



## Introduction to Cybersecurity

### Guiding Question: *What is Cybersecurity?*

### Learning Targets:

Students will:

- Define cybersecurity
- Evaluate how the Internet of Things impacts cybersecurity.
- Evaluate the importance of cybersecurity in their lives.

### Lesson Overview

In this lesson, Young Professionals will be introduced to the topic of cybersecurity. First, they will be able to define cybersecurity. Then, YPs will recall previous lessons they have learned that connect to cybersecurity, so they will be able to describe the importance of cybersecurity. Next, they will read an article about the Internet of Things and how it relates to cybersecurity. Finally, YPs will reflect on the significance of cybersecurity.

### Lesson Agenda

<b>Opening</b>	<ul style="list-style-type: none"> <li>○ Assignment Review (15 minutes)</li> <li>○ What is Cybersecurity? (10 minutes)</li> </ul>
<b>Work Time</b>	<ul style="list-style-type: none"> <li>○ Total Recall (20 minutes)</li> <li>○ The Internet of Things and Cybersecurity (30 minutes)</li> </ul>
<b>Closure</b>	<ul style="list-style-type: none"> <li>○ Closing Discussion (5 minutes)</li> </ul>

## Materials

- Accompanying PowerPoint PDF
- Projector
- Speakers

## Facilitation Notes

Attributions

<https://www.youtube.com/watch?v=5k24We8pED8&t=101s>

<https://internetofthingsagenda.techtarget.com/definition/Internet-of-Things-IoT>

<https://youtu.be/NnB-iSrgbFY>

## In Advance

- Print article and divide into sections

## Vocabulary

- Cyber Security
- Internet of Things

## Opening

### Assignment Review (15 minutes)

Facilitator (F): *In the previous two lessons, we learned about digital threats and how to avoid them. Sometimes there are threats that are hard to avoid that we fall victim to by accident. Did you know there's a job for people who help protect us from these threats online? Before we begin today's lesson, let's go over your take home assignment.*

1. **Instruct** the students to gather at the front of the class.
2. **Designate** the **left** side of the room for those who have completed the task on the check list and **designate** the **right** side of the room for those who have **not** completed the task.
3. Go over the items on the checklist, and for each one, **instruct** them to move to either the left or right side of the room, depending on if they have completed that task.
4. **Ask** the students who have completed the task why they think it was important.  
Change my passwords to something different and unique. Make sure they are not all the same, and that they contain numbers and symbols.
  - **Look for or explain:** Passwords are the most common defense against someone gaining access to our data. Having a weak password makes it easier for someone to figure it out and access your information. Using the same password means that they only have to figure it out once to have access to all your accounts.

Set all my social media settings to “private.” Make sure none of my information is public.

- **Look for or explain:** It’s best not to share your private/personal information with strangers. Having it set to public means anyone can see it. In the wrong hands, that information may be used for something bad.

Update all my software to the latest version.

- **Look for or explain:** Software that is out of date (not the latest version) is vulnerable to attacks. Software updated to the latest version has fewer vulnerabilities, making it less susceptible to attacks and harder to hack.

Will not share any of my private information anywhere. Make sure you use nicknames and stay anonymous.

- **Look for or explain:** It’s best not to share your private/personal information with strangers. Having your private information with the wrong people may lead to something bad.

Backup my computer files to an external device.

- **Look for or explain:** In case something happens to your computer, it’s always a smart idea to have a backup of your data to an external device such as an external hard drive.

Delete and avoid suspicious emails.

- **Look for or explain:** Don’t open any suspicious emails. Doing so may infect your computer with a virus.

Limit the number of followers and friends I have on social media. Only follow or friend people you know.

- **Look for or explain:** Don’t just follow or friend random strangers. If you don’t know them and you accept their friend request, they will have access to your personal information. Only friend people you trust to prevent giving your information to bad people.

Avoid using public Wi-Fi (for example McDonald’s Wi-Fi)

- **Look for or explain:** Using public Wi-Fi means you’ll be using a network that is shared by many people. If a bad person is using that network, that person may gain access to your computer easily.

