Grades K-2: Introduction to AI Course

Human Senses vs Computer Sensors

Time Estimate: 30-50 minutes

Learning Objectives

Students will explore how humans and computers perceive the world using senses and sensors. By comparing human sensory organs (eyes, ears, skin) to computer sensors (cameras, microphones, tactile sensors), they will learn how AI systems collect and process information to make decisions. Through hands-on activities, students will identify how computers "see," "hear," and "feel," and discuss why AI needs sensors to interact with its environment.

- **I can identify human senses and their corresponding computer sensors (e.g., eyes vs. cameras).**
- **I can explain how computers use sensors to perceive and interact with the world.**

Materials Needed

- Paper and pencil
- Computing device (optional)
- A flower or scented object
- Textured items (sandpaper, cotton balls

Supplemental Materials

See supplemental materials at the end of the lesson plan.

- **Computer Sensor Poster (Page 7)**
- **Matching Senses Worksheet (Pages 8-10)**
- Human and Computer Sensors Slideshow **(Download in Google Slides)**

Activities

WARM UP

Time

5 minutes

Description

Have students to engage in a brief sensory activity before the lesson begins. For example, they can close their eyes and listen to a bell ring, or smell a flower or scented object.

Ask students "What did you experience? How did your senses help you understand what was happening around you?"

Explain to students that when we talk about how computers can sense things like we do, we can think of special parts called sensors. Here are the best words to describe computer sensors that match our five senses.

You can display the computer sensors (found in the supplemental materials) as you explain the senses/sensors:

Human Sense → Computer Sensor
Sight (eyes) → Camera
Hearing (ears) → Microphone
Touch (skin) → Touch Screen / Touch Sensor
Smell (nose) → Smell Sensor
Taste (tongue) → Taste Sensor (less common in everyday AI)

DRAW & LABEL YOUR FAVORITE ANIMAL

Time
20 minutes

Description

Guide students to think about their favorite animal, such as a dog, cat, or bird. Ask them to draw a picture of that animal on a piece of paper.

Once their drawing is complete, have them label the parts of the animal that it uses to interact with the world, like its eyes for seeing, ears for hearing, nose for smelling, or paws for touching.

Encourage them to think about how the animal uses its senses in its daily life, such as finding food or avoiding danger.

WRAP UP

Time
5 minutes

Description

After discussing the lesson, have students quickly describe or draw a picture of one thing they learned about how computers "see" and "hear" compared to human senses.

You can also ask them to demonstrate or explain how a robot might use a camera or microphone, reinforcing the lesson's main points through action and brief verbal explanation.

Here are some critical thinking questions for students.

1. How are human senses similar to computer sensors?
2. Why do you think robots need cameras and microphones?
3. What would happen if one of our senses stopped working?

***The supplemental materials section includes a worksheet that can be used to reinforce the lesson or check student understanding. It is an optional resource.

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Activities for Further Learning

If you have extra time, here are some additional activity ideas to try with your class.

EXTRA UNPLUGGED ACTIVITIES

Sense Relay	Set up simple sensory stations where students can explore items using their senses, such as smelling a flower or scented marker, feeling textures like sandpaper or cloth, and listening to sounds like a bell or shaker. Rotate small groups through each station, encouraging them to describe what they notice. Afterward, discuss how their senses helped them understand the objects and connect this to how computers use tools like cameras and microphones to "sense" the world. For non-writing students, they can share verbally or use picture cards to describe their experiences.
DIY Sensors	Provide simple materials like paper towel tubes or cups for students to create pretend "robot eyes" or "robot ears." Students can decorate the tubes or cups to look like sensors and then use them to act like robots, observing and describing objects in the classroom. Discuss how computers use real sensors, like cameras and microphones, to see and hear. For non-writing students, encourage them to explain their creations verbally or work with a partner to share their ideas.
Sensor Scavenger Hunt	Guide students on a fun scavenger hunt around the classroom to find items that match specific senses, like "Find something you can smell," "Find something you can see," or "Find something you can touch." For younger students who can't read yet, use picture cards to show examples of what to look for, like a flower for smell or a soft toy for touch. Use common classroom items like markers, books, or fabric scraps to keep it simple and resource-friendly. After the hunt, discuss how computers and robots use sensors, like cameras and microphones, to "sense" the world similarly.

★ BONUS: DIGITAL PLATFORM ACTIVITY

Time
20 minutes

Description

Want to extend this lesson with an interactive digital experience designed for K-2 students?

Students can explore how computers and robots use sensors like cameras and microphones through a guided online activity on the Skill Struck AI literacy platform.

