



STEM Investigation 4: A Community of Scientists

Description: Children will observe how people in their community use their senses (sight, touch, hearing) when they communicate with other members of their classroom community. Children will develop the understanding that the ways we (and many other animals) communicate depends on the physical qualities of our environments, and that multiple senses are used simultaneously to get a sense of an encounter, observation, or to make sense of evidence.



Enduring Understanding:

- Communities are affected by their environments. People use their senses to observe the environment and materials in their community and may describe and label materials according to their observable properties.

Essential Question:

- Where do you find what you need in your community, including information, help, and companionship?

Materials:

- observation sheet (see Resources), one for each child
- pencils
- chart paper

Vocabulary:

- communicate
- community
- observe
- sense
- data

Preparation:

Write the focus question on a chart paper: ***“What can we observe about how people in our classroom use their senses to communicate?”***

Intro to Centers:

“This week you will investigate the focus question that is written on this chart paper: **What can we observe about how people in our classroom use their senses to communicate?**”

“What are some important words that we need to understand as scientists in order to answer this question?”

“This week, as scientists, you will use your senses of sight, touch, and hearing to learn about and communicate with the people in our classroom.”

“Guess how this child is feeling.”

“How did you know he was sad? What sense did you use?”

Indicate and read the focus question.

*Circle, discuss, and annotate key words (**observe, senses, communicate**).*

Invite one child to come to the front of the group. Whisper to him to make a face to indicate that he is feeling sad.

Give children a chance to guess; most likely they will say that he is feeling sad.

*Draw an eye above the word **senses** in the focus question.*

“How did you know he was sad? What sense did you use?”

“Yes, you looked at him, and that gave you some information about him. He was communicating that he was feeling sad, and you used your sense of sight to understand that.”

“Let’s play again.”

“Let’s play one more time.”

“Here is an observation sheet. You will use it to record what you observe about people in our classroom.

“First, at the bottom of the page, draw a picture of people you observe doing something together in our classroom. Maybe you see people working together in the Art Studio or in Blocks. Then record how you noticed them communicating—with their eyes, ears, hands. I wonder what you will notice about how we communicate!”

*This time ask the children to cover their eyes while one child uses a loud, angry voice. When children guess that she is feeling angry, and children indicate that they used their sense of hearing to understand that, draw an ear above the word **senses** in the focus question, with the eye.*

*This third time, ask a child to clap. Other children may guess that she is excited or happy; draw a hand above **senses**. Show the observation sheet.*

Indicate where to make tally marks in the eye, hand, or ear boxes to show what they observed about how the children and/or the adults in the picture were communicating.

During Centers:

Using the observation sheets, clipboards, and pencils provided in the STEM center, children walk slowly around the room and observe their classmates and/or adults. Once they choose people to observe, they find a place to sit quietly so that they can draw what they see and hear. For example, a child might choose to draw a picture of classmates building blocks, dancing, listening to music, talking about a project, or asking an adult a question.

Encourage children to add as much detail as possible to their drawings, and to label objects and people so that they can explain their observations to others. Once children draw their picture, they make tally (or other) marks in the appropriate boxes (eye, ear, or hand) to show which senses they observed people using to communicate. For example, if someone in the picture was using their ears to listen to someone else talking as they play, the children should put a tally mark in the EAR box; if someone was using their sense of sight to understand what someone was saying, they should put a tally mark in the EYE box. Since people use more than one sense at a time, children can and should make multiple tallies across the three different senses.

Guiding Questions during Center Time:

- What do you notice about how the person you are observing is communicating? Is s/he using ears, hands, eyes, or two of these, or all three?
- What sense are they using?
- What senses are the other people you are observing using to communicate?
- Does one sense have more tally marks on the observation sheets? Does one sense have the fewest?

- What does that make you think?

Sharing Our Research:

What did you do this week as scientists in the classroom?

Revisit the focus question, ***“What can we notice about how we use our senses to communicate with other people in our classroom?”***

Children share their data gathered on their observation sheets. Ask several children to tell you how many tally marks they have in each ‘sense box’ (eye, hand, or ear).

Does one sense have the most tallies? Does one have the fewest? Encourage children to pose hypotheses and questions about this.

Do people use more than one sense to communicate at the same time?

If you record some interactions on video, share this with the group and make some observations together about what you notice.

Documentation:

Take and use pictures to reinforce the concepts via later discussion. Post these pictures with questions (How are we communicating?) or reminders (Look at someone who is talking to better understand what he wants to say.) to the group. Also, put these pictures together with pictures from Investigations 1 - 3 to display a collection of work and learning about the various senses we use to learn about our community.

Using this as a Provocation:

If there is time, children in the STEM center can pretend to be different animals trying to communicate something they need (e.g., a baby bird that is hungry, a dog that wants to get inside, a bat squeaking, etc.) What body parts and senses do they use to communicate?

STEM Investigation 4 *Our Community*

OBSERVATION SHEET

Name _____



What do you notice about how people use their senses to communicate in your classroom? Record your data with tally marks in boxes.

Draw a picture here: