



Our Big Backyard (OBB) is an environmental education program established by Foothills Conservancy of North Carolina in 2018. The mission of OBB is to engage people with nature through STEAM activities and outdoor adventures in Western North Carolina.

This booklet provides ideas for creative ways to learn about land conservation. Each activity has an associated lesson and materials list.

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences and connect with other explorers!

ADVENTURE GUIDE

Explore land conservation through the elements!
Use this page to check off activities as you do them.

EARTH

1. Collect NC Gems
2. Wildlife Necklace
3. Identify NC Trees
4. Color a Tree Cookie
5. Start Composting

SUNSHINE

6. Create a Sun Print
7. Grow a Flower
8. Draw a Sundial
9. Salute the Sun
10. Build a Solar Oven

WIND

11. Build a Bee Hotel
12. Identify NC Birds
13. Make a Birdhouse
14. Build a Wind Vane
15. Make Wind Chimes

WATER

16. Get Hydrated
17. Grow a Terrarium
18. Catch a Critter
19. Go Fishing
20. Build a Bird Bath



The natural element, Earth, includes everything from rock, gemstones, and soil to plants and wildlife.

North Carolina has over 4,000 native plant species, about 1,200 animal species, and dozens of gem mines!

1

BUILD A GEM COLLECTION

Gems are made from minerals, space, pressure, heat, and a LOT of time.

The Appalachian Mountains in NC started forming over 480 million years ago. That means they have had a lot of time to form many different gems!

SUPPLIES:

- Magnifier
- Labels
- Organizer
- Gems
- Nature Journal



DIRECTIONS:

1. Write the name of each NC gemstone pictured on a label.
2. Stick each label in a square of your organizer.
3. See if you can match each of your gemstones to a label.
4. Use your nature journal to write about your favorite gem.
What makes it special to you? How long do you think it took to form?

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

GEMSTONES OF NC



ROSE QUARTZ

Known as the love stone



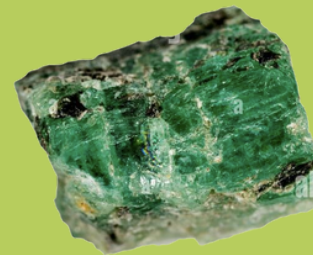
MOONSTONE

Shines like a full moon!



RUBIES

Rarer than diamonds!
Found in western NC



EMERALD

State Gemstone of NC



AMETHYST

A variety of quartz that
forms inside a geode



GOLD

First found in the US in
1799 in North Carolina!

2

MAKE A WILDLIFE NECKLACE



SUPPLIES:

- NC Red Clay
- Paper Plate
- Animal Stamp
- String
- Beads
- Toothpick

DIRECTIONS:

1. Wet your finger tips and roll your clay into a ball.
2. Place your clay ball on a paper plate and squish it into a flat circle. Use water to smooth out any cracks.
3. Press your animal track stamp into the clay.
4. Use a toothpick to poke a hole through the top.
5. Leave your clay track out for a day to let it dry.
6. Thread string through the hole, add beads to each side, and tie your string in a knot behind your neck to show off your new necklace!

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

WILDLIFE OF NC

Draw a line from the tracks to the animal that made them.



Northern Bobwhite Quail



Eastern Spotted Skunk



Beaver



Eastern Cottontail Rabbit

Answer Key: 1. Beaver
2. Quail 3. Rabbit 4. Skunk

3

IDENTIFY TREES OF NC

Go for a walk outside. How many of these can you find?

Tulip Poplar

This tree's flower provides nectar for pollinators like bees and hummingbirds.



Sycamore

A water loving tree that can grow to 100ft tall at a rate of 3-6 ft a year!

River Birch

A medium-sized tree found in moist, rich soils along streams, rivers, and wetlands.



Pecan Tree

3-5 million pounds of pecans are grown and sold from NC each year.

Red Maple

Butterflies drink sap from this tree. Its seeds twirl like helicopters in the wind.



