

Possible Futures



Facilitator Guide: How to Prepare for This Lesson



STEMPLORATION

Health Sciences – Lesson 3

Exploring the Emergency Room

Table of Contents

About This Facilitator Guide	3
Before You Get Started	3
Flipgrid Instructions – Setting up Flipgrid	4
Using Editable PDFs	7
Ask an Expert Interviews (Optional)	8
How to Implement This Unit	9
Alignment of Learning Outcomes	9
Tracking Completion of Lessons	10
Lesson 3 Components	11
Guiding Question	11
Lesson Overview	11
Vocabulary in This Lesson – Flip Card Activity	11
Learning Targets	11
What's the Thing?	12
Brain, It's a Dangerous World	12
Protecting the Brain	12
Brain Stations	13
CT Scans	13
What's Wrong With the Brain? – Healthy Versus Injured Brain	13
Ouch! Brain Injury Matchup	14
Quick Write	14
Flipgrid Activity – Let's Talk About It	14
Thinking About Your Future	15
Career Pathways	15
Lesson Completion	15
Extended Activity – Protecting the Brain Demonstration	15

STEMPLORATION

Health Sciences – Lesson 3

Exploring the Emergency Room

About This Facilitator Guide

This facilitator guide provides the details to help you enable students to complete the lesson on **Exploring the Emergency Room - Where Do We Start?**

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.

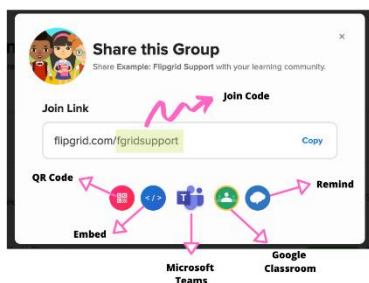
Educator Step-by-Step Guide

Set up your free educator account at [Flipgrid.com](https://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,
 - 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.
 - 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 the student username or 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

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	Describe the role of a Radiology Technician.	A, B, E	1.0
2, 3, 4 5	Define why it is important to make informed career choices.	E	1.0
1	Use subjective and objective information to make sense of an emergency situation.	D	2.0
1	Use evidence to form a hypothesis.	D	2.0
1	Make inferences when reading CT scans.	C, D	2.0, 5.0
1, 3, 5	Justify thinking using evidence.	C, D, E	2.0

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 3 Components

Guiding Question

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

- **Where Do We Start?**

Lesson Overview

In this lesson, students I review different types of careers and events that take place in the emergency room and get a good look at the brain and its functions. Students continue to follow the medical journey of the skateboarder and his experience with getting a CT scan.

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.

- **Inference:** The act or process of reaching a conclusion about something from known facts or evidence
- **Analyze:** To study (something) closely and carefully: to learn the nature and relationship of the parts of (something) by a close and careful examination
- **Justify:** To provide or be a good reason for (something): to prove or show (something) to be just, right, or reasonable
- **Evidence:** Something which shows that something else exists or is true

Learning Targets

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

- Describe the role of a Radiology Technician.
- Define why it is important to make informed career choices.
- Use subjective and objective information to make sense of an emergency situation.
- Use evidence to form a hypothesis.
- Make inferences when reading CT scans.
- Justify thinking using evidence.

What's the Thing?

In this section, students will read a passage and they are asked to guess the common “thing” that’s being referred to. They will see the following instructions on Rise:

“Next, you will be reading a passage about a common thing. As you read the passage, think about how the comprehension task relates to brain injuries and recovery. Once you have finished reading, you must guess what the thing is.”

Once they read the passage, they will see the correct answer on a flip card. They will also see information that tell them what this activity intends to demonstrate.

In-Person Learning Adaptation: For in-person learning, teachers can ask students what the “thing” could be before revealing the answer.

Brain, It's a Dangerous World

In this section, students will learn about the different parts of the brain and what they control. They will see an image of the brain with several hotspots on it. The students will need to select each hotspot to reveal more information. They will see the following instructions on Rise:

“In the following interactive, select each marker to learn what the different parts of the brain are and what they control.”

In-Person Learning Adaptation: For in-person learning, teachers can project the image with hotspots in class and discuss various parts of the brain and their functions.

