From a Distance

OBJECTIVES

Students will:

- **Explore** concepts related to remote working and efficiency.
- **Consider** how to adapt their workflow and techniques based on restraints.
- **Design** different workflow strategies and provide suggestions for improvement.

OVERARCHING QUESTION

How can we modify our workflow in order to be as effective as possible, given constraints?

STANDARDS

ITEAA Standards for Technological Literacy

- **Standard 1: Scope of Technology**
  In order to comprehend the scope of technology, students in grades 6–8 should learn that:
  - **F.** New products and systems can be developed to solve problems or to help do things that could not be done without the help of technology.
  - **G.** The development of technology is a human activity and is the result of individual or collective needs and the ability to be creative.
- **Standard 17: Information and Communication Technologies**
  In order to select, use, and understand information and communication technologies, students in grades 6–8 should learn that:
  - **K.** The use of symbols, measurements, and drawings promotes clear communication by providing a common language to express ideas.

Common Core English Language Arts

- **Writing:**
  - **W.4:** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- **Speaking and Listening:**
  - **SL.1:** Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
  - **SL.2:** Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

STEM Careers Coalition

Instructional Note

The following activity has been designed so you can tailor it to your current mode of instruction.

- The *Introduce* and *View & Reflect* sections can be presented in-person, virtually, by video, or through a shared document.

- The *Challenge* section is designed for students to complete independently at home or at school using the accompanying *Challenge* handout. Students can print and fill out the handout or answer the questions separately in a format that can be shared with you.

- The *Conclude* section can be completed in several ways. This activity can be incorporated at any point during the school day during remote learning by having all other students mute their microphones. If school is back to in-person learning, students can present to the whole class, or you can divide students into 3–4 groups and ask each student to present to their groups. Feedback and discussions can be done as a whole group or by using the chat and poll features.

ACTIVITY OVERVIEW

Introduce

1. Begin with a one-minute partner brainstorm. Write "remote working" on the board and challenge pairs to jot down everything that comes to mind when they see this term.

2. When one minute is up, invite pairs to summarize what they brainstormed in order to create a definition of the term.

3. Invite pairs to share the definition they developed. Once students have shared their ideas, summarize students' responses by explaining that remote working is a working style that allows professionals to work outside of the traditional work environment, either by using technology or by completing work and submitting it in person later. When applied to students, this is called "remote learning."

4. Then write the following question on the board and challenge the class to consider: Can remote working be completed effectively? Why or why not?

5. After receiving students' thoughts, wrap up the lesson mentioning that the class is going to watch a video about Tanya Stephens, who is a Senior Innovation Leader and Global IT Director at Proctor & Gamble. Having just begun an important research and development project in their labs, she had to come up with an innovating way to continue the work when the labs were unavailable during COVID-19!

View & Reflect

1. As students watch the video, encourage them to keep the focus question ("Can remote work be completed effectively?") in mind.

2. When the video is complete, encourage students to find their partner from the first brainstorm activity.

3. Students will be playing the traditional game of rock-paper-scissors, with the addition of the following rules.

   - Each time a student wins, they must answer the focus question with a "yes" or "no" *and* do one of the following:

     o provide a supporting reason from the video.

     o provide an example from their own experiences with remote learning.

4. When most pairs finish playing, encourage them to show you with a head nod or shake: Can remote work be completed effectively?

5. Invite 2–3 students to elaborate on their answers. Then ensure students understand that to be effective, workflow must not suffer in quality or efficiency! During COVID-19, remote working became the norm, mandatory in many cases. Therefore, professionals like Tanya Stephens had to be extremely innovative to make sure that they could still complete their work effectively!

CHALLENGE

1. Explain that, like Tanya Stevens had to figure out how to continue her research without entering a lab, the class will now take on a similar remote working/learning challenge. More specifically: Each student will be challenged to design a working/learning plan for completing typically in-person tasks... from a distance!

2. Distribute the *Challenge* handout to each student. Review the instructions together, and be sure students understand that they will eventually be using these plans to communicate their ideas to their peers.

CONCLUDE

1. Provide time for student pairs to communicate their remote working/learning plans to each other. Refer to the Instructional Notes included on Page 1 for ideas on how to tailor this to your current mode of instruction.

2. Then wrap up with a full-class discussion about the remote working/learning strategies that the students employed. Consider: What strategies made it easy to complete tasks? What barriers or challenges continued to stand in the way? How could students have designed their plans differently for better results? Consider using this as an opportunity to analyze your school's remote learning plan implemented during COVID-19 to determine areas for growth!

Directions: Read the Background section below to learn about different types of remote working/learning. Then complete Parts 1–3 as you consider how you could design a remote working/learning plan for completing typically in-person tasks.

Remote Working/Learning Background

There are several ways to work or learn remotely. Each of the working types below can function on their own or can be paired with others.

- **Telecommuting** refers to using technology such as email, in-network chatting applications, online conferencing software, telephone calls, shared drives, etc. to work fully from a remote location while still able to collaborate with colleagues.

- **"Work From Home" Days** rely on the professional completing work and projects independently from a remote location then submit them to supervisors or teams later.

- **Flipped Learning** is when teachers assign lectures, presentations, and reading material for students to complete outside of the school day, so they are free to actively work on problem solving during class, either in person or virtually.

- **Virtual Learning** relies on online learning management systems and/or online conferencing software to allow students to learn in a fully remote setting. Class is conducted virtually, and all assignments are submitted online.

- **Learning Kits** are packets or boxes that are filled with learning materials that can be picked up by or delivered to students, so they can engage in hands-on learning from a remote location.

- **Hybrid Learning** is when students receive a schedule of days on which they attend in-person learning and those on which they participate in virtual learning.

Part 1: Determine Typical Tasks

In the first column of the chart below, record five typical learning tasks that you are asked to do on a school day. Consider all your classes, including PE, Art, Music, etc. Then, think about what you know about the tasks that professionals, engineers, scientists, doctors, tradesman, etc. do daily while they are working. Record five typical work tasks in the second column.

AT SCHOOL	AT WORK
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

Part 2: Determine Remote Learning Solutions

For each of the five learning tasks you identified above, record what the remote learning solution was during COVID-19. Determine whether you think it was effective and write "yes" or "no" in the third column.

LEARNING TASK	REMOTE SOLUTION	WAS IT EFFECTIVE?
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.

Part 3: Designing a Remote Working/Learning Plan

Choose one of the tasks you brainstormed during Part 1. If there is a work task you are unfamiliar with, you might have to research what is involved in completing it. Then, review the various types of remote working and learning and design a plan that would allow the typical in-person task to be completed *efficiently* and *without loss of quality* in a remote setting. This might involve innovating on the current practice or designing a completely unique process! Keep in mind your remote solution might involve multiple steps or combining work types.

TASK:	
Remote Solution	
Materials Needed	
Quality Control	*How would you ensure that work is still high quality and efficient?*
Why is This Better?	