4

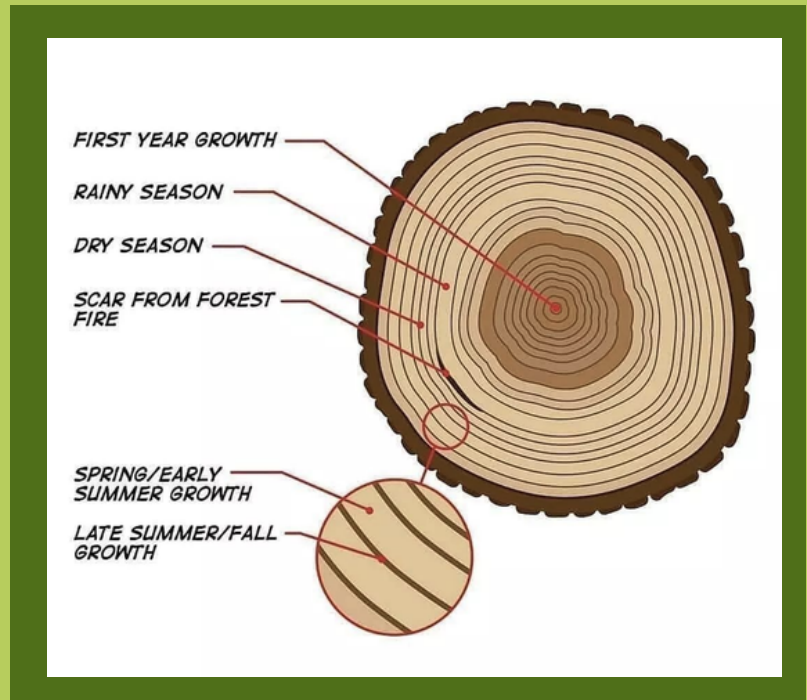
COLOR A TREE COOKIE

SUPPLIES:

- Tree Cookie
- Stencil
- Colored Pencils
- Paint & Brush
- Nature Journal

DIRECTIONS:

1. Study the parts of a tree cookie in the above picture.
2. Take a close look at your tree cookie and compare.
3. Write or draw in your nature journal about what you see.
Did it have any really wet or dry seasons? How old do you think it is based on how many rings it has?
4. Put your stencil on the tree cookie and trace it with a colored pencil. Then go back and color it in with paint!
5. Let it dry, then tie your string through the hole and hang it up somewhere fun or give it away as a gift.



Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

5

START COMPOSTING



SUPPLIES:

- Large Container
- Tape
- Shredded Paper
- Dryer Sheet
- Scissors
- 1 Pin
- Nature Journal

DIRECTIONS:

1. Take off the lid of your container and flip it upside down.
2. Ask an adult to help you poke holes in the lid with a pin.
3. Cut a dryer sheet to fit into the lid and tape down the sides.
This will keep your jar from getting too smelly.
4. Tear up a few paper pieces to layer the bottom of the bin.
5. Use the guide (on the next page) to start filling it up!
6. Decorate the outside of your compost bin with stickers.
7. Reflect on this activity in your nature journal: How long do you think it will take for your food to become soil?

Join our Facebook group: Explorers of Our Big Backyard
and use #OBBexplorers to share your experiences!

COMPOST GUIDE

Soil is an important natural resource that supports plant life, stores gases, cleans and controls the flow of water. When you compost you are creating healthy soil for the future!

DO COMPOST



FRUIT AND
VEG SCRAPS



VEG STARCH BAGS



EGGSHELLS



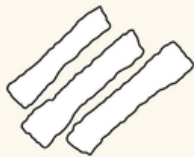
COFFEE GROUNDS



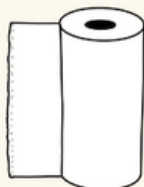
MOULDY/STALE BREAD



CARDBOARD



SHREDDED PAPER



PAPER TOWEL



GRASS
CUTTINGS



DRIED LEAVES



MANURE

DON'T COMPOST



ANIMAL PRODUCTS
(MEAT & DAIRY)



DISEASED PLANTS



GLOSSY PAPER



OIL/GREASE



ANIMAL WASTE
(MEAT EATING)



HARSH CHEMICALS



The sun is made up of tiny light particles that bounce around really fast and smash into each other. All that activity in the sun's core creates lots of heat which makes the sun glow. Sunshine drives weather, ocean currents, seasons, climate, and makes plant life possible.