5. **Discuss** suggestions on the items left unchecked to help students complete their checklist.

## What is Cybersecurity? (10 minutes)

(F): *People are prone to error and can sometimes make mistakes when trying to protect themselves. To add an extra step of security, there are cybersecurity experts as the first line of defense. They can also be referred to as the police of the internet. Cybersecurity is about protecting people from unauthorized or criminal use or access to a person’s personal data.*

1. **Direct** YPs to <What is Cybersecurity?>
2. **Instruct** them to come up with one word that they think of when they hear the word “cybersecurity”.

3. **Have** them write their one word on **<What is Cybersecurity?>**
4. **Instruct** each student to share their word aloud with the class (They can sit in a circle and go around quickly saying each word).
5. **Show** them this video: <https://www.youtube.com/watch?v=5k24We8pED8&t=101s>
6. **Discuss** the video. **Ask** students to share some key points they took away from the video.
  - **Listen** for how information posted online is easily spread or can be used by others against you.

## Work Time

### Total Recall (20 minutes)

(F): *Let us recall our lesson on Digital Life and Digital Threats and how these topics relate to cybersecurity.*

1. **Divide** the class into four groups.
  - Group 1 represents digital activities
  - Group 2 represents digital footprint
  - Group 3 represents the digital threats to yourself and others
  - Group 4 represents cybersecurity
2. **Divide** your board or smart board into 4 sections (an alternative can be using posters).
3. **Direct** all groups to brainstorm how they participate in online activities and have them complete the chart in **<Total Recall>**.
4. **Invite** Group 1 to the board and have them list online activities they participate in.
5. **Ask** groups 2, 3, and 4 to share additional ideas that group 1 might have overlooked.
6. **Direct** all groups to add to **<Total Recall>** explaining how their digital activities affect their digital footprint.
7. **Invite** Group 2 to the board and have them list and explain how digital activities affect digital footprints.
8. **Ask** groups 1, 3, and 4 to share additional ideas that group 2 might have overlooked.
9. **Direct** all groups to add the potential digital threats associated with having a digital life to the **<Total Recall>** page.
10. **Invite** Group 3 to the board and have them list and explain the potential digital threats associated with the responses from Groups 1 and 2.
11. **Ask** groups 1, 2, and 4 to share additional ideas that group 3 might have overlooked.
12. **Direct** all groups to add to their **<Total Recall>** page answering how they believe cybersecurity impacts and relates to the responses from the previous discussion.
13. **Invite** Group 4 to the board and have them list and explain how they believe cybersecurity impacts and relates to the responses from Groups 1, 2, and 3.
14. **Ask** groups 1, 2, and 3 to share additional ideas that group 4 might have overlooked.

## The Internet of things and Cybersecurity (30 minutes)

(F): *The world is becoming more connected as more and more of the devices we use are becoming connected to the internet. We will discuss what the internet of things means, the growing threats as more devices connect to the internet and the impact on cybersecurity.*

1. **Divide** the class into four groups.
2. **Give** each group a different section of the article to read.  
<https://internetofthingsagenda.techtarget.com/definition/Internet-of-Things-IoT>
3. **Instruct** them to read and discuss their section within their group (they will be the expert on their section).
4. **Direct** YPs to form new groups, so each group is made up of 1 expert representing each section of the article.
5. **Instruct** them to share what they learned from their section of the article with the newly formed groups.
6. **Show** them this video: <https://youtu.be/NnB-iSrqbFY>
7. **Instruct** the class to form two circles: an inner circle and an outer circle, facing each other.
8. **Have** the students facing each other to **discuss** the following question:
  - *What devices do you own or are familiar with that you think are considered part of the internet of things?*
9. **Direct** students to change positions after answering the first question.
  - Example: Have the outer circle move 3 positions to the left and inner circle move to the right.
10. **Continue** to have them rotate after each question, varying directions each time. Questions may be repeated since they will be talking to different students and getting different answers. Add addition questions as needed.
  - *How are your devices vulnerable to digital threats?*
  - *How do you protect your devices?*
  - *Why do you think cybersecurity is important?*

## Closure

### Closing Discussion (10 minutes)

1. **Direct** students to respond to the following on their student sheets.
  - *What is Cybersecurity and why is it important?*
  - *How does it tie in with what we have learned about Digital Life and Digital Threats?*
2. **Share** answers using equity sticks.