Protecting the Brain

Students are asked to watch the [iBrary - Rookie Science - Brain Protection](#) video explore how the brain is protected. They will see an example of how an example of how the skull and the

cerebrospinal fluid work together to protect the brain.

Brain Stations

This section provides an overview of the various lobes in the brain, their functions, and explores how these functions can be interrupted due to brain injuries. The students will use a Rise activity with tabs that have titles of the sections. They need to select each tab to explore more information. Once students review the tab activity, they will see more information about the different symptoms that patients with brain injury may experience.

CT Scans

In this section, students return to the skateboarding scenario and move on to understand the role of a Radiology Technician in administering and evaluating the scan of the brain to determine the type and extent of the brain injury. Students are asked to watch the [How Does a CT Scan Work?](#) video to understand how CT scans work.

They will also review the elements of a healthy brain scan along with an image that shows what a healthy brain scan looks like.

In-Person Learning Adaptation: For in-person learning, teachers can show the video in class.

What's Wrong With the Brain? – Healthy Versus Injured Brain

This section provides an overview of how a Radiologist studies a patient's CT scan images through an activity. Students are asked to review, compare, and contrast the images and definitions of the different types of brains using the flip cards shown in this section. They need to use the arrows to navigate through the flip cards.

Before they begin this activity, students are asked to download the editable PDF document for this lesson titled “Lesson 3 - Exploring the Emergency Room - Editable PDF” They will respond as instructed in the “**Healthy Versus Injured Brain**” section of the PDF. They will see the following instructions in the PDF:

“After reviewing the CT scans, record your observations. Record 1–2 details that you noticed about each scan image and description.”

In-Person Learning Adaptation: For in-person learning, teachers can show these scans in class and discuss the observations made by the students.

Ouch! Brain Injury Matchup

In this section, students look at the pictures and try to match the name of the injury to the image. They will see multiple choice questions to which they respond on Rise. They will see the following information on Rise:

“Radiologists go to school for years to learn how to read the images from medical scanning technology. You are not expected to get the right answers, but you are expected to reason through the images. Look at the pictures and try to match the name of the injury to the image.”

Quick Write

In this section, students review some important aspects of the role of a Radiologist in determining a brain injury. Once students review this information, they are instructed to respond to the questions in the “**Quick Write**” section of the PDF.

In the next section, students reflect on their experiences in the roles of a Radiologist and a Radiologist Technician.

Flipgrid Activity – Let’s Talk About It

In this section, students will use Flipgrid to discuss what they have learnt in this section.

The students will see the following instructions on Rise:

“Use the flipgrid to discuss what you have learned in this lesson. In your flipgrid exercise, answer the following questions:

1. How successful were you in matching the brain images to their definitions?
2. What helped you make correct inferences?
3. What strategies did you use when you were stumped or frustrated?”

Remind the students to **include your class hashtag in the title of the post.**

Thinking About Your Future

At the end of the lesson, students will see the following statement on Rise: “In this lesson, you explored one aspect of the emergency room which is working with the brain and the jobs of Radiologists and Radiology technicians.”

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

- Did you find the career of a Radiologist or Radiology Technician interesting?
- Could you see yourself performing CT scans for patients?

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:

“In future lessons, you will learn more about different aspects of the health sciences field. Topics will include blood and the human body, skin, and the operating room.”

Extended Activity – Protecting the Brain Demonstration

Materials Required:

- A plastic container with lid
- 2 Eggs
- Water

Teachers can also consider conducting an additional activity in class by providing the following instructions:

-
1. “The egg represents the brain. The plastic container represents the skull. If the skull is the only thing protecting our brain, what will happen?”
 2. Place egg in container and cap.
 3. Shake the container.
 4. What else could you add to the container to ensure our delicate brain remains undamaged?
 5. In our brain, we have another layer of protection, the cerebrospinal fluid. Will this be enough to help protect our brain from impact?
 6. Add a new egg to a container. Fill with water. Cap.
 7. Shake the container.

From this model, we see an example of how the skull and the cerebrospinal fluid work together to protect the brain. However, an intense impact to the head can still result in brain damage, especially if the skull is not protected by a helmet. Unfortunately, our patient was not wearing a helmet.”