

5 Senses Science Experiments

Eyes & Sight

These two activities show you how important your eyes are. We use our sight more than any other sense. We see because our eyes and brain work together to make pictures of what is in front of us.

Activity 1

For this first of the 5 senses science experiments, you'll need someone to help you. Standing several feet away from the helper, toss a bean bag or soft squishy ball back and forth. After a few tosses, blindfold the person helping you, take a few steps away from them, and then pull a blindfold over your own eyes. Now try tossing the bean bag back and forth again. Talk about what senses you had to use when your eyes were covered and what was harder to do when you couldn't see. How many more times did you catch the bean bag with your eyes open than when you had the blindfold on?

You could also try rolling a ball back and forth, with you and your helper sitting on the floor. If you only cover one eye, instead of using the blindfold, how hard is it to roll the ball to your helper? Our eyes work together, so it is much harder if one of them is covered up.

Activity 2

Learn about the Braille alphabet with this project. Braille is what people who cannot see use to read and write! They 'see' the letters by feeling them with their fingertips instead of looking at them with their eyes. Print out a copy of the [Braille alphabet](#). To make the letters raised like Braille, put a drop of white glue over each black dot. When the glue is dry you will be able to feel the raised dots with your fingers.

Taste Test

You might think that different soda pops taste different, but will you be able to tell when you are blindfolded? Try it out!

You will need a blindfold (a bandana or piece of dark fabric will work well), two cans of soda (one cola, such as Coke or Pepsi, and one clear, like Sprite or 7-UP), a glass of water, and someone to help you.

Ask your helper to blindfold you. Make sure that you cannot see through the fabric. Have the helper open one can of soda without telling you what kind it is. Carefully take a sip with the blindfold on, and guess what kind it is. You can't see the color to help you know what it should taste like, so it might be a little harder to tell than normal. Take the blindfold off. Were you right? If you want to try guessing a second time, take a few sips of water first, to rinse the taste of the first soda from your mouth.

You might have been able to guess what kind of soda it was, even with a blindfold on. Do you think you could have done it if you couldn't smell anything either? Try the test again, but this time plug your nose when you taste the soda. Was it harder to taste the difference this time? Though it may seem like there is a big difference between clear soda and cola, our taste buds work together with our sense of smell to help us taste things. This is why food doesn't seem to have as much flavor when you have a stuffy nose.



Sounds Like Fun

What is sound? Sound is caused when objects vibrate (move back and forth very quickly). Vibrations create *sound waves* that can travel in all different directions through the air and into our ears.

Activity 1

You can use a slinky to show how sound waves move. You will need someone to help you for this project. Have your helper sit on the floor and hold onto one end of a slinky (a metal one will work best), then stretch out the other end and sit down across from him or her. Then, while the person helping holds his or her end of the slinky still, move your end slightly from side to side. What happens? The motion creates ‘waves’ that move down the slinky towards your helper. Hold your end of the slinky still and let the person on the other side move his or her end and watch what happens to the waves. What happens to the waves if you both move your end at the same time? Sound waves travel in only one direction at a time, just like they do on the slinky.

Activity 2

This activity requires chewing and so could be either done during a meal or else as an experiment. To learn more about sound, chew a bite of food, listen to the sound it makes, and compare the sounds made by soft foods and hard or crunchy foods. Try bananas, bread, crackers, chips, carrots, etc. Do you think the sounds will be louder or quieter if you cover your ears with your hands while chewing? Try it out.

The sounds we hear while chewing are actually louder when our ears are covered. Do you know why? There is a tube that connects each ear to your nose and throat called a Eustachian Tube. When you plug your ears from the outside, you can still hear sounds from inside of your mouth through this tube. Everything you hear sounds louder because the noises from outside your ears are being blocked out.

Take a Walk!

For the last of the 5 senses science experiments, you’ll be taking a walk. You can walk around your neighborhood, or even just explore your backyard, or you could make a trip to a park, with an adult. What sounds do you hear on your walk? What do you see? Touch the things around you – are they smooth or rough? What is the weather like – is it hot or cold? What things do you smell on your walk?

Can you chew food with your nose or smell a flower with your ears? No, of course you can’t! Each of the senses are uniquely designed. We see with our eyes, we hear with our ears, smell with our nose, taste with our tongue, and feel with our hands and skin. You shouldn’t stick anything you find from your walk in your mouth, but you can learn about the other four senses – sight, hearing, smell, and touch. How did those four senses make your walk better? Was there anything you saw or touched that you didn’t like? When you get home, draw a picture list of all the things you saw, heard, smelled, and felt on this [worksheet](#).

Lessons for the 5 Senses Science Experiments

The Five Senses

As humans, we have five tools that help us explore the world around us – sight, hearing, smell, taste, and touch. Our eyes, ears, nose, mouth, and skin gather a lot of information about the world; they help protect us and help us enjoy life! Not everyone is born with all of these senses. Some people are born blind, or without being able to hear. Usually they learn to use the senses they do have better than people who have all five senses. A person who is blind may have an extra-good sense of hearing, for example. Some people also lose their sight or hearing as they get older.

