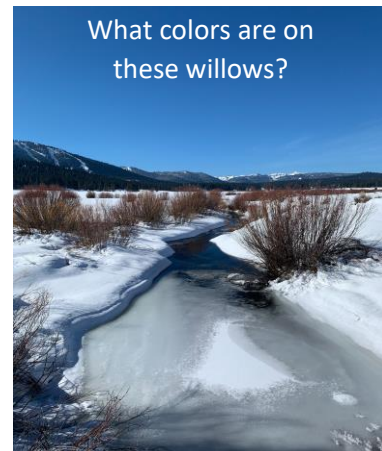


TaHome Nature Education: Winter Sensory Adventure Grades 3-5



Reading: Using Senses in the Winter

The winter landscape is not dressed in bright, varied colors, nor perfumed by flowering plants, so we may think there is not much to explore with our **senses** during winter. However, the extremes of winter open up possibilities for focusing our senses on subtle changes. Summer afternoons may feel hot in or out of the shade, but the change in temperature when walking from a shady, snowy spot into the sunshine can feel remarkable in winter. Winter also allows us to notice subtle colors, like the purple and orange of willow bark against bright white snow that would otherwise be hidden by leaves the rest of the year. In this lesson, you will explore how your senses are heightened or underwhelmed during the winter.



The human sense of smell is one of our most well-developed, but we tend to take it for granted. Similar to other mammals like dogs and rats, we can detect one trillion different odors. Typically, there are fewer smells to detect in the winter, but warm winter days can create humidity in the air, which traps odor causing molecules and causes them to travel farther and linger longer. Our nose is packed with **olfactory** receptors that sense odor molecules, helping us learn about the things we smell around us. This ability was very helpful to ancient humans who relied on their sense of smell to find suitable food and water. Although today we can go to the grocery store for that, our sense of smell still helps us decide when our milk has gone bad or when the garbage needs to be taken out.

Humans often think of certain emotions or memories when coming across specific smells. The smells of your grandma's favorite dish might remind you of cooking dinner with her, or the smell of new grass might remind you of a spring baseball game. Unlike some of our other senses, when we smell something, that scent information goes straight to our brains with no stops along the way. Plus, our memories are stored in the same part of the brain as our smell receptors. Our senses of touch and sight only have four types of receptors each, while our sense of smell has roughly 400 types of receptors.

As far as our sense of hearing, winter can be especially quiet. Once a few inches of snow cover the ground, the snow acts like a sponge, **absorbing** many of the sounds that would otherwise reach our ears in the summer time. Snow is able to soak up sounds because of the shape of snowflakes. Plus, fewer animals, and often humans, are out and about making noise during the winter. Think how quiet it can be during heavy snowfall if there is no wind.

Besides the five basic senses that we think of first, humans and other creatures have more senses working to help us process the world around us. For example, animals can predict stormy weather by sensing changes in **barometric pressure**. Humans sometimes notice how their bodies change with the weather as well. Temperature changes can bring on headaches because the air around the brain may not be at the same pressure as the air outside of the body. Weather changes can also cause old injuries to hurt. If you had a broken foot in the past, you may start feel it again when air pressure drops, as happens just before winter storms.

Activities for 3-5 Grade Students

Senses Check-In

Head outside with a notebook or piece of paper and a pen or pencil. On your paper, write down the time of day, month, date, and season, and also write where you are. Next, use your sense of hearing, touch, smell, and sight to make seven quick observations about what is going on outside right now. Your observations might include “cloudy skies,” “dripping sounds of melting snow.” or “warmth from the sun.”

Next, go back inside and use your observations to illustrate this moment in time. Draw or paint what you observed and label your sensory observations on your drawing. Finally, share your illustrated observations with a friend or family member. Tell them which of your observations was the most memorable.

TINS wants to see your art! Have your parent post a photo of your art project to Facebook and tag Tahoe Institute for Natural Science. You could also email the photo to us at kendal@tinsweb.org.

Memorable Smells

Think about a smell that reminds you of a specific place, person, or memory. Maybe the smell of vanilla reminds you of playing in a Jeffrey pine forest near your home or school. Or maybe lavender scents remind you of walking by a neighbor’s flower garden in the summer. Sit down with a family member or call a friend and tell them these details about your memory:

1. What is the smell associated with your memory? How would you describe that smell? Is it sweet, bitter, or earthy?
2. Talk about the memory that you think of with this smell. Is this memory a place, a person, or a specific event?
3. How does this smell make you feel?

