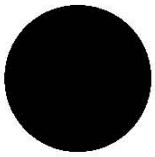
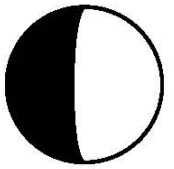
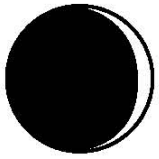
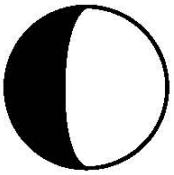
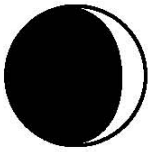
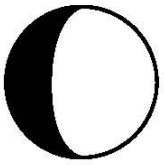
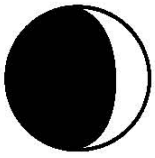
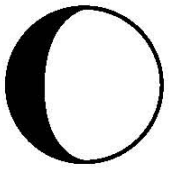
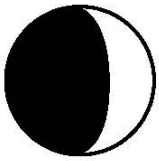
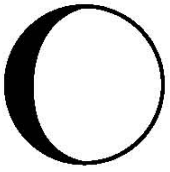
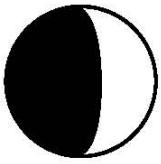
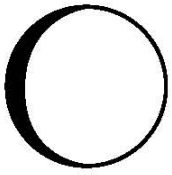
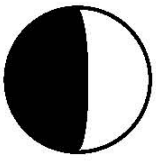
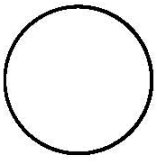
Extension Activities:
– Using the Kids Booklet—Homework—Draw the moon you see tonight.
OR Keep a diary of the moons you see this month—have them create moon journals.
– Plan a class camping trip

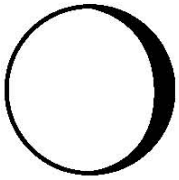
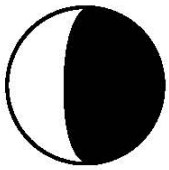
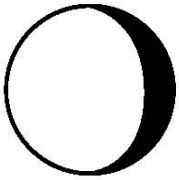
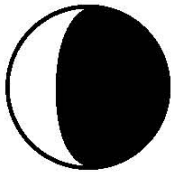
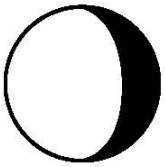
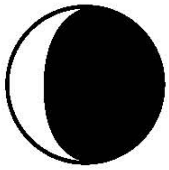
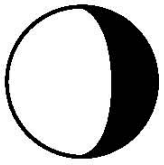
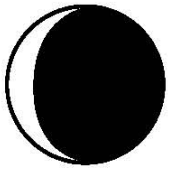
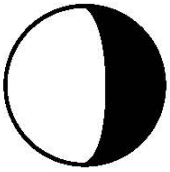
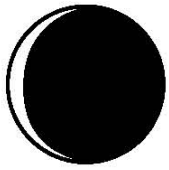
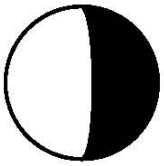
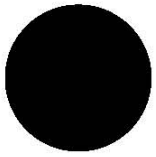
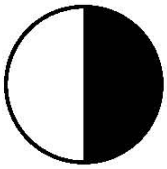
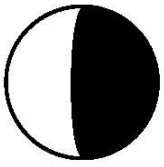
Additional Resources:
Bay Area Wilderness Training (BAWT) with a variety of trainings and gear to help you get your class outdoors: bawt.org or (510) 452-2298.

Phases of the Moon Animated Flip-book			8		
1	_____		9	_____	
2	_____		10	_____	
3	_____		11	_____	
4	_____		12	_____	
5	_____		13	_____	
6	_____		14	_____	
7	_____		15	_____	

Source:Academy Handbook Third Grade, Elementary CORE Academy, 2004

16	_____		24	_____	
17	_____		25	_____	
18	_____		26	_____	
19	_____		27	_____	
20	_____		28	_____	
21	_____		29	_____	
22	_____		**Instructions:** 1. Write the names of the moon phases on the correct cards. 2. Cut out numbered sections. 3. Put the cards in numerical order and staple book together. 4. Flip the pages with your thumb to see the moon shape change through each phase.		
23	_____				