6

MAKE A SUN PRINT



SUPPLIES:

- Sun Sheets
- Laminate Pouch
- Tape
- Scissors

DIRECTIONS:

1. Go for a nature walk to gather at least 3 leaves.
2. Find a dark room in your house and pull out your sun sheets. (They are light sensitive!)
3. Arrange plants however you like on sun sheet.
4. Wrap sheet with laminate pouch to secure your design. Connect both sides of the pouch with tape.
5. Carry your artwork to a sunny spot outside.
6. Let it sit for 15 min.
7. Fill a sink with water and soak sheet for 2 min.
8. Rinse sheet and place on a paper towel to dry and then find a fun place to display your artwork!

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

7

GROW A FLOWER



SUPPLIES:

- Plastic Pot and Lid
- Seed Starting Soil
- Native Seeds
- Water
- Nature Journal

DIRECTIONS:

1. Fill your pot with seed starting soil.
2. Make 3 holes by pushing your finger tip into the soil.
3. Drop 2 seeds in each hole and cover them with soil.
4. Add water and cover your pot with the dome lid.
5. Place in a sunny spot and add water when dry.
6. You should start to see growth after 1 week.
7. Once the seedlings touch the lid move them into an outdoor pot or plant them directly in the ground so they can come back year after year!

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

8

DRAW A SUNDIAL



SUPPLIES:

- Chalk
- A Partner
- Concrete Space
- Compass
- Nature Journal

DIRECTIONS:

1. Find a large outdoor space like a driveway, porch, or patio.
2. Draw a large circle, then draw a line in the middle, and use your compass to mark each direction.
3. Ask a partner to stand on the line while you trace their shadow. In the outline of their shadow write the time of day.
4. Repeat every hour or pick random times throughout the day. Use a different color chalk for each outline.
5. Journal about how using a sundial is different from using a watch. Do you think it's a better or worse way to tell time?

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!



SALUTE THE SUN

It can be easy to forget how much we need the sun. Take a moment to thank the sun for all it does for you!

Begin and End
Stand tall, feet together on ground, hands together at chest.

10. Inhale
Raise torso, extend arms over head, arch back.

9. Exhale
Come up halfway to flat back.

8. Inhale
Feet forward between hands. Slightly bend legs. Fold in.

7. Exhale
Lift tailbone, push back. Keep your back straight, knees slightly bent.

6. Inhale
Straighten legs, hips forward, bend slightly at waist. Lift chest.

5. Exhale cont.
Lower knees, chin, and chest to floor. Hips high and elbows in.

4. Exhale
Both feet back in plank, back straight with shoulders over wrists.

3. Inhale
Come up halfway to flat back.

2. Exhale
Chest forward and knees slightly bent. Fold in.

1. Inhale
Lift arms over head, lean hips forward, arch back.

SUN SALUTATION
While practicing the poses, meditate on expressing gratitude for the sun, which makes all life on earth possible.

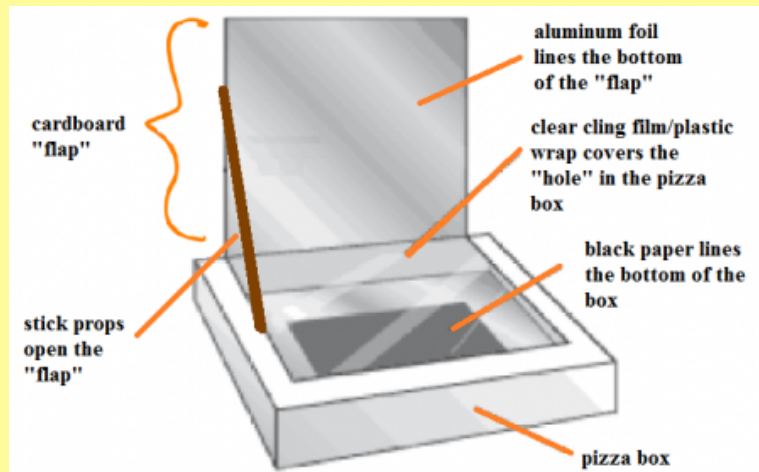
Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

