Middle School Unit: What STEM careers are in my community?

OUR CLASSROOM STEM CAREER WALL
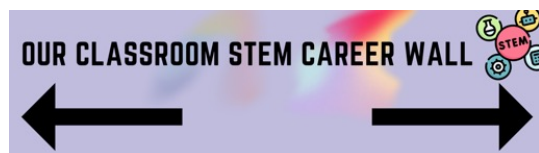
WHAT WE FIGURE OUT:

We work together to investigate different careers in our community. We create a common classroom definition and understanding of what makes a career a STEM career compared to careers that only use STEM or STEM skills.

BUILDING TOWARD

Awareness about careers in our community and creating a shared definition of a STEM Career, as contrasted to a career that uses STEM skills.

STEM SKILLS THINKING PRACTICES

Students identify characteristics of STEM and STEM Careers. They identify skills used in STEM Careers.

INVESTIGATING

Students investigate careers in our community that connect to our STEM technology curriculum.

SENSEMAKING

Students work together to create a class definition of a STEM Career.

CRITIQUING

Students critique career skills and evaluate if they qualify as STEM skills.

GETTING READY: Materials

TEACHER
Teacher Materials

- STEM Career Wall Sign 1 (36x10) *
- STEM Career Wall Sign 2
- STEM Career Wall Sign 3
- STEM Skills infographic
- Optional - STEM Career Card Sort Activity

Note: STEM Career Sign 1 is meant to print as a 36"x10" banner.

STUDENTS
Student/Classroom Materials

- STEM Career Profile Tempate (EN)
- STEM Career Profile Tempate (SP)
- My Career Profile TEMPLATE (EN)
- My Career Profile TEMPLATE (SP)
- Example Student Career Profile
- Example STEM Career Profile

ACTIVITY LAB
Activity Supplies

- Clip magnets
- Tape
- Blank poster paper (4 per class)
- Sticky notes
- Markers

LEARNING PLAN: (for a more detailed description, click on the number to the left)

1. Prepare the STEM Career Wall and Identify a place where you can place the STEM Career wall signs.

2. Launch the STEM Career Wall Lesson

3. Creating Career Profiles

4. Use the STEM Career Wall to Facilitate a discussion about STEM and STEM Careers.

5. Creating a class definition of STEM and STEM Careers

6. Have students create their own "My Career Profiles" to add to the STEM Career Wall

LEARNING PLAN

PART 1: INTRODUCING THE STEM CAREER WALL ACTIVITY

- Do this activity before you begin the Sensor Immersion, 3D printing unit, or other technology-focused unit.
- This activity will probably take 40-50 minutes to complete

1 **Prepare the STEM Career Wall and identify a place where you can place the STEM Career wall signs.**
Ask the question of the day: "What percentage of your life will you spend at work?" Have students use their fingers to indicate their answers. One finger is 10%, Two fingers is 20 percent, etc.

» Print out the STEM Career Wall signs: STEM Career Wall poster (or make your own), STEM/NON-STEM signs, STEM Skills poster (print on 11x17)

» Identify a permanent place in the classroom to display the STEM Career Wall materials (wall, bulletin board, whiteboard) and hang them up before students come into class.

Classroom Artifacts

Example of a completed STEM Career Wall.

LEARNING PLAN

(2) Launch the STEM Career Wall Lesson

Use your launch activity to introduce our focus, such as:

» Using our STEM units to come up with a deeper understanding of what STEM is.

» Identifying and practicing STEM skills.

» Discovering where STEM is happening in our community - learning about STEM jobs that people in our community have as a way to do this.

» Direct students' attention to the STEM career wall and explain that we will be tracking jobs that we learn about that are related to our unit (sensors/3D printing), including focusing on identifying STEM skills.

» Introduce the STEM Skills Infographic. You may ask your students which STEM skills they feel most interested in developing during this unit, or which skills they feel confident experienced with already.

  • Consider having each student write down a personal goal related to a STEM skill or skills they would like to work on.

(3) Creating Career Profiles

» Prepare an example of a career profile to use with students on the first day.

  • Use the career profile sheet to model the format you will use.

  • Choose a career(s) that connects to the unit you will be teaching (you can find STEM jobs from MyNextMove to use as your example).

