

Cybersecurity



Facilitator Guide: How to Prepare for This Lesson



Lesson 2 – Cyber Threats

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About this Facilitator Guide

This facilitator guide provides the details to help you enable students to complete the lesson on **Cyber Threats – How can cyber threats affect me and others?**

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, login to your educator account and select the blue Share button to access your Join Link and 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 a student username, or a 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's 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, click on 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 a 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, click the red Record a Response button or the Flipgrid logo for the camera to start.

When you're using 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, students will 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 to.
- 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, interviews also provide the following benefits:

- 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 per 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 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 time available:

- Best Practice: All 12 lessons in order
- Mini unit: Lessons 1 through 4 (5 is an optional addition)
- Standalone lessons: 1, 2, 3, 4, 5, 6, 7, 8, 9, and 12
- Trios: Lesson 9, 10 and 11

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 Cybersecurity unit are:

1. Students learn the basics of digital life and cybersecurity.
2. Students explore career options within the cybersecurity industry.
3. Students identify their strengths and interests in the field of cybersecurity.
4. Students connect their strengths and interests in the field of cybersecurity to potential careers.
5. Students explore local labor market data and education opportunities for careers in the field of cybersecurity.
6. Students identify the benefits and risks associated with sharing information digitally.
7. Students evaluate the benefits and risks associated with sharing information digitally.

The Arizona Career Literacy Standards for grades 5 through 8 can be found at this [link](#).

The Arizona Computer Science Standards 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	CSSs
1	Define vulnerability.	D	2.0, 5.0	NI.C.2
1	Understand how vulnerabilities apply to cybersecurity.	D	2.0, 5.0	NI.C.2
1	Identify vulnerabilities.	D	2.0, 5.0	NI.C.2
1	Define cyber threats.	D	2.0, 5.0	NI.C.2

1	Understand different levels and impacts of threats on yourself and others.	D	2.0, 5.0, 6.0, 7.0	IC.SLE.1
1	Identify cyber threats and develop an awareness of sharing information digitally.	D	2.0, 5.0, 6.0, 7.0	IC.SLE.1 NI.C.2
1	Evaluate how to educate others about cyber threats.	B, C, D	2.0, 3.0, 5.0, 6.0, 7.0	IC.SLE.1

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 completion of lessons by students.

Lesson 2 Components

Guiding Question

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

- **How can cyber threats affect me and others?**

Lesson Overview

In this lesson, students are introduced to the concepts of vulnerabilities and cyber threats. First, they form a basic definition of a vulnerability. Then, they learn the various kinds of cyber threats and their basic definitions. Lastly, the students expand those definitions by reading articles about real cyber threats and identifying the types of threats and how they have impacted different companies.

Learning Targets

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

- Define vulnerability
- Understand how vulnerabilities apply to cybersecurity
- Identify vulnerabilities
- Define cyber threats
- Understand different levels and impacts of threats on yourself and others
- Identify cyber threats and develop an awareness of sharing information digitally
- Evaluate how to educate others about cyber threats

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.

- **Cyber threats:** Any kind of malicious activity that seeks or intends to steal, damage, or disrupt your device's applications. Cyber threats are sometimes referred to as cyber-attacks.
- **Cyberbullying:** Threats or harassment sent from one user to another online.
- **Fake Profile:** Someone who misrepresents themselves online and hides their identity.
- **Trolling:** Repeated unwanted actions taken towards a person or group.
- **Phishing:** The use of emails that try to trick people into clicking on malicious links. They use realistic branding to trick you.
- **Malware:** Malicious software designed to cause damage to data and system or gain access to a secure network.

- **Virus:** A kind of malware that is designed to spread from one computer to another, these self-copy and most often steal information or data.
- **Denial-of-Service (DoS attack):** A cyber-attack where the victim's computer activities are disrupted.
- **Hacker:** An individual or group that gains unauthorized access to a computer / application.
- **Vulnerability:** A form of weakness. In terms of cybersecurity, this weakness can lead to attacks.
- **Bad Actor:** Any individual with bad intentions that hopes to trick or deceive you online or in person.