Sight



Our vision is the strongest sense. As soon as you open your eyes every morning, you can see the things around you. You can watch a movie, or see a beautiful sunset, or run and play outside because of your eyes. How do our eyes work? We see color and movement because light enters our eyes and forms a pattern.

The little dark circle in the center of each of your eyes lets light in. It is called a pupil.

If you are in a dark place where no lights at all are on, can you see anything? No, you can't, because our eyes need light to be able to see!

Once the light goes in, it hits a part inside at the back of your eye that is very sensitive to light. This part is called the retina. When light hits the retina, it makes an upside-down picture of whatever you are looking at.

The picture is sent to the brain through the optic nerve. *Nerves* are tiny parts in your body that act as messengers. They [send signals to your brain](#) of what they can feel, or sense. Together, the many parts inside our body that sense what is around us are called the *nervous system*.

When the brain receives the picture from your eyes it gets turned around very quickly so that you see it the right way instead of upside-down!

This happens automatically whenever your eyes are open. Seeing is like breathing; you don't even have to think about it, but you do it all the time!

If you look at your eyes in a mirror, you will see eyelids and eyelashes which protect your eyes by keeping dust out.

Every time you blink (about once every six seconds) your eye is working to keep out bits of dirt and dust so tiny you can't even see them.

Hearing

Another important sense is hearing. Our ears allow us to enjoy things like being outside, talking with our friends, and listening to music.

Being able to hear also helps protect us from danger, for example, we can hear if a car is coming when we are crossing the street.

A human with normal hearing can tell the difference between 1500 sounds!

Our brain is able to pick out really high sounds and really low sounds. If you have a piano or keyboard, try playing the lowest note, and then the highest. The piano has 88 sounds – our ears are able to pick up a much wider range of sounds, from soft to loud, low and high. We are able to hear the chirping of an insect on a summer's day, and the clashing of cymbals at a band concert.

Sound is caused when objects vibrate (move back and forth very quickly).

Vibrations create *sound waves* that can travel in all different directions through air, water, and lots of other materials.

When sound waves are spread out, the sound we can hear is quiet. When they are clumped together, the sound is much louder. When sound waves go into your ear, they hit your eardrum and make it vibrate. The tiny vibrations move through your ear like a light shining through a long tunnel until they get to some nerves at the end of your ear.

The nerves take them to your brain where they turn into the sound that you hear!

Smell

The third lesson of our 5 senses science experiments focuses on smell. Did you know that without our noses we couldn't enjoy things like our favorite meal cooking, or a bouquet of flowers?

Our nose also helps us know what we are eating.

This happens because as we chew our food, air is flowing from our mouth to the back of our throat.

When it reaches our throat, some air reaches the back of our nose. Our nose picks up the smell, and the signals are sent to the brain.

The full flavor (whether you like the food or not) is "tasted" by your nose as well as your mouth!

Taste

Our tongue can pick out four types of tastes – bitter, sour, sweet, and salty.

We can taste because of the tiny bumps called taste buds that are all over our tongue, and the top (or roof) of our mouth.

Taste buds are connected to nerves in the tongue, and they pick up the signals that are sent to the brain so you can taste what you are eating.

The inside of our mouth can also feel the foods we are eating, so if you don't like a food, it might not be the flavor, but the texture that "tastes" gross.

Touch

Our skin is very sensitive to what it comes in contact with. All over our skin are tiny receptors that are connected to nerves.

These receptors are spread all over our body, allowing us to feel, but there are more receptors on our hands and face than anywhere else.

Our hands are able to act like a second pair of eyes, providing a detailed picture for the brain.

Our sense of touch is important in many ways. One way it protects us is by [setting off reflexes](#).

Have you ever tried to grab something that was really hot, and then quickly let go? Your senses told your body it was hot, and you reacted very quickly, even before your brain realized it felt hot.

Our sense of touch allows us to enjoy things like petting a cat or dog, and running through the sprinkler on a hot day.

Science Words

Nerves – tiny parts in your body that send messages to your brain about what they sense, allowing you to sense things.

Nervous System – all of the nerves in your body connect to your spinal cord (which run through your backbone), which connects to your brain. This very complex system is what allows you to sense things.

Sound Waves – tiny back and forth movements, called vibrations, that can travel through air and other things like fabric and water. Sound waves are usually blocked by solid objects, such as walls.

Printable Worksheet

Use this [worksheet](#) with the "Take a Walk!" activity.

Afterwards, your kids or students can make a picture list of all the things they remember from their 5 senses science experiments walk.

Source: <https://learning-center.homesciencetools.com/article/five-senses-lesson-projects/>