

# Smart Device, Smart Security

Cyber Safety Lesson Plan (10-12 years old)

This lesson teaches students about the Internet of Things (IoT) devices, the cyber risks associated with these devices, and how to ensure their security.

## Learning Objectives

Students will be able to:

- Identify IoT devices that are connected to the internet
- Implement basic security measures for personal smart devices, such as passwords and regular updates

## Duration


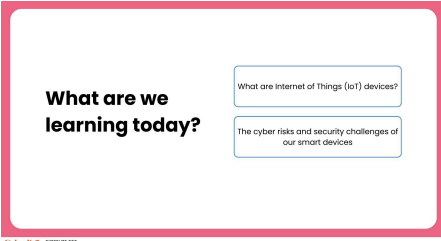

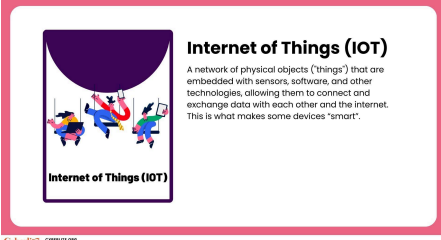
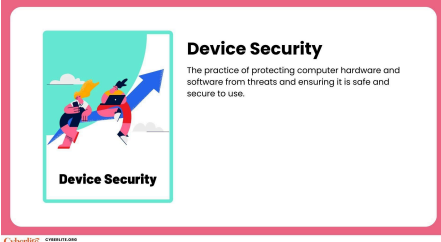
30 minutes

## Key Concepts

- **Internet of Things (IoT):** A network of physical objects ("things") that are embedded with sensors, software, and other technologies, allowing them to connect and exchange data with each other and the internet. This is what makes some devices "smart".
- **Device Security:** The practice of protecting computer hardware and software from threats and ensuring it is safe and secure to use.

## Internet Independent Framework

The learning objectives in this workshop are aligned with the Privacy and Information Security pillar of the Internet Independent Framework. Visit [cyberlite.org](https://cyberlite.org) for more information.

LESSON SLIDE	WHAT TO SAY OR DO
 <p>PRIVACY &amp; INFORMATION SECURITY</p> <p><b>Smart Device, Smart Security</b></p> <p>How smart is your device?</p> <p>Cyberlite</p>	<p>Welcome students to the lesson and briefly explain that today's lesson is about smart devices and how gadgets that are connected to the internet might post security risks.</p>
 <p><b>What are we learning today?</b></p> <p>What are Internet of Things (IoT) devices?</p> <p>The cyber risks and security challenges of our smart devices</p> <p>Cyberlite</p>	<p>Share the lesson objectives of what students will be learning today.</p>
 <p>WARM UP QUESTION</p> <p><b>What do you think makes a device "smart"?</b></p> <p>For example, a smart phone or a smart watch.</p> <p>Cyberlite</p>	<p>Encourage students to think about what makes a device "smart" by discussing examples like smartphones and smartwatches.</p>
 <p><b>Internet of Things (IoT)</b></p> <p>A network of physical objects ("things") that are embedded with sensors, software, and other technologies, allowing them to connect and exchange data with each other and the internet. This is what makes some devices "smart".</p> <p>Internet of Things (IoT)</p> <p>Cyberlite</p>	<p>Explain the concept of the Internet of Things (IoT) using simple examples, highlighting how these devices connect and communicate via the internet.</p>
 <p><b>Device Security</b></p> <p>The practice of protecting computer hardware and software from threats and ensuring it is safe and secure to use.</p> <p>Device Security</p> <p>Cyberlite</p>	<p>Discuss the importance of keeping these smart devices secure to protect personal information from unauthorised access by bad actors.</p>