Phases of the Moon Animated Flip-book			8	First Quarter	
1	New Moon		9	Waxing Gibbous	
2	Waxing Crescent		10	Waxing Gibbous	
3	Waxing Crescent		11	Waxing Gibbous	
4	Waxing Crescent		12	Waxing Gibbous	
5	Waxing Crescent		13	Waxing Gibbous	
6	Waxing Crescent		14	Waxing Gibbous	
7	First Quarter		15	Full Moon	

16	Waning Gibbous		24	Waning Crescent	
17	Waning Gibbous		25	Waning Crescent	
18	Waning Gibbous		26	Waning Crescent	
19	Waning Gibbous		27	Waning Crescent	
20	Waning Gibbous		28	Waning Crescent	
21	Waning Gibbous		29	New Moon	
22	Third Quarter		**Instructions:** 1. Cut out numbered sections. 2. Put the cards in numerical order and staple book together. 3. Flip the pages with your thumb to see the moon shape change through each phase.		
23	Waning Crescent				

Lesson 7
Ride a Bike

The Big Idea: Riding bikes is one way to get exercise, to get from place to place, and to have fun!

Background: The East Bay Regional Parks are chock full of places for kids and their families to ride bikes! See the resources at the back of the *Kids Healthy Outdoors Challenge* booklet for ideas of where to go.

Learning Objectives: Students will understand that riding a bike can be a fun way to get exercise. They will understand the safety rules that should be followed while riding a bike.

Standards:
ELA WO 1.1.1, 2.2.2

Lesson Instructions #1

Materials needed:

- *Kids Healthy Outdoors Challenge* Workbook—Lesson 7—Ride a Bike

Time Required: 45 minutes–1 hour

Recommended group size: Group lesson, individual work in booklet

Instructions:

- Exercise is very important to our health, and riding a bike is one fun way to get exercise. It is also a way for people to move from one place to another.
- In the booklet, have a student read the paragraph "Bike riding is fun, and great exercise!"
- Reinforce: **Safety is of utmost importance while riding a bike**.
- Brainstorm with the class about what safety precautions should be followed while on a bike. Write ideas on the board or a poster paper.
- Read through the "I always think safety" checklist and have kids check them off. Compare these safety tips to the ideas they have already thought up.
- Have students read "Helmet safety."
- Introduce the writing and drawing activity—"If you have ridden a bike, describe what it's like to ride a bike. Include details about how to steer, pedal, brake, and practices safety while riding." The other option is to "draw and write about your dream bike, using many describing words (adjectives)."
- Additional parts of Lesson 7 in the booklet that are not included in the curriculum ("My favorite place to ride," "My friends and family that I like to ride with are," "Ecology Note"). You may choose to go over with the class, or let them complete those parts on their own, or with family members at home.

Closing Discussion Suggestions:
Have students share their writing and drawings

Additional Resources:
http://www.saferoutesinfo.org/

Lesson 8

Learn to Swim

The Big Idea: Swimming is an important skill to have to keep ourselves safe outdoors. It also works most of the major muscle groups in the body, so it's a great way to get exercise and have fun.

Background:

(This can also be found in the *Kids Healthy Outdoors Challenge* Booklet.)

Knowing how to swim is a good skill to have, to keep yourself safe in water, to keep your body healthy with exercise, and it's a great way to have fun!

In California we live near lots of water—the ocean, rivers, bays, and lakes, as well as many swimming pools! It's important to know how to swim if we are around water, just in case we end up in the water! Swimming also provides a fun and healthy way to keep our bodies moving and healthy.

There are many places to swim in the East Bay Regional Parks. There are resources in the back of the *Healthy Outdoors Challenge* Booklet, as well as online at http://www.ebparks.org/Page42.aspx .

Learning Objectives: Students will understand that swimming is an important skill to have in order to stay safe, and a good form of exercise.

Standards:
ELA WS 1.1.1

Lesson Instructions #1

Materials needed:
- *Kids Healthy Outdoors Challenge* Workbook
- Writing Paper
- Pencils

Time Required: 30 minutes–1 hour

Recommended group size: Whole class lesson, individual work

Instructions:

– Begin by reading "Where and Why We Swim!" silently, in groups, or have a student read aloud.

– Discuss the importance of knowing how to swim while near bodies of water—include the "Health Note" about life jackets in this discussion. Write ideas on the board or on a poster paper.

– Then, students can "Draw and Write" in the workbook about swimming and why it is important to know how to swim. For an extended writing exercise, have them put their picture in the box in the workbook, and their writing on a separate piece of paper.

