Possible Futures
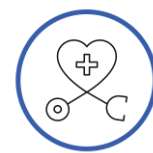
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Facilitator Guide:
How to Prepare for This Lesson

STEMPLORATION

Health Sciences – Lesson 11

Safety and Epidemiology

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About this Facilitator Guide

This facilitator guide provides the details to help you enable students to complete the lesson on **Safety and Epidemiology**.

Instructions for using the SCORM files in Blackboard and Canvas can be found at this link. Instructions for using Flipgrid can be found in this guide.

While this lesson is designed for online learning, you will find information in this guide about In-Person Learning Adaptations to help you facilitate your students who may be completing this lesson in the classroom instead of online. Call-outs will provide guidance on how to adapt various activities for in-person learning.

Before You Get Started

Before you get started with this lesson, please be sure to:

- Read through the facilitator guide.
- Download SCORM. (You will only need to add SCORM once. After that, you will be set to use SCORM for any remaining lessons.)
- Review the Rise lesson.
- Prepare any resources needed for the lesson.
- Set up Flipgrid.

Flipgrid Instructions – Setting up Flipgrid

Both educators and students will need to set up Flipgrid for use.

Educator Step-by-Step Guide

Set up your free educator account at Flipgrid.com and create a **Topic** for the class. Please copy and paste the heading from the facilitator guide that pairs with the Flipgrid so that the topic aligns with student expectations. A Topic is a discussion prompt for students. Students respond to the Topic with a short video using our fun, social-media-style camera. Students can watch and comment on videos from peers, with the educator in complete control.

1. ## Create a Topic

   Topics start the conversation in Flipgrid. Just write a prompt and include anything for students to review before responding, such as videos and links.

   When you create a new Topic or Group, a Join Code is automatically created for it. To share the Join Code to your Topic or Group, log in to your educator account and select the blue Share button to access your Join Link and Join Code, as well as other ways to share your discussion.
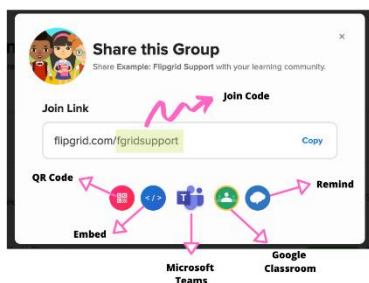
   The Join Code also creates a link. Copy/paste the link in emails, texts, social media, Google Classroom, or other websites to invite your students to join. You can download/print QR codes for students to scan on the Flipgrid app. The Flipgrid app and flipgrid.com offer a QR scanner on the homepage.

   The student receives the Join Code in the form of a link, a code, a QR code, or a guest username and password. The student can then enter the student username or password.

2. Set Access and Share

After creating the Topic, choose how students will access it. If they have email addresses, add the domain (everything after the @ symbol in their email address). If students do not have email addresses, create usernames for each student. Invite families and guests by adding a guest password.

Share the Topic by using one of the Share buttons or copy and paste the unique Join Code wherever you connect with your community.

3. Students Respond

After entering the Join Code, students gain access by logging in via email or username.

Students can share their voices by recording a short video with Flipgrid's fun, simple, and powerful camera. It is packed with everything they need to tell their story, including text, emoji, inking, boards, screen recording, and the ability to upload clips!

References:

Educator Step-by-Step Guide
Educators: A Teacher's Guide to Flipgrid [YouTube]
Educator Guide to Flipgrid

Student Step-by-Step Guide
A student can create a video to submit to the educator in a few easy steps!

1. Locate the Join Information From Your Educator
   Your educator would have given you one of these ways to join the discussion:

   ● A Join Code (e.g., FGrid3567, a591dc5d) or a QR code
   ● A Join Link (e.g., https://flipgrid.com/FGrid3567, https://flipgrid.com/a591dc5d)
   ● If you don't have a school-provided email, then a unique username or guest password
     Flipgrid works on most web browsers and mobile devices. Microsoft Edge or Google
     Chrome is recommended for the best web experience. For easy access to
     Flipgrid, download the Flipgrid extension. On mobile devices, download the free
     Flipgrid app for iOS and Android devices.

2. Join the Discussion
   Get the educator's discussion by using the link or code provided by your educator in Step
   1.
   ● If you have a Join Link, select that link.
   ● If you have a Join Code,
       o Go to your web browser and enter https://flipgrid.com. You'll see an area to
         enter a Join Code. Type the Join Code and press Enter on your keyboard.
       o On the Flipgrid mobile app, enter the code.
   ● If you have a QR code, scan the QR code with your device camera or the Flipgrid
     mobile app.

   You'll see a prompt to log in. Enter a student username or a password. If your student
   username or password is not working, be sure to double-check the case and space
   sensitivity.

   **Tip: If you're prompted to log in, choose Google if your school uses
   Google Classroom, Docs, and Drive. Choose Microsoft if your school uses
   Word, OneDrive, or Microsoft Teams.**

3. Record and Submit
   Once you've joined, you'll see your educator's Topic or discussion prompt. Follow the
   instructions and when you're ready to record, select the red Record a Response button or
   the Flipgrid logo for the camera to start.