Impact of a Digital Life – Video

In this section, students learn about vulnerability. A vulnerable system is easy for a hacker or bad actor to attack. The students also learn that if a hacker or bad actor penetrates the system, they will have access to sensitive information. They also learn about a few examples that might make a computer system vulnerable.

The students are then asked to watch a [What are Computer Vulnerabilities video](#) to learn about computer vulnerabilities. This video also helps the students identify the vulnerabilities they might have on their computer or other devices.

The students also learn about some of the negative ways bad actors can use their information against them. The students then watch a [Cybersecurity 101 video](#) to learn more about the importance of protecting their accounts against bad actors and simple measures they can take to protect themselves and their information.

In-person Learning Adaptation: For in-person learning, the facilitator can show the videos via a projector or a Smart board and ask students to discuss any observations or queries on the videos.

What are Cyber Threats? – Video

In this section, students learn what cyber threats are and the impact they can have on the digital lives of people. Students are introduced with some examples of cyber threats such as, viruses, malware, denial-of-service attacks, and phishing.

The students then watch [A Cyber Privacy Parable video](#) to learn the impact of cyber threat through an example. The students then watch the [Cyber Attack – What are Common Cyberthreats video](#) to review another example of a cyber threat. They also review information about the common types of cyber threats.

After watching the videos, the students are prompted to share what they have learned by completing the activity given in the **What are Cyber Threats?** section of this lesson's editable

In-person Learning Adaptation: For in-person learning, the facilitator can show the videos via a projector or a Smart board and ask students to discuss any observations or queries on the videos.

The facilitator can also take cues from the questions given in the editable PDF and ask the students to share their learning.

The facilitator can also do the following:

Divide the students into 5 groups.

Give each group a poster (computer, phone, social media, email, apps)

Assign each group a different colored marker.

Instruct students to brainstorm ways to prevent threats for

Discovering Cyber Threats in Real Life

In this section, students learn how cyber threats can impact society. The students then review a [MAP – Kaspersky Cyberthreat real-time map](#), which shows a cyberthreat real-time map with the number of cyber-attacks being detected around the globe right now.

The students are asked to choose two stories about real cyber-attacks from the list below or they are asked to select one and then go to the [Kaspersky Cyberthreat blog](#) and select one of their own to read about.

The students are asked to choose from this list:

[Chrome Browser Bug Under Active Attack | Threatpost](#)

[STEM Audio Table Rife with Business-Threatening Bugs | Threatpost](#)

[Steam Gaming Platform Hosting Malware | Threatpost](#)

[JBS Paid \\$11M to REvil Gang Even After Restoring Operations | Threatpost](#)

The students then decide what kind of threat is described in the stories they chose and share what they learned on Flipgrid.

Let's Talk About It - Flipgrid Share Out

In this section, students identify the kind of cyber-attack used in each story they read. They use the information in this article [Cyber Attack - What Are Common Cyberthreats? - Cisco](#) as a resource.

The students use Flipgrid to share their responses on the following questions in their video.

- Summarize each story.
- Identify and explain the type of cyber-attack.

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

Closing Reflection

In this section, students summarize what they have learned by answering the following questions in the **Closing Reflection** section of this lesson's editable PDF.

1. How can Cyber Threats affect you and your Digital Life?
2. Why do you believe cybersecurity is important?

Thinking About Your Future

At the end of the lesson, students see the following statement in Rise: "In this lesson you learned about computer system vulnerabilities and cyber threats."

Before the next lesson, think about how you might respond to these questions:

- Have you or anyone you know ever been the victim of any kind of cyber-attack? What happened?
- What kinds of things could you do to prevent that kind of attack in the future?

Career Pathways

Share the following with your students: "It's never too soon to start exploring future career options!"

Students can access the resources at this link, [PipelineAZ Information Technology](#).

Lesson Completion

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

In future lessons, you will learn more about computer networks and cybersecurity.