– (The "Water Safety" portion of the word search in the booklet may be done before the writing activity—or they can do the word search as they finish their writing).

Closing Discussion Suggestions:
Share out their writing in partners or to the class. If anyone has come up with new ideas about swimming, share out to the class.

Extension Activities:
"Animals Who Swim" in the *Kids Healthy Outdoors Challenge* Workbook

Here are some historic tidbits that you can share with your class:

- People may have learned to swim in prehistoric times. The earliest recordings are 7,000 year old Stone Age paintings in a cave in Egypt. The cave's pictures show people doing what appears to be the dog paddle. It is thought that people learned how to swim by watching animals.
- In 1716, ten-year-old Benjamin Franklin invented swim fins.
- In 1943, the United States ordered the reduction of fabric in swimsuits by 10 percent because of wartime shortages. This rule caused the invention of the two-piece swimsuit!
- In 1844, Native Americans swam a race against the English. The English knew how to swim the breast stroke and Native Americans knew how to swim a variant of the front crawl. Native American Flying Gull easily won the 150 feet (46 meter) race in 30 seconds. Second place went to an American named Tobacco.
- Nancy Edberg learned to swim from her father. In 1847 she was employed to teach women swimming in Stockholm, Sweden at the nations first bath house for women. Nine years later, Nancy got a license from Sweden's King Oscar 1 to open her own bath house. Swimming was not considered proper for women, but because her new students included queens, princesses, and empresses from the Netherlands, Wales, Denmark, and Russia, swimming became fashionable.

Lesson 9
Go Boating

The Big Idea: Going boating is one great way to spend time outdoors. Additionally, boats are integral to our history in the bay area. Understanding more about boats is one way to help link students in to our local culture. This lesson offers a starting point for students to begin to learn about boats and boating.

Background:
(This information is also in the *Kids Healthy Outdoors Challenge* workbook.)

There are many different kinds of boats. Some boats move by using motors or sails.

Some boats, like canoes and kayaks, move because people push them along with paddles or oars.

Anchor—a heavy weight used to secure a boat to the bottom of the water body.

Bow—front of the boat.

Gunwale—pronounced "GUN-el". It is the upper edge of the hull at deck level.

Helm—a wheel or lever that controls the steering of the boat.

Hull—the body of the boat.

Life jacket—also known as a Personal Flotation Devise (PFD). It is the most important safety item to have around water. All boats should have enough life jackets for every passenger on board.

Port—the left side of the boat.

Starboard—the right side of the boat.

Stern—the back of the boat.

Vessel—a craft for traveling on, through, or under the water. It can be a ship, powerboat, houseboat, sailboat, rowboat, kayak, canoe, or submarine.

Learning Objectives:
Students will understand more about boats and boating, including the parts of the boat, concepts of boating safety and how boats can be used. They will demonstrate their understanding of the concepts in writing a narrative about a boating adventure.

Standards:
ELA WA 2.2.1, 2.2.2

Lesson Instructions #1

Materials needed:
- *Kids Healthy Outdoors Challenge* workbook
- Pencils

Time Required: 30 minutes–1 hour

Recommended group size: Group lesson, individual work

Read "Make Your Own Boat in Nature!" (If possible, go do the activity outside!) Complete the accompanying tasks in the booklet (Name of the boat, color, and who would go boating with them). Then ask them to use their imagination to write about the adventure of their Leaf Boat *OR* of their family day boating, if they have been boating before. Start by creating a map of the story using the graphic organizer, including main idea and plot points. Describe the setting, boat, characters and the plot of the story. Then use the story map to write about the boat adventure.

Optional: Have students illustrate their story. They can use the diagram of the boat in the kids guide as a reference to draw a boat.

Closing Discussion Suggestions:
Have students share out in small groups or to partners, and/or the class as whole.

Extension Activities:
Make a Boat out of popsicle sticks—To introduce water pressure and gravity (how boats float)
How to Make a Homemade Popsicle Stick Floatable Boat | eHow.com http://www.ehow.com/how_12111750_make-homemade-popsicle-stick-floatable-boat.html#ixzz22cBYMNF5

Lesson 10
Go Fishing

The Big Idea/Important Concepts: Fish are a very important local resource, and have been throughout the history of the bay area. There are many different ways to fish.