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**Name:**

**Date:**

## **Introduction to Cybersecurity**

### **Today's Learning Objectives:**

I can:

- Define cybersecurity
- Evaluate how the Internet of Things impacts cybersecurity.
- Evaluate the importance of cybersecurity in their lives.

In this lesson, I will be introduced to the topic of cybersecurity. First, I will be able to define cybersecurity. Then, I will recall previous lessons I have learned that connect to cybersecurity, so I will be able to understand the importance of cybersecurity. I will then read an article to understand the Internet of Things and how it relates to cybersecurity. Finally, I will reflect on the significance of cybersecurity.

### **Today's Activities:**

- What is Cybersecurity?
- Total Recall
- The Internet of Things and Cybersecurity
- Closing Discussion

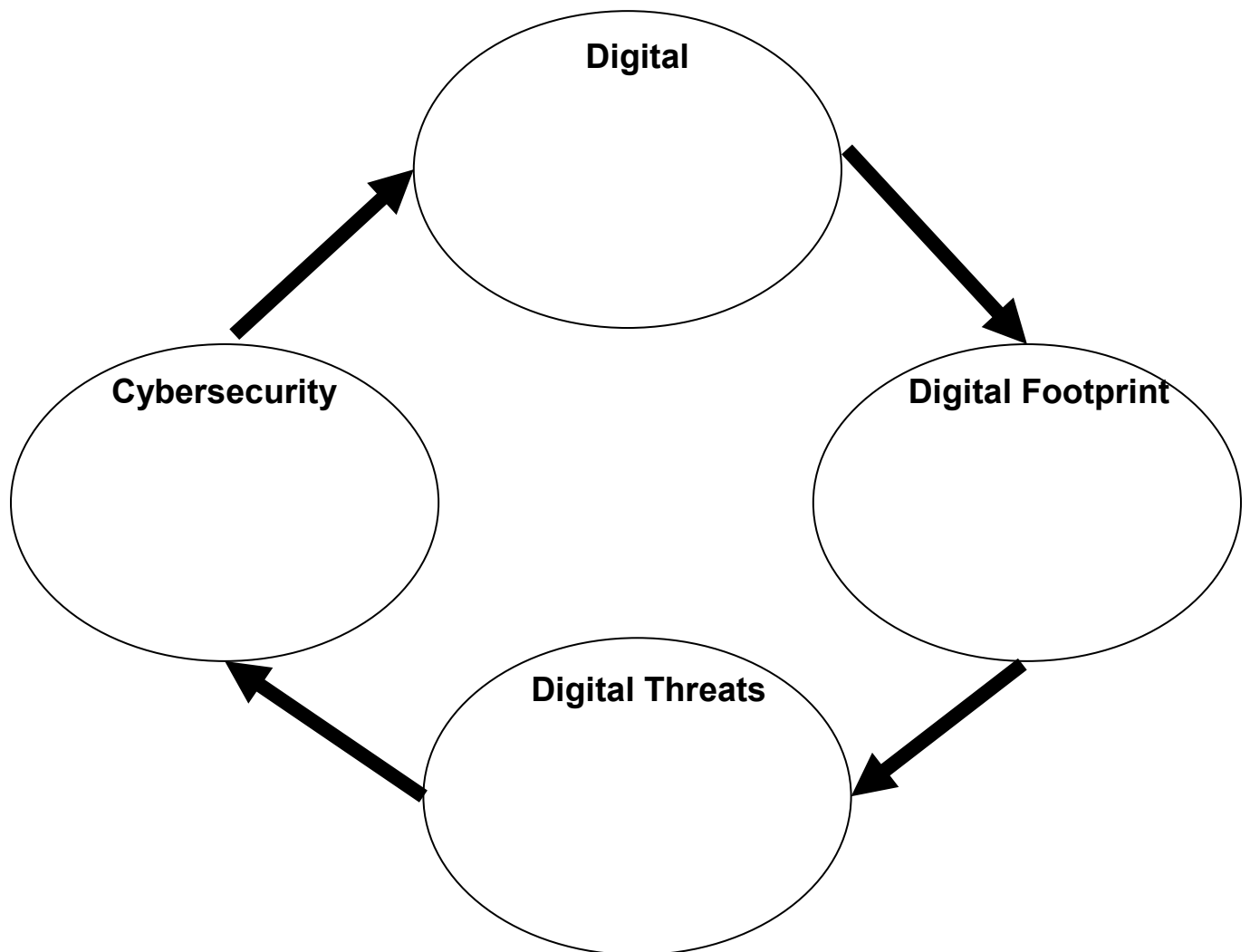
## What is Cybersecurity?