10

BUILD A SOLAR OVEN

SUPPLIES:

- Flat Box
- Aluminum Foil
- Stick
- Black Paper
- Plastic Wrap
- Glue
- Scissors



DIRECTIONS:

1. Draw or paint a giant sun on top of your box.
2. Squeeze glue all over the inside. Cut aluminum foil to fit and press it on until the entire inside is covered.
3. Cut and glue black paper to the bottom inside.
4. Find a sunny spot and add your chosen snack.
5. Cover food by stretching plastic wrap over the top.
6. Use stick to prop open the top and reflect sunlight into your oven. (Recipes on the next page!)

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

SOLAR OVEN RECIPES

Use renewable energy to bake your next treat!
For best results, let oven 'preheat' for 30 minutes.



Sun Baked Pizza

- Crackers
- Tomato Sauce
- Shredded Cheese
- Peperoni Slices

Spread sauce on crackers and lay flat. Pile ingredients on top. Cover with plastic.

Bake Time: 20-30 min

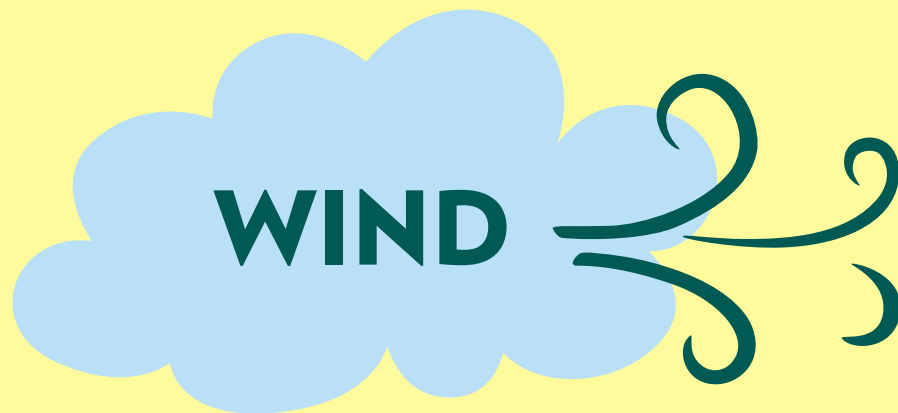
Solar S'mores

- Graham Crackers
- Chocolate
- Marshmallows

Lay out crackers. Place a piece chocolate and a marshmallow on top.

Cover with plastic wrap.

Bake Time: 15-20 min



Wind is the movement of air. Though it sounds simple, this natural element plays some important roles!

Wind helps predict weather, spread seeds from flowers and trees, and helps birds, bees and insects get from place to place.

BUILD A BEE HOTEL

Provide a safe space for pollinators in your backyard!

SUPPLIES:

- 4-6" Can
- 2 Pieces of Rope
- Googly Eyes
- Super Glue
- 4-6" Nesting Tubes
- 4-6" Twigs
- Paint & Paintbrush

