



West River At-Home Activities

Using this resource: Below are several science/ecology-related activities that are easily practiced with objects that can most likely be found around the home. These activities range from fun games with an embedded lesson, to quick demonstrations to drive home an ecological concept. The objectives under each activity title can help with planning when to use each activity, and the age range can tell you at a glance whether this activity might be useful for your student. In the end, the age range, materials, and even instructions can be varied from what is printed on the page, so feel free to adapt!

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See and Find**Suggested age range: K – 6th grade**

Objectives: Practice observation skills; notice variation among natural items

Materials: A bandana, some small items

Instructions:

- Set up: The leader finds three items in their surrounding environment without showing the players, and places them on the ground under a bandana.
- When the game starts, the leader moves the bandana, and players have 30 seconds to look at and try to memorize the items.
- After the 30 seconds, the leader replaces the bandana, and the players have five-ten minutes to try to find similar or identical items from the environment around them.
- Once the players have their items, they gather around the bandana again, the leader reveals the items, and everyone discusses the specifics of the items and how similar or different people's finds are.
- Hint: check out [this video](#) on the West River Facebook page to play a first round of this game!

Variations: This game is a great one to play outdoors, and can lead to discussions about why some naturally occurring things, like leaves, sticks, and rocks might look similar but not be identical. However, feel free to adapt it to whatever environment is available! Other variations include varying looking time, searching time, and the number of items.

Meet a Tree**Suggested age range: 3rd – 9th grade**

Objectives: Practice observation skills; notice variation among natural items

Materials: An outdoor space with at least two trees that players are comfortable being close to and touching (but check out Variations if outdoors isn't an option!); a blindfold (optional)

Instructions:

- If there are several players, have them form pairs and blindfold one person per pair (or have them close their eyes); the other person will be a guide. Otherwise, blindfold as many players as are willing but make sure that 1-2 people are left without blindfolds to serve as guides.
- The guides should lead the players from a central location to a specific tree, keeping track of which tree it is. The players have as long as they want to “meet” the tree-- feeling it, walking around it, even smelling it! Then the guides bring the players back to the central location.
- Once all the players are back together, they can take off the blindfolds and they must attempt to re-find their tree, based on their blindfolded experience. Guides can let them know if they are right or wrong.
- Trade off blindfolds until everyone has had a chance to meet a tree.

Variations: This game is great to get familiar with some things in the outdoors, but it can work to help players test their senses wherever you play. The important thing is to have a few similar but distinct things for players to choose between. Lead a player in circles around your house and have them explore a specific window or door while blindfolded; if you are comfortable with it and everyone has clean hands, have one player feel their family's faces or hands to try to distinguish who it is! or gather a selection of similar items like books or toiletry bottles and have players identify which one they handle while blindfolded.

Fruity Boats**Suggested age range: 5th – 8th grade**

Objectives: Learn what density is, and how it differs between objects

Materials: any small semi-spherical fruit (apples or oranges, not watermelons and bananas!); toothpicks; small pieces of paper; a large area of water (bucket, big puddle, pond, etc.)

Instructions:

- Cut each piece of fruit in half
- Put the pieces of paper onto the toothpicks, like a sail and/or some flags
- Put the toothpicks into the flat side of each piece of fruit
- Put the fruit curved-side down into the area of water, and watch the boats bob and float!
- Talk about why the boats are floating: density has to do with how much *stuff*, or mass, is packed into how much space, or volume. Fruit is less dense than water, so it floats on top of it.
- Optional: Put things in the water that are similarly sized to the fruit boats, but that weigh more (rocks, silverware, etc.). Guess whether these things will sink or float. When they sink, talk about whether they are more or less dense than the water (they are more dense).

Variations: make boats out of wood or folded paper!

Check out [this video](#) for an online demonstration and quick explanation of the fruity boat experiment.

Marsh Filter Demonstration**Suggested age range: 5th – 8th grade**

Objective: Understand the role of marshes/wetlands in preventing pollution in the Chesapeake Bay

Materials: 2 jars or cups, a coffee filter, rubber band, various “pollutants” (e.g. soap, oil, dirt, salt), water

Instructions:

- Put water in both cups
- Put the coffee filter over one cup, with the rubber band holding it in place. Allow it to indent a little in the middle--don't pull it tight.
- Talk about what kind of pollution gets washed into the West River
 - As participants suggest things, add them to the non-filter covered cup
 - Oil (from cars), soap (from washing cars or boats), dirt (from erosion or landscaping) and salt (from roads being salted) are some important pollutants to bring up
- Swirl the cup (shake it if you have a lid) and show the participants how gross the water now looks.
- Explain that marshes, like the one by West River, filter pollutants and keep them from getting into the river.
- Pour the same things that you put in the unfiltered cup into the cup with the filter (through the filter) and shake the cup up.
- Show the participants that a lot fewer pollutants made it through to the “river.”

Mini Ecosystem Discovery:

Objectives: discuss and identify ecosystem elements; consider variations between ecosystems

Materials: hula hoop (or loop of rope, or another way to divide off a small area of space); open space outdoors

Instructions:

- Have the participants choose a spot outdoors to place their hula hoop/other boundary
- Participants should observe the area within their hula hoop for 5-10 minutes and discuss/note the following:
 - What living (biotic) things are there in this ecosystem?
 - What non-living (abiotic) things are there in this ecosystem?
 - What are three examples of interactions between living and non-living things in the ecosystem?
- Have the participants move their hula hoop to a different area and answer the same questions. If possible, mix up the “ecosystems” (possibilities: grass, sidewalk, under a tree, in a garden, areas of a yard with moss instead of grass)
- Discuss the differences between the ecosystems. Some possible questions:
 - Which ecosystem had more interactions?
 - Which ecosystem had more biotic things? Which had more abiotic things? Was it the same ecosystem?
 - What would happen if heavy rain fell on each ecosystem?
 - What would happen if chemicals or pesticides were put on each ecosystem?

Variation: if the participants are struggling with describing the ecosystems using scientific terms, this activity can be used creatively, too. Tell them that the hula hoops are surrounding mini worlds that they are discovering, and they must use their imagination to describe them to you or each other. (Example: participants decide that a leaf in the hula hoop is a field where ants are farming, and the tall grass is tall buildings)