» Show the example STEM career profile (Controls Technician), making connections between skills on the STEM skills infographic and skills that are used in the job. Talk about how this person's work helps the community, and explain how we determine where to place the career profile on the STEM career wall. You could also prepare an example of a non-STEM job to display on this first day.

STEM Career Card Sort

» Gather/print Career Card Sort materials.

  • If you are only doing the first part of the career card sort activity with the STEM Career Wall, you only need to print the cards (double-sided).

  • The complete Card Sort lesson can be found here: Optional - STEM Career Card Sort Activity.

» Facilitate the STEM Career Card Sort activity, giving each student one career card and then asking them to stand along the Career Wall at either the STEM or non-STEM side or anywhere in the middle, depending on whether they feel the job is more STEM or less STEM.

» Have students talk to the people around them, sharing why they chose to stand where they did - how did they decide it was a STEM or non-STEM job?

» Invite students to move to a different place along the wall, based on their discussions, if they desire.

» Then, have each student share the career on their card aloud so that everyone can hear which jobs are on the STEM side vs. the non-STEM side.

» Ask if anyone disagrees with where a certain job is or if anyone has questions they're curious about.

» Lead the class to develop a working definition of a STEM job based on the activity, either in pairs, small groups, or as a whole class. Decide as a class on one working definition and record it on the board or somewhere that can be referred to/revised throughout the unit.

» OPTIONAL: Use Mentimeter or another digital word cloud program to have students create a digital word cloud of 'What is STEM?'

- Each student can contribute words to the word cloud from their Chromebook or device once you set up the Mentimeter and share the link with them.
- You could also create a physical word cloud on paper.

» If there is time, have students look up the career that was on their card using the MyNextMove website to learn about the skills used in that job.

- Note: not all jobs on career cards are necessarily part of the MyNextMove website. Consider choosing in advance which cards to use based on the ones that match with MyNextMove.

PART 2: WRAPPING UP THE STEM CAREER WALL ACTIVITY

- Do this activity at the end of the Sensor Immersion, 3D printing, or technology-focused unit.
- This activity will probably take 40-50 minutes to complete

4 Use the STEM Career Wall to Facilitate a discussion about STEM Careers

» Make a copy of the My Career Profile template doc that you can share with your students - each student will need to make their own copy of the template to complete and print out.

» Each student will need a laptop and access to the MyNextMove website.

» Gather students around the STEM Career Wall and lead a discussion to revisit the focus of the STEM Career Wall Introduction activity.

- Use our STEM units to come up with a deeper understanding of what STEM is
- Identify and practice STEM skills.
- Discover where STEM is happening in our community - learning about STEM jobs that people in our community have as a way to do this.

» Use the STEM Career Wall to help students identify what they learned about STEM in their community throughout the unit.

- What do all the STEM careers have in common?
- How do STEM careers help my community?

LEARNING PLAN

⑤ **Creating a Class Definition of STEM and STEM Careers**

» Come up with a final definition of STEM as a class. Like before, they can work in pairs or small groups, and then share ideas to construct a definition of STEM as a class. Record the definition and compare it to the working definition from the beginning of the unit.

- How has our definition changed?

» **OPTIONAL:** Use Mentimeter or another digital word cloud program to have students create a digital word cloud of 'What is STEM?'

- Each student can contribute words to the word cloud from their Chromebook or device once you set up the Mentimeter and share the link with them.
- You could also create a physical word cloud on paper.

» Ask students if there were any careers on the career wall that they connected to that they would consider for their own future careers.

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⑥ **Have students create their own "My Career Profiles" to add to the STEM Career Wall**

Transition to creating My Career Profiles

» Give each student access to the My Career Profile template document

» Share the example student career profile of an acute care nurse, to explain what we will be doing.

» Direct them to the MyNextMove website (mynextmove.org) and give them time to research a career they are interested in.

» Complete the My Career Profile template, replacing [words in brackets] with their own words (name, career title, etc.).

» Allow students to take a picture of themselves and upload it to the My Career Profile template.

» Print students' career profiles

» Have students share their career profiles and hang them in the appropriate place on the STEM career wall.

» Make connections between STEM skills that they will use in their careers and those they used in the unit.