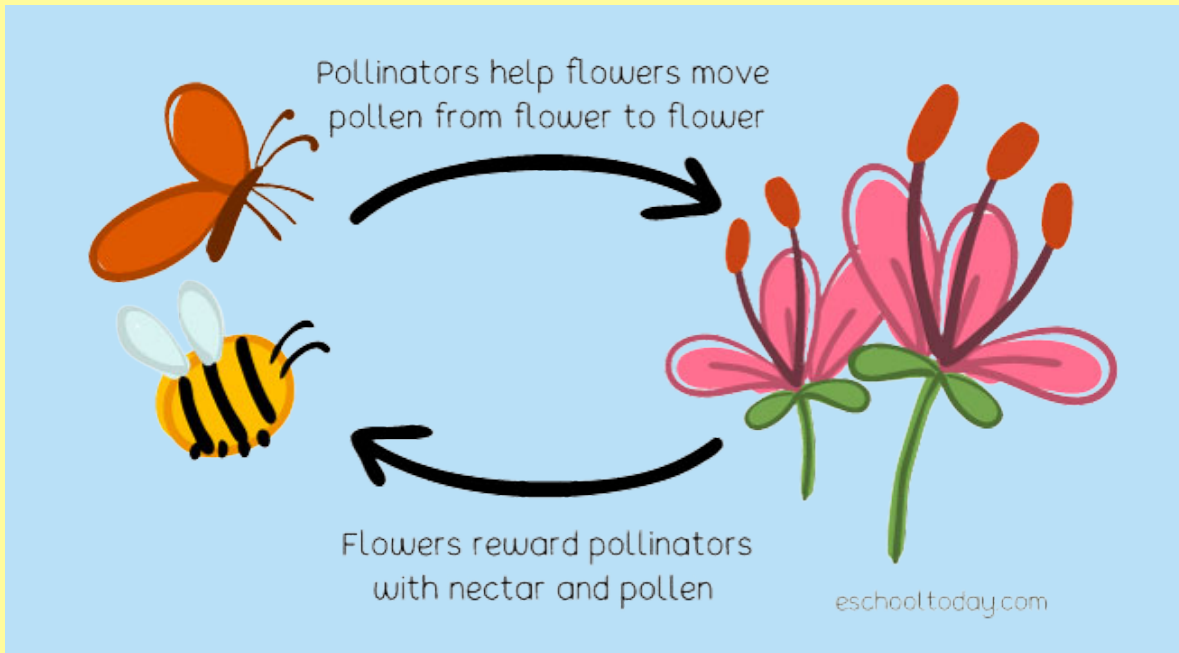


DIRECTIONS:

1. Paint the entire outside of your can yellow. Let it dry and then add 3 evenly spaced stripes with black paint.
2. Fill the can with hollow tubes. Add small twigs for a tight fit.
3. Wrap each piece of rope around the can and tie a knot. Then tie the 4 ends of rope together to hang it up.
4. Use super glue to secure the rope and attach googly eyes to the closed end of the can. Draw a mouth with black paint.
5. Find a place outside 4-5ft above ground and hang it up!

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

POLLINATORS OF NC



Mason Bee



Leafcutter Bee

Mason and Leafcutter bees are important pollinators of NC. Both bees lay their eggs in small tubes, like the ones in your bee hotel. They lay eggs in the summer and pack each tube with enough food to last the baby bee through winter. Watch your bee hotel in the spring to see baby bees emerge!

Pack your binoculars and head outside. Find a place near some trees or water and try not to make any noise.

Can you find any of these birds?



Carolina Wren



Blue Jay



Chickadee



Tufted Titmouse



American Robin



Wood Thrush



Blue Heron

Record your experience in your nature journal! Can you draw any of the birds you saw? What were they doing?

13

BUILD A BIRD A HOUSE

Give your backyard birds of NC a safe place to live!

SUPPLIES:

- Wood Pieces
- Paint
- Paint Brushes
- String
- Nature Journal



DIRECTIONS:

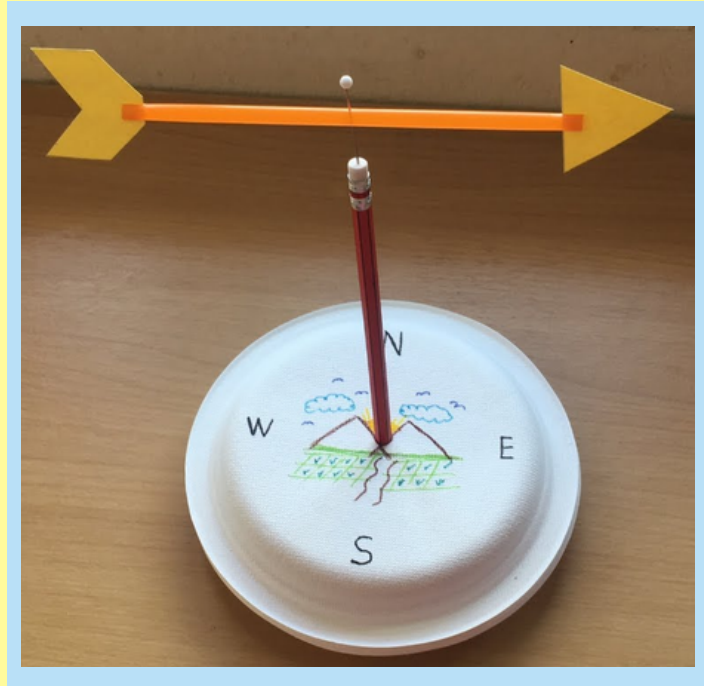
1. Connect the wooden pieces of your birdhouse.
2. Use your paint to decorate it however you like!
3. Wait for it to dry and then tie a string through the hole in the top and find a place outside to hang it.
4. Watch your birdhouse and use your nature journal to document any visitors.
5. Early mornings are the best time to spot birds!

