Science and Nature

Sensory Walk

(Could be a multi-day experience) Day 2 or later

Supplies: Paper and pencils, clipboards, blindfolds, and cups of items that smell strongly.

Preparation: This activity is designed to be done in stages during a long walk or hike. It could easily be set up in stations around camp. Plan the route and have the supplies you need ready to go, or already set up and waiting for you.

How: Have a quick introductory discussion with the campers about our five senses. Ask them to list the senses we use and talk about which sense most people rely on the most (sight). You can also have campers pair up and discuss which sense they would least want to lose, and what their experience in the world would be like without the sense they chose. After this, take a walk, stopping to do each of the sensory activities below:

Sight (Big Picture / Small Picture): Invite campers to find a spot to sit close enough to easily hear you. First, ask campers to pick one spot far away, such as a point on the horizon or a point on a landscape in the distance. Give them one minute to silently memorize as much detail as possible about this spot. When the minute is up, instruct them to close their eyes and picture as much detail as possible from the image they chose. Finally, have them open their eyes to see how much they remember. Repeat this process with the campers picking a spot close to where they are sitting, so that they end up looking at about a 1 square foot space. Again, have them close their eyes after a minute to picture as much detail as possible, then open their eyes to check what they remembered.

Sound (Sound maps): Give each camper a clipboard, a piece of paper, and a pencil; and ask them to mark an X (or any symbol they want) to represent themselves in the middle of their map. Explain that they will be mapping distance and direction by sound.

For mapping direction, ask the campers to put a mark towards the top of the paper for sounds they hear in front of them, one at the bottom for sounds they hear behind, and so forth for left and right. They should place the sound on their map in the approximate direction from their body.

For mapping distance, ask them to place distant sounds towards the edge of the paper and close sounds near the center. This won't be exact, but that is okay.

Have campers close their eyes and simply listen for about 1 minute, to focus on the sounds, without writing anything down yet. Remind them to stay very quiet to hear all the sounds around them. Next, invite them to mark a symbol on their map for each different sound that they hear related their body position. Ask them questions like, Is the sound: In front or behind you? Left, or right? In the air or on the ground? Close or far away? Is it staying in one place or moving?

Finally, have them close their eyes to listen again (adapt time based on age and attentiveness). When they hear a sound, they can quickly open their eyes and add the sound to their map and then close their eyes again to continue listening.

Spend a few minutes debriefing. Ask them what they heard and if it was easy or hard to map the sounds on paper. Ask how the activity changed based on having their eyes open or closed. Ask the campers what sounds always bring them joy.

Touch (Blindfold Tree Hike): Invite campers to pair up and decide who will be the first to "meet a tree." That camper should close their eyes or wear a blindfold. The camper who can see guides their partner to a nearby tree and places both of their hands somewhere on the tree. Now, the blindfolded camper has one minute to get to know the tree through their sense of touch. They should reach as high and low as possible, feel for any branches or unique features, and move around the tree to see what is on all sides. After the minute is up, the guiding camper will take the blindfolded camper back to the starting point. The challenge is for the blindfolded camper to see if they can correctly identify their tree once their blindfold is removed.

Remind the campers who are guiding to watch out for poison ivy or other dangers that should be avoided. Have campers trade roles after the first round, then go meet another tree. Once they get back, ask the campers what they know about the tree they met. A discussion of the uniqueness of each tree compared to the general forest can also be interesting and can be expanded to include people and their unique features/abilities.

Smell: (Smell cups): Before this activity, prepare about 6-10 small cups of fragrant items. You don't need much, so you can probably draw from the camp kitchen. These items might include cinnamon, chocolate chips, curry, hot sauce, citrus peel, tomato, basil, ginger, onion powder, sage, syrup, molasses, or anything fragrant and available. Have the campers sit in a circle, close enough to be able to pass these cups around while blindfolded. Have them put on blindfolds, then pass around a practice item, like a pinecone, prior to starting the cups. Make sure that campers know they should not verbally say the smell of the cup they get, as it will change the experience for others - this can be very hard for some. When they're ready, begin passing the cups, slowly, so that they have time to smell and reflect on the scent. After everyone has experienced the different smells, campers can take off their blindfolds and make guesses about each smell as you review them.

Taste: (Experiential tasting): Depending on your camp's location and vegetation, as well as policies, you can either:

1 Let students take small tastes of each of the items from the scent cups in the previous activity. If you do this, you will need enough for each camper participating, as well as a way for each camper to get a small sample of the item.

2. Find a tree with fragrant leaves or needles, preferably a coniferous tree or other plant that you know has mildly edible parts. The best option here is to have students chew and spit out a pine/fir/spruce needle to experience the bitter flavors. This is often a new experience for many, so make sure campers know it is a personal choice, and that they do not have to do this if they're not comfortable. You can also include some information about edible plants in your area.

