

# MAKING SENSE OF SENSES



TEACHER GUIDE

ACCELERATE



# PLANNING

Here's a suggested schedule for this kit! The activities should be completed in order, but you can choose when the lessons take place over time.

ACTIVITY INFORMATION	SECTION(S)	TIME	DAY/ LESSON
<b>ACTIVITY 1: PROCESSING THE SENSES</b> See your senses through a new perspective. Total time: 30 min	<input type="checkbox"/> Mindfulness	30 minutes	Day 1
	<input type="checkbox"/> Synesthesia		
<b>ACTIVITY 2: WHAT YOU'RE MADE OF</b> Begin to understand the parts of the brain and how it is connected to the whole body. Total time: 1 h 15 min	<input type="checkbox"/> Anatomical Structure	30 minutes	Day 2
	<input type="checkbox"/> Brain Hat	30 minutes	Day 3
	<input type="checkbox"/> Cells	15 minutes	Day 4
<b>ACTIVITY 3: SIGHT</b> Understand the function of sight and create your own optical illusion. Total time: 1 h 30 min	<input type="checkbox"/> What is Sight?	30 minutes	Day 5
	<input type="checkbox"/> Optical Illusions	45 minutes	Day 6
	<input type="checkbox"/> Your Own Illusion		
	<input type="checkbox"/> Show What You Know	15 minutes	Day 7
<b>ACTIVITY 4: TOUCH</b> Determine what parts of the body are most sensitive and why. Total time: 1 h	<input type="checkbox"/> Sensitivity and Safety	30 minutes	Day 8
	<input type="checkbox"/> One Touch or Two?	30 minutes	Day 9

## ACTIVITY 5: TASTE

Time for a taste test!

*Full schedule  
available with  
purchase*

### LEARNING GOALS:

- ✓ I can use a model to describe how information transfers from the senses, to the brain, and to a response.

## ANATOMICAL STRUCTURE

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### CONTENT

- There is a lot of information for your student to process in this reading section.
  - Go through this information as quickly or as slowly as your student needs.
- Encourage your student to ask questions throughout their reading and perform research to answer them.
- You might notice that this section refers to, but doesn't discuss, cells. A future section will delve into cells.

## BRAIN HAT

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### PREPARATION AND SUPERVISION

- Brain hats are a fun way to observe and understand the brain. While your student is coloring their brain, make sure they color the lobes so the right and left sides of the brain match.
- If you do not have tape available, you can also use a stapler.

## CELL

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### CONTENT

- This is a reading section discussing cells, and a specialized cell called a neuron.
- A nerve cell (or neuron) has many parts, each with a particular role in how the cell functions.

Part of a Neuron	Role
Dendrite	Receive signals from other neurons and transmits those signals to the cell body
Cell body (Soma)	Provides energy to the cell, contains genetic information, and preserve the cell's structure
Nucleus	Coding of proteins within the cell, which is how genetic information is processed
Axon	Transports the signals from the cell body to other cells
Myelin sheath	Acts as insulation and allows signals to move quickly through the neuron
Schwann cell	Wraps around the axon to form the Myelin sheath
Node of Ranvier	Gaps in the Myelin sheath, between Schwann cells
Axon terminal (Synaptic terminal)	Branches of an axon that transmit signals to the next neuron's dendrite.

# 4

# TOUCH

As students continue their learning, they will discover the parietal lobe, their sense of touch and auditory-tactile synesthesia.

In this activity, students will delve into the importance of touch and perform an experiment to better understand how people typically experience touch via the nervous system.

activity

## LEARNING GOALS:

- ✓ I can use evidence to argue that organisms have structures that allow for functions of life.
- ✓ I can use a model to describe how information transfers from the senses, to the brain, and to a response.

## SENSITIVITY AND SAFETY

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### CONTENT

- This reading section gives your student an introduction to their sense of touch.
- They will learn about fine and gross motor skills, as well as how the sense of touch has developed to keep them safe.
- When reading through the fine and gross motor skills section, you can encourage them to think about how a person is impacted by reduced function of the fine and gross motor skills. This would be an excellent lead in to disabilities and can help to better connect to “Externalities” and “Helping Hand” in Activity 8.

## ONE TOUCH, OR TWO?

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- ❓ **Question 1: What is the average width of the caliper required to feel 2 points of contact on a person’s finger? Thigh? Back? Cheek? Hint: To find an average, add up the 9 distances you recorded and then divide that number by 9.**

**Answer:** Answers will vary based on the individuals your student has as participants, as each person’s sensitivity is different. However, finger recordings will likely be around 1 cm, thigh around 5 cm, back around 4 cm, and cheek around 2 cm.

- ❓ **Question 2: Which of the four areas of the body is most sensitive? Which is the least sensitive?**

**Answer:** Answers will vary based on the data your student collected. However, they should come to determine that the finger is the most sensitive, while the thigh is the least sensitive.

**How to Help:** *If this is not what their study concludes, that is okay so long as their answers are consistent with their data. The most sensitive part of the body will have the lowest average width and the least sensitive part will have the highest average width.*



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Kit	SU-MKSENS
Instructions	IN-MKSENTG
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