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

SUPPLIES:

- Scissors
- Paper
- Pin
- Straw
- Pencil
- Playdough
- Paper Plate
- Compass
- Colored Pencils

This activity can help you find the direction of the wind!

**DIRECTIONS:**

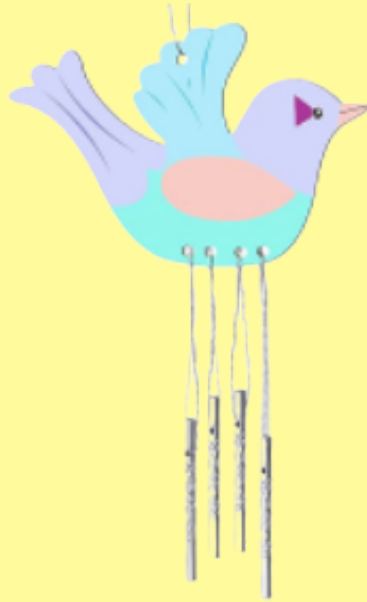
1. Cut out the shapes above and tape them to a straw. The arrow end should be bigger than the tail so it gets pushed by the wind.
2. Flip the plate upside down and color it however you like!
3. On the edges of the plate write a letter for each direction.
4. Roll playdough into a ball and hold under the center of the plate.
5. Push a pencil through the plate and into the dough.
6. Ask an adult to push a pin through the straw into the eraser.
7. Find a clear spot outside and use your compass to position your plate in the right direction then wait for the wind to blow!

15

MAKE A WINDCHIME

SUPPLIES:

- Wood Base
- 4 Chimes
- String
- Scissors
- Paint
- Paint Brushes



DIRECTIONS:

1. Paint the wooden part of your wind chime. Use the colors of your favorite NC bird!
2. Let dry for at least 30 minutes.
3. Thread string through chimes and holes in the bottom of the bird. Tie a double knot.
4. Use scissors to cut extra string off the ends
5. Make a loop to hang it up! Thread the larger piece of string through the top of the bird and tie a knot.
6. Find a place outside to hang it & listen for the wind!

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!



WATER

Water comes in many forms including oceans, lakes, streams, and rivers. Healthy rivers carry water to homes, farms, schools and businesses. Along the way they also provide habitat for plants and animals.

Foothills Conservancy of NC protects 3 important rivers: the Broad River, Yadkin River, and Catawba River.

DRINKING WATER OF NC

The Catawba River, which starts in the mountains of NC, provides drinking water for nearly 2 million people!



Foothills Conservancy of NC and other land trusts protect land along the Catawba River to help keep trash and chemicals out of the water we drink.

STAY HYDRATED

Our bodies are 70% water. Use the formula below to make sure you give your body the water it needs!



**Your weight in pounds \div 2
= number of ounces you should drink daily**

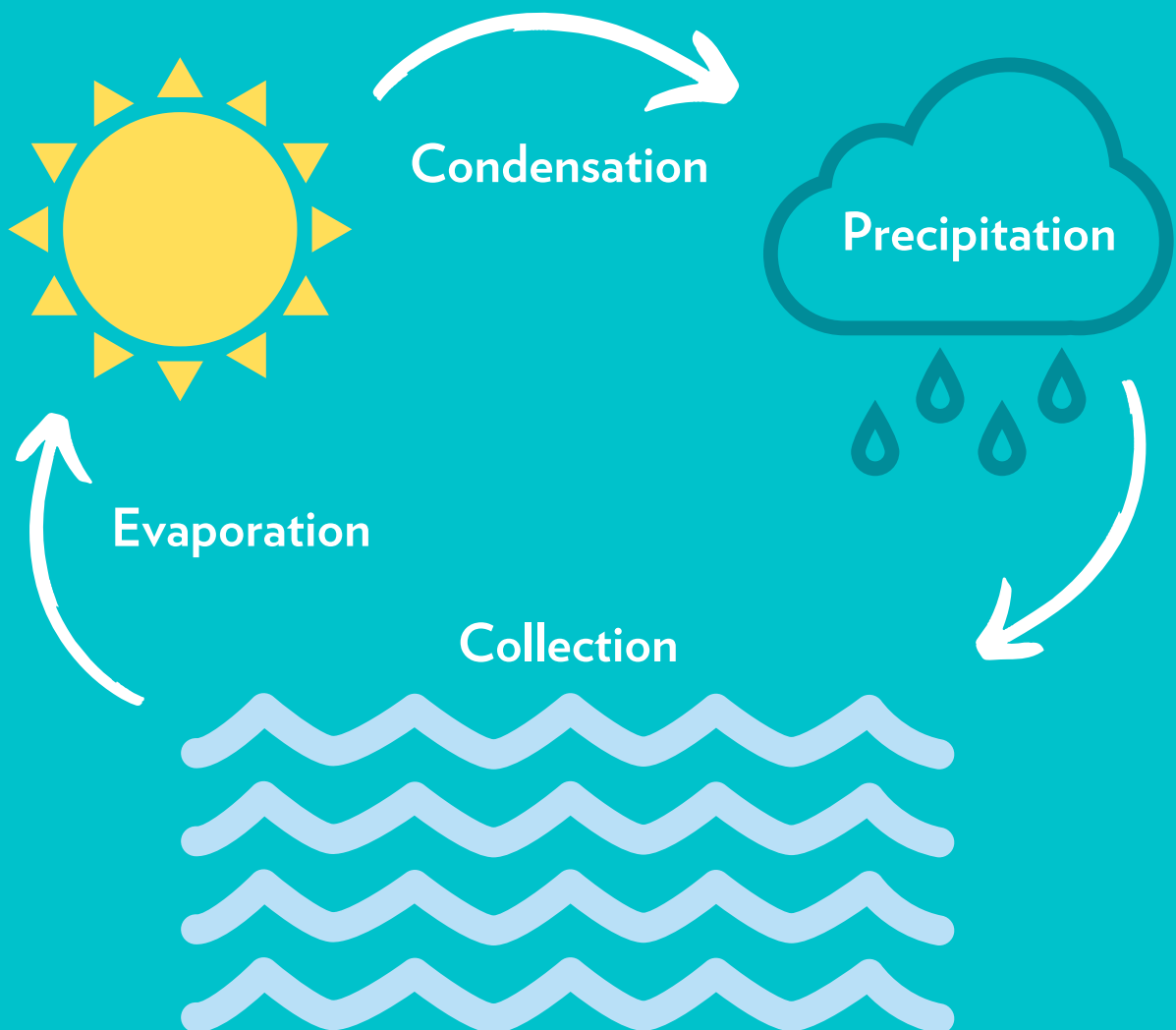
Foothills Conservancy of NC's water bottles hold 25 ounces. If you divide your answer by 25 that number is how many full water bottles you should drink daily.

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

THE WATER CYCLE

The water cycle is the continuous movement of water within Earth. There are 4 main parts of the water cycle.

1. Condensation: water vapor in the air forms clouds
2. Precipitation: clouds empty out in the form of rain
3. Collection: bodies of water like rivers and oceans
4. Evaporation: water vapor is pulled into the air



BUILD A TERRARIUM

Terrariums show the water cycle in action!