Background: "Ohlone and Bay Miwok peoples used nets, stretched out from tule boats, to catch fish in the Bay and Delta. . . . When fishing at night, they used wormwood and California mugwort torches. They used spears to catch fish along the shore, the edges of streams, and in quiet, fresh water pools. They also used turkey mullein leaves and soap plant bulbs to kill fish. Sometimes people call these plants fish poisons, but they aren't actually poisons, and they don't actually poison the fish. If they did, people could not eat the fish. Instead, substances in these plants, when mixed with water, absorb into the fishes gills, so the fish can't remove oxygen from the water, and they die." *(Source: Beverly Ortiz et al., EBRPD Ohlone and Bay Miwok Curriculum; Student Resources: http://www.ebparks.org/activities/educators/Ohlone_Curriculum)*

Learning Objectives:
Students will be able to describe fishing techniques used by Native Americans, in particular, local Native American tribes.

Standards:
Life Science # 3.a
History/SS # 3.2.1 and 3.2.2
Health Ed—Personal Health—#8—8.2
Reading Current 2.2.7 (multi-step directions)
ELA Core Reading for Information, #RI—7,8,10
ELA Core Language—Vocabulary—#L.4
ELA Core—Writing, #W.3
P.E. 5.1

Lesson Instructions #1:

Materials needed:
- Worksheet: "Native American Fishing Practices"
- *Kids Healthy Outdoors Challenge* workbook

Time Required: 30–45 minutes

Recommended group size: As necessary; class activity

Discussion:
– Activate Prior Knowledge—Ask students where they get their fish (store, fresh caught, etc.)? Ask students what kind of fish they eat at home (fresh, frozen?). Where do the fish come from before they get to the store?
– Read: Worksheet—"Native American Fishing Practices"—Read as a class, or in small groups.
– Discussion: How to catch a fish; 5 things you need to go fishing;
– Past/present connection: Which of these techniques do we still use today?
– *Optional*—refer to "Make a Fishing Rig" in the *Kids Healthy Outdoors Challenge* workbook in lesson 10 to see a way we catch fish in present day.

Closing Discussion Suggestions:
Direct students to "Home Connection" portion of workbook; encourage students to go home, try the fishing pole exercise with family. Discuss fishing/eating fish with family.

Extension Activities:
– Nutrition Connection: Fish as a healthy, lean protein choice
– Learn how to make a fishing rig using *Kids Healthy Outdoors Challenge* as a resource
– Study fish anatomy using *Kids Healthy Outdoors Challenge* workbook as a resource
– Make a fish print—dip a dead fish in paint and press on butcher paper
– "Fishing in the City" Watershed Education Program through the Department of Fish and Game—http://www.dfg.ca.gov/fishinginthecity/sf/docs/grade3.pdf
– "The Salmon Source—An Educators Guide"—Put together by the Department of Fish and Game—http://www.dfg.ca.gov/caep/docs/SalmonSource-EdGuide.pdf

Native American Fishing Practices:

Weirs (Hupa Indians)—A fish weir is a type of trap made of reeds, stones, or wooden posts placed in a stream, which are meant to capture fish as they swim along. Fish traps on rivers or streams are circles of posts or reeds, with an opening facing upstream. The posts are sometimes connected by netting or fences: the fish swim in cannot get out of the circle.

Spears (Miwok and Ohlone)—A spear is a long pole with a sharpened end, a point either created on the wood, or from a type of stone. **"**They used spears to catch fish along the shore, the edges of streams, and in quiet, fresh water pools."

Nets (Miwok and Ohlone)—Nets allow people to scoop fish out of the water, from the shore or by boat. **"**Ohlone and Bay Miwok peoples used nets, stretched out from tule boats, to catch fish in the bay and delta."

Soap Plant Root and Turkey Mullein (Miwok and Ohlone)—Soap plant is a bulb plant that grows throughout much of California. Turkey mullein is a short, green, fuzzy plant with small green flowers, and is also found in California. "They also used turkey mullein leaves and soap plant bulbs to kill fish. Sometimes people call these plants fish poisons, but they aren't actually poisons, and they don't actually poison the fish. If they did, people could not eat the fish. Instead, substances in these plants, when mixed with water, absorb into the fishes gills, so the fish can't remove oxygen from the water, and they die."

(Source: Beverly Ortiz et al., EBRPD Ohlone and Bay Miwok Curriculum; Student Resources: http://www.ebparks.org/activities/educators/Ohlone_Curriculum.)

NOTES