<p><b>How many devices can you name that are connected to the internet?</b> Brainstorm as a group and write it on the board!</p> <p><small>Cyberlite CYBERLITE.ORG 2020. All rights reserved.</small></p> <p>Slide 6</p>	<p>Engage students in a brainstorming session to list as many internet-connected devices as they can think of, fostering awareness of the extensive presence of IoT in their lives.</p>
<p><b>Internet of Things (IoT) Devices</b></p>  <p>IoT devices are everyday objects that connect to the internet, like smartwatches, home assistants, and even some refrigerators!</p> <p><small>Cyberlite CYBERLITE.ORG 2020. All rights reserved.</small></p> <p>Slide 7</p>	<p>Highlight why IoT devices require protection, mentioning their constant internet connection makes them attractive targets for hackers.</p>
<p><b>Why do we need to secure our IoT devices?</b></p>  <p>IoT devices can be vulnerable because they're always connected to the internet, making them targets for hackers.</p> <p><small>Cyberlite CYBERLITE.ORG 2020. All rights reserved.</small></p> <p>Slide 8</p>	<p>Kick off with a discussion on various smart devices students are familiar with, emphasising how these gadgets make daily tasks easier but also pose security risks. Highlight why IoT devices require protection, mentioning their constant internet connection makes them attractive targets for hackers.</p>
<p><b>Securing our IoT devices</b></p> <p>Device security means protecting your smartphones, tablets, laptops, and other electronic devices from being hacked.</p>  <p>Use strong passwords      Update devices      Don't share personal information</p> <p><small>Cyberlite CYBERLITE.ORG 2020. All rights reserved.</small></p> <p>Slide 9</p>	<p>Share practical tips for securing IoT devices, such as regular software updates, using strong passwords, and being cautious about the personal information shared through these devices.</p>
<p>ACTIVITY</p> <p><b>IoT Device Detectives</b></p> <p>Can you find all the IoT devices that a hacker might access?</p> <p><small>Cyberlite CYBERLITE.ORG 2020. All rights reserved.</small></p> <p>Slide 10</p>	<p>Introduce an interactive activity where students identify potential IoT devices in different settings that could be vulnerable to hacking attempts.</p>

### Your Mission

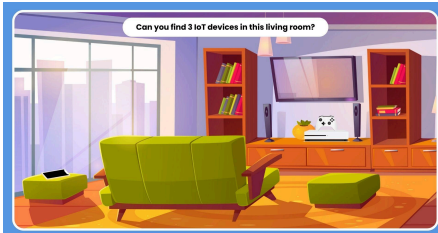
There are **three** IoT devices in every image. Can you find them all?

Ready? Let's Play!

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Slide 11

Conduct the detective activity with illustrations of different environments (living room, kitchen, classroom), asking students to spot IoT devices and discuss their security implications.



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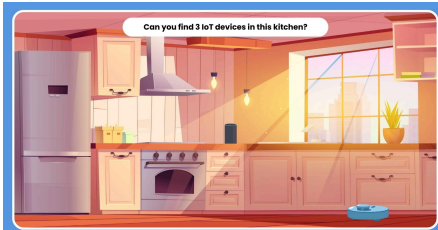
The three IoT devices in the living room are:

1. Smart TV
2. Smart phone
3. Gaming console



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Slide 12-13



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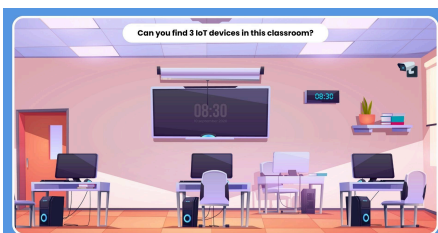
The three IoT devices in the kitchen are:

1. Smart refrigerator
2. Smart home assistant
3. Robot vacuum



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Slide 14-15



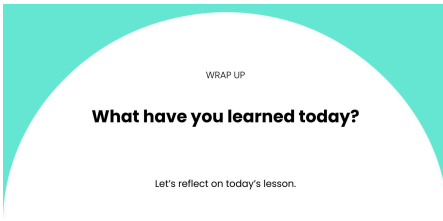
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The three IoT devices in the classroom are:

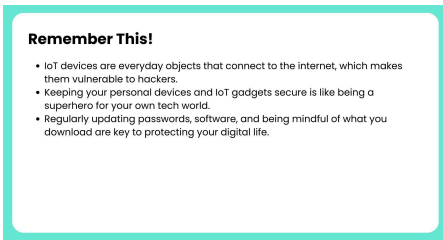
1. Smart interactive whiteboard
2. Computers
3. Security camera



Slide 16-17



Slide 18



Slide 19



Slide 20

Summarise the lesson's key points, and encourage students to share what they learned about protecting their smart devices.

Close with a reminder of the importance of maintaining smart security for smart devices, likening responsible IoT device management to being a "superhero" for their digital world.

Congratulate the students for their thoughtful participation and remind them to stay safe online!