

Communication Curriculum

Lesson 1

Communication in STEM

Lesson Overview:

Students will begin the Communication Curriculum by completing the following steps: 1) considering communication as a core competency in STEM 2) identifying communication skills they will need for a future STEM career of their choosing 3) identifying and reflecting upon their personal communication style.

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Communication

Lesson 1 – Communication in STEM

Lesson Overview

During the first part of this lesson, you will guide students to consider how communication skills may help them, or even be required, in a STEM career. In the second part of the lesson, students will complete a Communication Style Inventory and reflect on their results in a class discussion. The lesson will culminate as students are asked to respond to a prompt that connects their personal communication style to their strengths as a STEM leader. An optional Gallery Walk and class discussion offers the opportunity to extend the reflection.

Time Frame:

2-3 hours, including time for students to complete independent work
30-60 additional minutes for optional Gallery Walk

Core Concepts:

- Communication skills are critical for careers in STEM.
- Communication styles vary from person to person, and each style can be leveraged for success in educational, professional, and social situations.

Lesson Objectives:

In this lesson students will:

- Consider the many different ways in which communications skills are important to a career in STEM.
- Identify their strengths as a communicator and determine their own personal communication style.
- Consider how their communication style can contribute to their strengths as a leader in STEM.

Materials Needed:

- Communication in STEM Careers worksheet
- Communication Style Inventory packet
- Laptops/tablets (optional)

Introduce the Communication Module

Explain to students that communication is a key leadership skill. Beyond just leadership, communication skills are critical in several areas of STEM careers. Tell them that the lessons in this Module are designed to help them learn more about their own communication style, how communication is leveraged in the STEM world, and how to develop and improve their communication skills.

Explain that as students work through each lesson in the Module, they will complete an activity such as assessing their online footprint. They will discuss their work with you and with each other, and will share ideas and resources related to **communication**.

Part 1: Communication as a Core Competency for STEM

Step 1: Activate Prior Knowledge

(5-10 minutes)

Ask students: *"When (or how) might STEM professionals need to communicate?"* Invite several volunteers to share their ideas. List student responses on the board. Continue to add, delete, and revise the list throughout the lesson.

Step 2: Students complete the Communication in STEM Careers worksheet

(30-60 minutes)

Distribute the Communication in STEM Careers worksheet. Ask students to choose a STEM career that interests them and to complete the worksheet with that career in mind. Students should list communication tasks that they may encounter in the career and the education required for the career. Ask them to also identify communication skills they may want to develop in order to be successful in their chosen field. Finally, ask students to consider actionable steps they can take to build their identified skills.

If possible, offer students the opportunity to research the career online. They will deepen their understanding of the career and the need for specific communication skills.

When students have completed their worksheets, ask them to share out in small groups of three or four. As they share, encourage them to continue to add to their own worksheet if a peer has identified a task, skill, or action item that fits their career and/or needs, as well.

Set aside a few minutes to meet with each student to review the worksheet. Use these

points to help guide your discussion:

- Has the student identified the primary tasks that might require communication skills in their chosen career?
- Do you agree with the communication skills necessary for the tasks/career? Does the student need to further develop these skills?
- What other ways would you recommend for the student to build their communication skills?
- What kind of communication skills can YOU help the student to develop?
- What other questions or concerns does the student have?

Part 2: Communication Style Inventory

Step 1: Students complete a Communication Style Inventory

(20 minutes)

Distribute the Communication Style Inventory and explain to the students that is one way of assessing the way that they tend to communicate. There are other inventories and quizzes that can be found in books and online.

Ask students to complete the inventory by responding to the questions and using the Response Key to calculate their communication style. After completing these steps, students should also read the communication style descriptions. Encourage students to read all of the descriptions, and not just the one that matches with their personal inventory results. This step can be completed in class or assigned as homework.

Step 2: Take a Show of Hands Poll

(2 minutes)

Invite students to share their identified communication style. State the name of the style and ask students to raise their hands for the style that matches their responses on the inventory. If students had an even split between two styles, ask them to raise their hand for both styles. You may also wish to share your own results.

Step 3: Discuss

(20 minutes)

Explain to the students that after taking a survey such as the Communication Style

Inventory, it can be useful to reflect a little on your results. Use the following questions to facilitate a class discussion about how the inventory results may or may not be useful for them in their life, education, and STEM career.

- Do you think this inventory was accurate? Why or why not?
- If you identified more than one communication style for yourself, how do you use each of the styles? Do you tend to see them blend together or do you use different styles for different occasions? How is this useful or challenging?
- How do you think that understanding different communication styles might help you in school and your future career?
- What did you enjoy about taking the quiz and learning about your communication style?
- What do you like best about communicating with others who share your Communications Style?
- What do you like about communicating with others who communicate differently than you?

Step 4: Reflect, Connect, and Respond

(30-60 minutes)

Remind students that communication is a key leadership skill and that it has been identified as a core competency for STEM careers. Ask students to reflect silently for a couple minutes on the following prompt:

How can your personal communication style contribute to your strengths as a STEM leader?

After ample time for reflection, encourage students to imagine that they are in a college or internship interview. As homework or in the class, ask them to respond to the prompt as they would in an interview. If laptops or tablets are available for recording, offer students one of the following options to complete their response:

- Write your response as a brief paragraph (~150 words)
- Record your spoken response as an audio file (~30-60 seconds)
- Record your response as a video (~30-60 seconds)

Provide written or one-on-one feedback to students in response to their work.

Step 5: Gallery Walk (optional)

(30-60 minutes)

Prep for the gallery walk by asking students to set out their response to the Step 4 reflection prompt. Written responses can be set out on desks or posted around the room on the wall. For recorded responses, students can set out their laptop/tablet with the file opened for easy access.

Encourage students to walk around the room reading, listening to, and watching other students' responses. It may be helpful for students to carry headphones/earbuds with them for listening to the audio and video files. Depending upon the time available, suggest a minimum number of responses to visit.

Wrap up the gallery walk with a Think-Pair-Share. Ask partners to discuss the following question:

What new ideas have you come away with after seeing and hearing other students' responses?

Convene the whole class and invite several pairs to share their responses. Encourage a class discussion, if time allows.