When you're in the Flipgrid camera, you can record a video in these three easy steps:

- Tap to record: Tap the record button on the bottom to start. Add fun stickers, filters, text, and more. Tap the arrow on the bottom-right to advance.

Review your video: Trim, split, rearrange, or add more. Tap the arrow on the bottom-right to advance.

Submit your video: Edit your cover image and name, add a title, or attach a link. Then submit!

The Flipgrid camera offers a lot of fun and creative ways for you to share your ideas and voice! Check out all the camera features here. Learn how to import a custom video or how to include a screen recording.

References:
Getting Started: Students
Getting Started with Flipgrid - Students [YouTube]

Using Editable PDFs

Most lessons include the use of an editable PDF for students to capture responses to questions and other activities.

Guiding language is included in the lesson to help students access and use the editable PDFs where they appear.

For students who will be using Chromebooks, they need to use the Print to PDF function to save their editable PDFs to their device. Here's how to do this:

1. Open the editable PDF and select CTRL + P.
2. Open the file destination where the file will be saved.
3. Select Save as PDF.
4. Select Print. Your document is now "printed" as a PDF file which will save your work.

PDFs cannot be submitted via the Rise activities. If you plan to collect these documents for career planning portfolios or grading, you will need to coordinate that with your students.

To view a video on using Flipgrid and editable PDFs in the lessons, select this link.

Ask an Expert Interviews (Optional)

You may choose to include an "Ask an Expert" interview in this lesson.

An interview provides an opportunity for students to talk with and ask questions of experts who work in various professions to learn about their career journeys, current job roles and responsibilities, and glean valuable insights.

Additionally, an interview also provides the following benefits to the students:

- Real-world information about careers
- An awareness of the workplace habits and interpersonal skills needed to succeed in any job
- Further encouragement to go to college or post-secondary training, apprenticeship, etc., and get ready for the career of their choice
- An understanding of the fact that each person's career journey is unique and that most people encounter obstacles and challenges that they must overcome to reach their goals

When selecting experts to participate in the small group interviews, look for "down to earth" people who you think are good speakers and who would be comfortable talking to young students, ages 12 to 14. An ideal ratio is one expert for every five students.

There are two options that can be used if you choose to use an Ask an Expert interview:

- Schedule a Zoom/Skype call with an expert in the field.
- Find an existing YouTube video of an expert to share with the students.

In-Person Learning Adaptation: For in-person learning, project/share the Zoom/Skype call with an expert with your class. YouTube videos may also be projected/shared in-person. You can consider facilitating further discussions on the key takeaways from the session and/or a specific topic discussed in the session.

Review the following resource for additional information:

Career and College Exploration Experiences: Planning for Success

How to Implement This Unit

In this unit, students will follow the case of a young skateboarder from accident to recovery. Students will be introduced to the skateboarder in Lesson 1 and then meet up with him in other lessons throughout the unit as he receives care from different kinds of allied health professionals. For students to get the most value from this unit, please plan on implementing all lessons in this unit in sequential order.

When it may not be possible to implement the entire unit, we recommend implementing the following lessons to support optimum student learning based on the time available:

- Mini Unit: Lessons 1 through 5 in sequential order
- Standalone Lessons: Lessons 1 through 11 can each be used as standalone lessons.
- Pairs: Lessons 8 and 9; Lessons 3 and 11; Lessons 7 and 11; Lessons 1 and 8
- Trios: Lessons 4 through 6; Lessons 2 through 4

Alignment of Learning Outcomes

The program learning outcomes for Possible Futures 2.0 are:

A. Gain awareness of and exposure to a wide array of careers.
B. Increase self-awareness and begin to form their potential occupational identity.
C. Develop employability skills.
D. Develop foundational technical skills as appropriate.
E. Be positioned to make more informed educational choices.
F. Transition to high school with an actionable plan for next steps.

The curriculum learning outcomes for the Health Sciences unit are:
1. Students learn the basics of first aide and health sciences.
2. Students explore career options within the health sciences industry.
3. Students identify their strengths and interests in the field of health sciences.
4. Students connect their strengths and interests in the field of health sciences to potential careers.
5. Students explore the local labor-market data and education opportunities for careers in the field of health sciences.

The Arizona Career Literacy Standards for grades 5 through 8 can be found at this link.

This lesson's learning outcomes align with the program learning outcomes (PLOs), curriculum learning outcomes (CLOs), and Arizona Career Literacy Standards (CLSs) as follows:

CLOs	Lesson Learning Outcomes	PLOs	CLSs
2, 4	Explain the role of a data analyst.	A, B, E	1.0
4	Explain how statistics and patterns can help us make informed decisions as a community.	C, D	2.0, 3.0, 4.0, 6.0
1, 5	Understand what statistics are and how they are used in the Allied Health field.	B, C, D, E	2.0, 3.0, 5.0

Tracking Completion of Lessons

If you are using SCORM Cloud or Canvas with the lessons in this unit, completion tracking options are available. If you are not using either platform, please determine if and/or how you plan to track the completion of lessons by the students.