Set up a **free** AI literacy account for your class:

Create a Free AI Literacy Account

skillstruck.com/free-ai-literacy-2025-2026-skill-struck

Access the lesson here once you've created your free account.

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Supplemental Materials

Computer Sensors

Sight

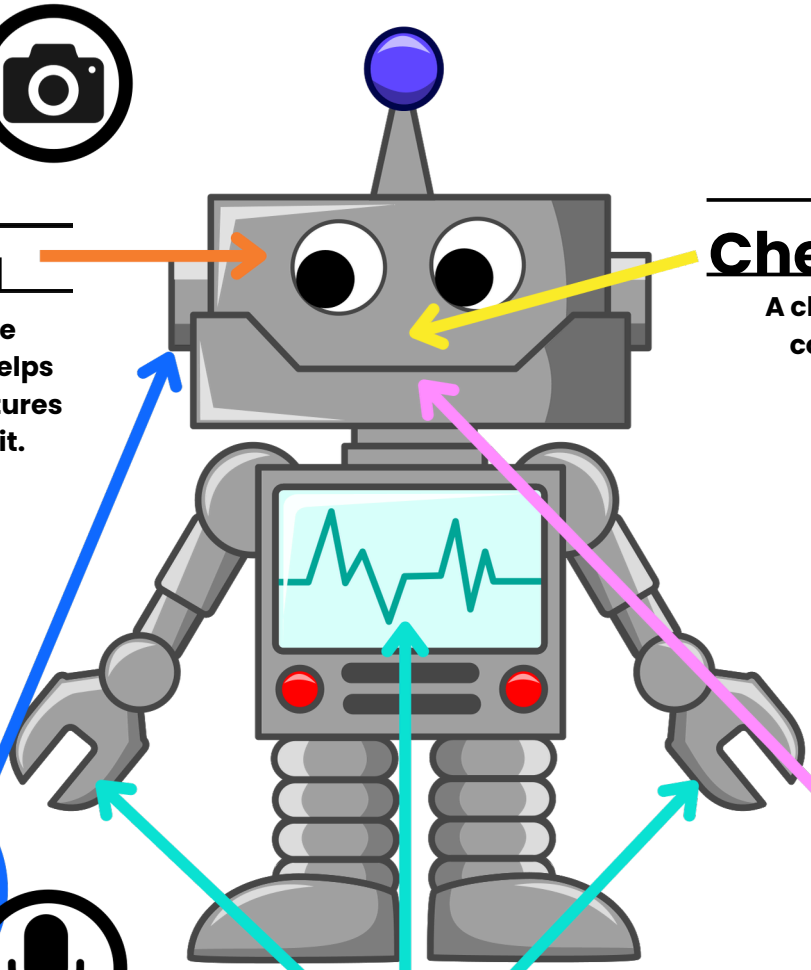
Camera

A camera is like the computer's eyes. It helps the computer see pictures and things around it.

Smell

Chemical Sensor

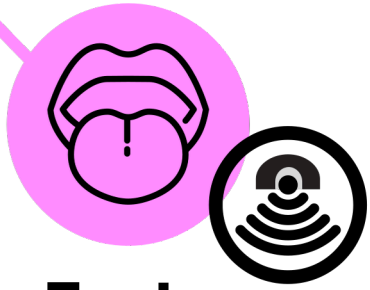
A chemical sensor is like the computer's nose. It helps the computer smell different scents.



Hearing

Microphone

A microphone is like the computer's ears. It helps the computer hear sounds and voices.



Taste

Taste Sensor

A taste sensor is like the computer'stongue. It helps the computer taste different flavors.

Touch

Tactile Sensor

A tactile sensor is like the computer's sense of touch, helping it detect and respond to touch.

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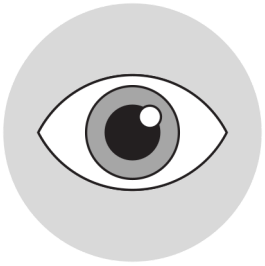
Match

Draw a line from one of the 5 senses on the left to an image that matches on the right.



Name: _____

Skill Struck

Match

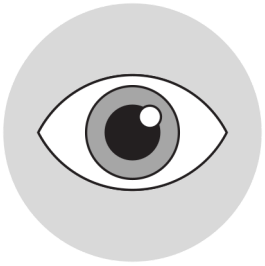
Draw a line from one of the 5 senses on the left to a describing word that matches on the right.

Tasting

Smelling

Seeing

Hearing



Touching

Name: _____

Skill Struck

Give an Example

On the left is one of the 5 human senses. In the box next to that sense, write a word that matches that sense.