**Directions:** Write down one word you think of when you hear the word “cybersecurity.”

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## Total Recall

**Directions:** Brainstorm how you participate in online activities using the following chart.



## Closing Discussion

**Directions:** Please write down one key point for all the listed questions below.

1) Why is it important to understand and be responsible in your digital life?

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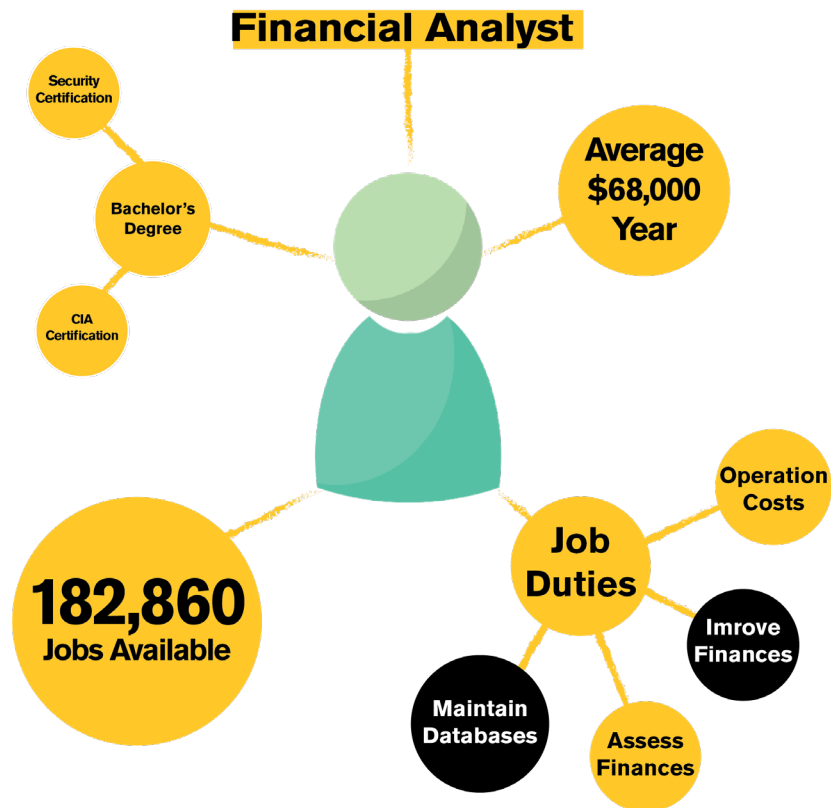
2) What are some threats associated with having a digital life?

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## Career Highlight\*



\* Financial Analyst Job Description. (2012, May 13). Retrieved from <https://hiring.monster.com/employer-resources/job-description-templates/financial-analyst-job-description/>.

Cybersecurity Career Pathway. (n.d.). Retrieved from <https://www.cyberseek.org/pathway.html>.

**Intro to Cybersecurity**  
Cybersecurity: Lesson 4