Lesson 11 Components

Guiding Question

The guiding question is intended to provide a focal point for each lesson. This lesson's guiding question is:

Do I Really Need to Wear a Helmet?

Lesson Overview

In this lesson, students explore the field of epidemiology as a health data analyst at the Centers for Disease Control. The lesson revolves around the example of a skateboarder who is resistant to using helmets when engaging in sports activities that have a risk of violent impact to the head—skating, skiing, and cycling and similar injury prone sports.

Students learn the importance of wearing helmets by looking at data on death and injury from not wearing helmets.

Vocabulary in This Lesson – Flip Card Activity

Students should use the flip card activity to familiarize themselves with key vocabulary terms and definitions for this lesson.

- **Epidemiology:** The study of how disease spreads and can be controlled
- **Statistic:** A number that represents a piece of information (such as information about how often something is done, how common something is, etc.)

- **Trends:** A general direction of change: a way of behaving, proceeding, etc., that is developing and becoming more common
- **Inference:** The act or process of reaching a conclusion about something from known facts or evidence

Learning Targets

By the end of this lesson, students will be able to:

- Explain the role of a data analyst.
- Explain how statistics and patterns can help us make informed decisions as a community.
- Understand what statistics are and how they are used in the Allied Health field.

Data Analyst Scenario

Students begin by returning to the skateboarder scenario, this time in the role of a data analyst in the hospital. The scenario is presented to students in a series of cards known as the process cards on Rise. They navigate through this by using the arrows on either side of the cards.

Students assume the role of a data analyst specializing in Traumatic Brain Injury (TBI), whose work is to maintain statistics of health-related states or events, including diseases.

> **In-Person Learning Adaptation:** For in-person learning, teachers can discuss the role description of a Data Analyst. Teachers can even consider doing a role- play.

Do Helmets Really Work? – Video

In this section, students consider whether or not helmets are truly effective and how statistics help answer this question. Students learn the basics of statistics and how they are used to inform policies and practices in healthcare and other areas of life by watching this Statistics - Introduction to Statistics [video](#).

> **In-Person Learning Adaptation:** For in-person learning, teachers can show the video in class and discuss student observations.

Reflection

In this section, students reflect on this question:

● What do you think about when you hear the word statistics?

Then they learn about the career of a data analyst and the role statistics play in their job
.

Mystery Data Activity

In this section, students consider a single, mystery data chart with no additional information. Students are asked to make predictions as to what the data might represent. Students will see a series of process cards on Rise, which they can navigate using **<** or **>** arrows. As the students move through the slides, students are given more context for the data. Students are challenged to draw a conclusion about the efficiency of helmets based on the final slide.

After completing the Mystery Data Activity, students download the editable PDF document for this lesson titled "Lesson 11 - Health Sciences Safety and Epidemiology - Editable PDF." They respond to the prompt in the "**Mystery Data Activity**" section of the PDF. The following information is in the PDF:

"In the mystery data exercise, you developed a hypothesis that attempted to explain the observed trend. Now, based on your inferences about the data, what conclusions can we draw about helmets?"

How Do Helmets Work? – Video

In this section, students watch a watermelon and helmet experiment in the How DO helmets work? Let's use science to find out! video.

> **In-Person Learning Adaptation:** For in-person learning, teachers can show the video in class and discuss student observations.

After watching the video, students open or return to the already downloaded editable PDF document for this lesson titled "Lesson 11 - Health Sciences Safety and Epidemiology - Editable PDF." They respond in the "**Do Helmets Really Work?**" section of the PDF to the following prompt:

"Now that you have watched the video "How Do Helmets Work? Let's Use Science to Find Out?" answer the following question: In your own words, how do helmets work?"

Order it! 5 Top Reasons to Wear a Helmet

In this section, students open or return to the already downloaded editable PDF document for this lesson titled "Lesson 11 - Health Sciences Safety and Epidemiology - Editable PDF." They respond in the "**Order it! Top 5 Reasons to wear a helmet"** section of the PDF to the following prompt:

"What do you think are the top five reasons to wear a helmet? Order your choices from most important to least important and explain why."

Thinking About Your Future

At the end of the lesson, students will see the following statement on Rise: "In this lesson, you explored the health data analyst career."

Before moving on to the next lesson, think about the following questions:

- Do you find analyzing data interesting?
- What new perspective do you have of analyzing statistics?

Career Pathways

At the end of each lesson, students will be reminded that it is never too soon to start exploring future career options! Encourage students to check out this resource to help them learn about:

- Various jobs in the Allied Health Sciences field
- Projected growth
- Potential earnings

Students can access the resources at this link: Pipeline AZ Career Search.

Lesson Completion

At the end of the lesson, students will see the following message on Rise:

"You have now successfully completed this lesson on safety and epidemiology!"