Next, ask the person you shared with to think of their own smell and the memory associated with it. Ask them to answer the same questions you did.

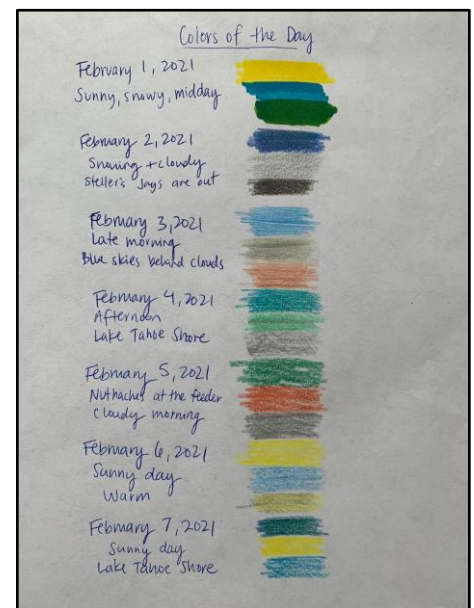
Colors of the Day

Each day for seven days, go outside or look out a window. What colors do you see? If you see blue, is it a light blue or a dark blue? Is the sky the same color overhead as it is towards the horizon? Use paint, pencils, crayons, chalk, or other colorful supplies to recreate at least three colors you see each day on a piece of paper.

Next to those colors, write the date and make some notes about things you think are affecting colors that day, such as the weather, time of day, season, or setting.

Predict the Weather

As you record your colors of the day, develop your atmospheric pressure senses at the same time. For those same seven days, try these exercises to see if you can learn to predict the weather like an animal. Try not to look at or talk about official weather forecasts for these seven days.



Day 1: Go outside. Observe the weather. Look for clouds and listen for wind. Notice how the air feels (both temperature and pressure) and how your body feels.

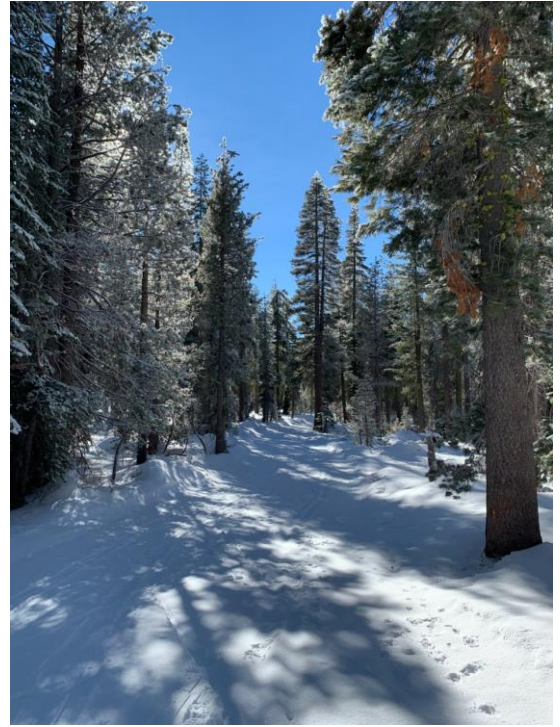


Day 2: Go outside and observe the weather. Look for clouds and listen for wind. Notice how the air and your body feel. Write down or draw the weather for the day.

Day 3: Go outside and observe the weather. Look for clouds and listen for wind. Notice how the air and your body feel. Write down or draw the weather for the day. Write down how the air and your body felt.

Days 4-6: Before you go outside to observe the weather, look back at your observation from yesterday. Then, go outside and observe the weather. Look for clouds and listen for wind. Notice how the air and your body feel. Write down or draw the weather for the day. Write down how the air and your body felt.

Day 7: Before you go outside to observe the weather, look back at your observation from yesterday. Make a prediction about what you think the weather will be like today. Make a prediction about how the air and your body will feel. Then, go outside and observe the weather. Notice how the air and your body feel. Write down or draw the weather for the day. Write down how the air and your body felt. Finally, predict what the weather will be like tomorrow.



Words to Know

Senses: how our body understands outside stimuli, through sight, sound, touch, smell, taste, and more.

Olfactory: relating to the sense of smell.

Absorb: to take in or soak up.

Barometric pressure: pressure from the weight of the Earth's atmosphere.

Palabras para conocer

Sentido

Olfativo

Absorber

Presión barométrica

Further Learning

Learn more about high and low air pressure in [this video](#).

Discover other predictions that animals may be able to make in [this video](#).

Find more sensory exploration for spring at [TINS website](#).