SUPPLIES:

- 1 Clear Jar
- River Stones
- Potting Soil
- Sand
- Chia Seeds
- Plant Mister
- Nature Journal

DIRECTIONS:

1. Layer the supplies for your terrarium in this order:
 - a. Sand, River Stones, Sand, Soil, Seeds
2. Scatter a mix of chia and wheatgrass seeds across the top of the soil. (Start with a small amount, they grow fast!)
3. Fill your mister and spray the soil until it is noticeably wet.
4. Add figurines or succulents from home on top for flare.
5. Decorate the outside with glow and the dark stickers too!
6. Watch for condensation on the jar and mist when dry.
7. Draw a picture of your terrarium in your nature journal!

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

CATCH A CREEK CRITTER

You can tell a lot about how clean a waterway is by what lives in it! Usually the more critters the cleaner the water.

SUPPLIES:

- Bug Viewer
- Fishing Net
- Nature Journal



DIRECTIONS:

1. Ask an adult to visit a creek near you. (See last page of book for suggestions!)
2. Take your fishing net and bug viewer with you.
3. Flip over large stones in the creek and immediately swipe your net through the disturbed area.
4. Empty your net into the bug viewer.
5. Use the next page to see if you can identify your catch!
6. Gently release your critter back into the water.
7. Repeat as many times as you like!

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

CREEK CRITTERS OF NC

Aquatic invertebrates are defined as any animal that does not have a backbone. This includes crayfishes, insects, snails, worms, and mussels. Here are some of the most common freshwater invertebrates of western NC.



Mayfly Nymph



Caddisfly Larva



Stonefly Nymph



Freshwater Snails

NC has over 52 freshwater snail species



Crayfish

There are at least 40 known types of crayfish in NC

PRACTICE FISHING



SUPPLIES:

- Magnetic Fishing Pole
- NC Fish Cutouts
- Scissors
- Glue
- Magnets
- Nature Journal

DIRECTIONS:

1. Use scissors to cut out each fish card in your kit.
2. Attach cut outs to the small magnets with glue. Let dry.
3. Fill a large plastic storage bin with water.
4. Add magnetic fish and practice casting your rod!
5. In your nature journal try drawing one of the fish you catch and write a few sentences about what you think it's like to be a fish.

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

FISH OF THE FOOTHILLS

These fish live in freshwater rivers and lakes of western NC.



Smallmouth Bass



Blue Gill (Brim)



Rainbow Trout



Muskellunge

MAKE A BIRD BATH



SUPPLIES:

- 4 Pieces of Rope
- Plant Saucer
- Grapevine Wreath
- Super Glue
- Found nature items like leaves and flowers

DIRECTIONS:

1. Line the bottom edge of the saucer with super glue and attach it to the wreath.
2. Tie the ends of 2 pieces of rope together. Repeat with the other 2 pieces of rope. Then tie those 2 knots together.
3. Repeat with the loose ends of rope.
4. Fit the wreath into one end of the rope cradle.
5. Weave natural items into the wreath or glue to the string.
6. Find a tree or somewhere outside to hang your bird bath and use a small cup to fill it with water.

Join our Facebook group: Explorers of Our Big Backyard and use #OBBexplorers to share your experiences!

EXPLORE YOUR BIG BACKYARD

Foothills Conservancy of NC has helped conserve lots of natural spaces near you. Visit some of these family friendly places for your next outdoor adventure!

Possum Rock River Access

2789 River Road, Morganton, NC 28655

South Mountain State Park

3001 S Mountain Park, Connelly Springs,
NC 28612

Tuttle Forest

3420 Playmore Beach Rd,
Lenoir, NC 28645

Lake James State Park

7321 NC-126, Nebo, NC 28761

Wilson Creek

7805 Brown Mountain Beach Rd,
Collettsville, NC 28611

Our Big Backyard (OBB) is an environmental education program established by Foothills Conservancy of North Carolina in 2018.

The mission of OBB is to engage people with nature through STEAM activities and outdoor adventures in Western North Carolina.

This Booklet Made by:



Foothills Conservancy of North Carolina
204 Avery Ave, Morganton, NC 28655
info@foothillsconservancy.org
828-437-9930