At the end of your walk, invite the campers to revisit the question of which senses they might be most willing to give up. Has the experience changed or affirmed their opinion? Invite them to think about how animals perceive the world based on different senses and how their different heightened senses might impact how they experience things.

Bat and Moth (Great for Day 3)

Supplies: Cups or empty cans, rocks, and tape.

Preparation: Use cups or cans to make shakers by placing rocks inside and covering the openings with tape, or tape two end-to-end. If you have some time, you might want to browse Wikipedia pages about bats so that you can have a little knowledge if campers have different bat-related questions, but this is not necessary.

How: Explain that bats find food through the use of sonar. The bat sends out a high-pitched sound as it flies. If those sound waves hit something—a moth or some kind of obstacle—they bounce back to the bat. Through this use of sonar, a little bat can catch and eat up to 3,000 insects in one night.

Gather the group in a circle with students an arm's length apart from each other. Choose one student to be the bat, and a different student to be the moth. Explain that the bat, who will be blindfolded to simulate darkness (bats are not blind, in fact, their eyesight is quite good), will try to catch the moth using "sonar". To do this, the bat and moth will both be inside the circle. Neither the bat nor the moth can leave the circle of students during the game. The bat can shake their cup, to which the moth must immediately respond with a shake of their cup. Both bat and moth may walk inside the circle, but neither may run. The bat calls out as often as needed (but is not allowed to constantly shake their cup), and walks in the direction of the moth's response. This is done until the bat catches the moth. When this happens, allow other students to play the parts.

If a bat is having trouble catching the moth, stop the game. Decrease the size of the circle. This can signify loss of habitat. Resume play. After playing the game a few times, try some variations using one bat and several moths, or one moth and several bats.

Here are some questions for debriefing:

- How were different campers successful in this activity? What techniques worked best?
- Humans have made use of technologies that are based on the same principle that bats use in the wild. How have technologies like radar and sonar helped humans?

- What would our world be like without bats? Impacts can range from increased bug population to loss of flower pollination to loss of species diversity.

If you have time, look up "White Nose Syndrome," and talk to the campers about how that fungus is threatening bat populations and what humans are doing to help.

Web of Nature (Great for Day 5 or 6)

Supplies: Long ball of yarn/string.

How: Have the campers sit in a circle, close enough to pass/throw the ball of yarn. Ask them to decide which animal, plant, or other part of nature (sunshine, wind, water, rock, etc.) they would like to be. Give the end of the yarn to one camper to begin, and have them state what they chose. Next, ask the group if the items anyone else chose are connected to the first camper's item. While the first camper holds the end of the yarn, pass the ball of yarn from the first camper to any who found a connection, then let whoever gets it last share their chosen item. If the last person has already shared, they pass it to another camp to begin. Each camper who is connected holds the yarn as the ball of yarn continues to show the connections between parts of nature. Eventually, you'll be standing in the middle of a web of yarn with everyone holding at least one point.

When you've gotten everyone connected, ask campers to gently pull the yarn tight. Then, have one student release their connection. See how it affects the other connections around the circle. Ask if it truly matters if we remove an item from the web and start a discussion about what happens when we lose parts of nature. Are other parts of nature affected? If so, have those campers drop their yarn connection. Continue this process a few times to lead into a discussion of what happens when we remove an item from the web. As you continue to dismantle the web, taking the yarn from each camper, discuss the importance of every part of nature (even things we feel are negative, like mosquitoes or weeds).

Here are some questions for debriefing:

- Does this make you look at nature in a new way? How?
- Things must live and die for nature to continue, but when is it helpful or harmful to destroy something (pesticide, herbicide, etc.)?
- Are any parts of nature more important than others?

Blind shapes

Supplies: A long string or rope.

Leader Prep: Know a variety of good shapes to ask campers to form, ranging from easy to difficult.

How: Tie a rope at its ends to form a circle large enough for campers to stand around the outside with both hands on the rope, and with space between them. Campers will put their blindfolds on for this activity. Have them pick up the rope and explain that they must keep hold of the rope at all times while making whatever shape you call out. Call out simple shapes and allow time for the group to form the rope into that shape without letting go. Do another round with the blindfold off and ask them to form some shapes from nature. This will be difficult because even simple objects have very different shapes, and few are symmetrical.

Here are some questions for debriefing:

- Who surfaced as a leader in this activity?
- What was more challenging based on your lack of sight?
- What strategies did the group use to succeed?
- Even though there was no time limit, did you feel rushed?
- What was most difficult about forming things from nature?

Trusted Partners for Further Resources:

California ReLeaf
https://californiareleaf.org/arborweek/educational-resources/
Recommendation: Build a Tree (especially good with children)

Green Schoolyard America
https://www.greenschoolyards.org/guides
Recommendation: Mandala Suncatchers