MINECRAFT
EDUCATION
CYBER DEFENDER

What will we learn in this activity?

- I will define different types of cybersecurity attacks.
- I will describe how gates and towers represent real examples of defense-in-depth.
- I will explain the need for balance between adequate balance and allowing and organization to conduct business efficiently.

Getting started

Welcome!

Your help is greatly needed... Lord Byteguard needs you to help protect his berry farm from cybersecurity attacks!

What are cybersecurity attacks?

THINK

1

2

PAIR

SHARE

3

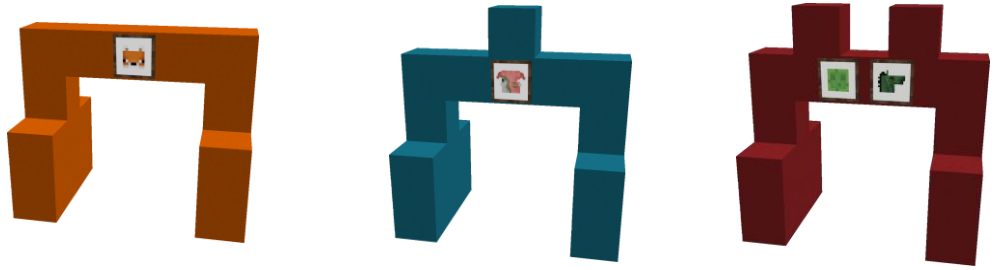
Objective of the Game

Hungry foxes and horses (friendly traffic) come out of the forest to purchase berries (data). Your marketplace (datacenter) exchanges the berries (data) for money. The evil Malcolm Warecraft is sending intruders (cyberattacks) to attack your berry farm.

Friendly Traffic	Cyberattacks

Objective of the Game

To help you protect the berry farm, you will earn coins from the friendly animals who will buy food from the marketplace. The coins can be used to purchase gates and towers for your defense strategy.

Gates	
Towers	

What are cybersecurity security controls?

THINK

1

2

PAIR

SHARE

3

Objective of the Game

Throughout the game, you will earn points. These points will accumulate towards cosmetic upgrades for the berry farm. You can keep track of your points – they will appear on your screen during game play.

How can you earn points?

- ❑ After each wave, you will earn points for every surviving berry plant on the farm.
- ❑ You will earn points for every attacker that is removed prior to reaching the berry farm.
- ❑ You will NOT receive any points if you must use your sword to remove an attacker from the berry farm. (**NOTE**: Your sword only appears if you cross over the red line to the berry farm.)

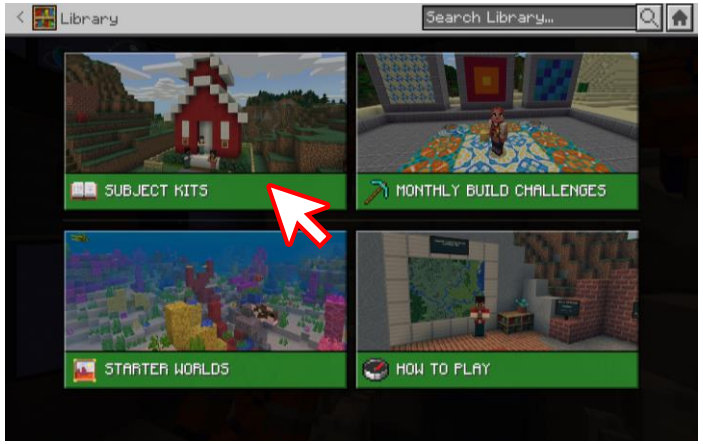
Let’s play!

Log into Minecraft Education

Launch the Cyber Defender world

Select “Play”

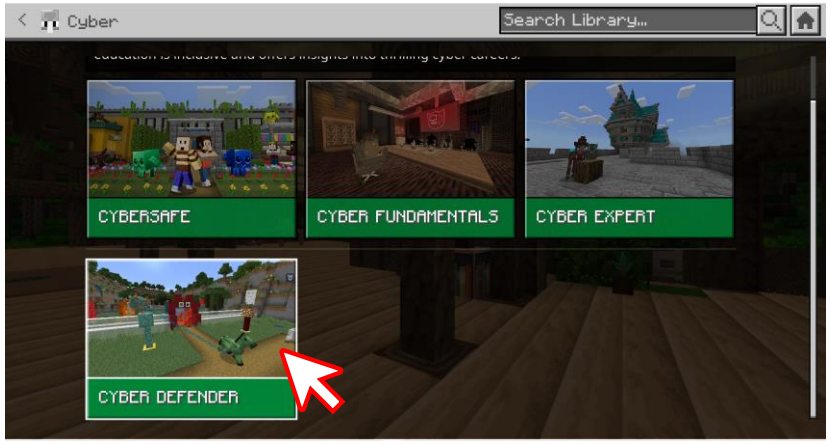
Select “View Library”



Select “Subject Kits”

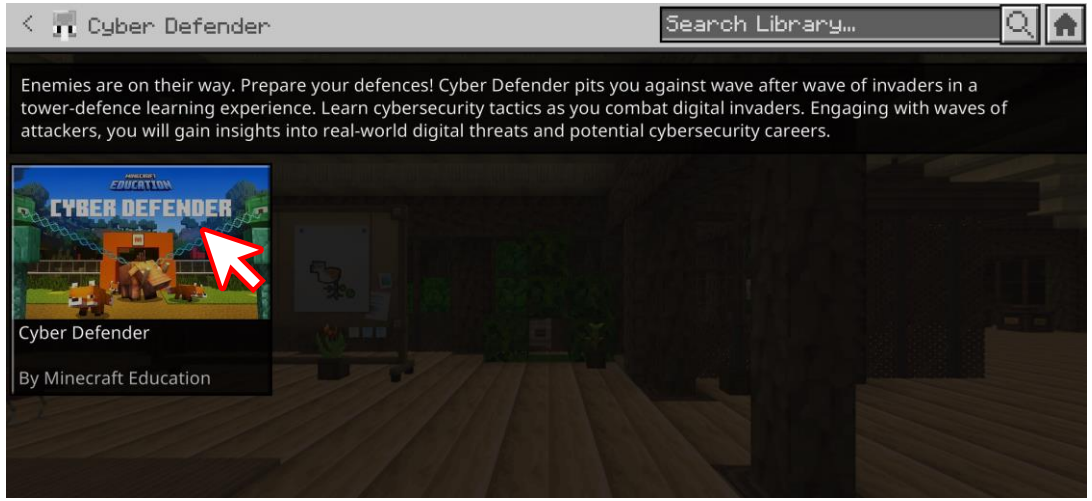
Select “Computer Science”

Select “Cyber”

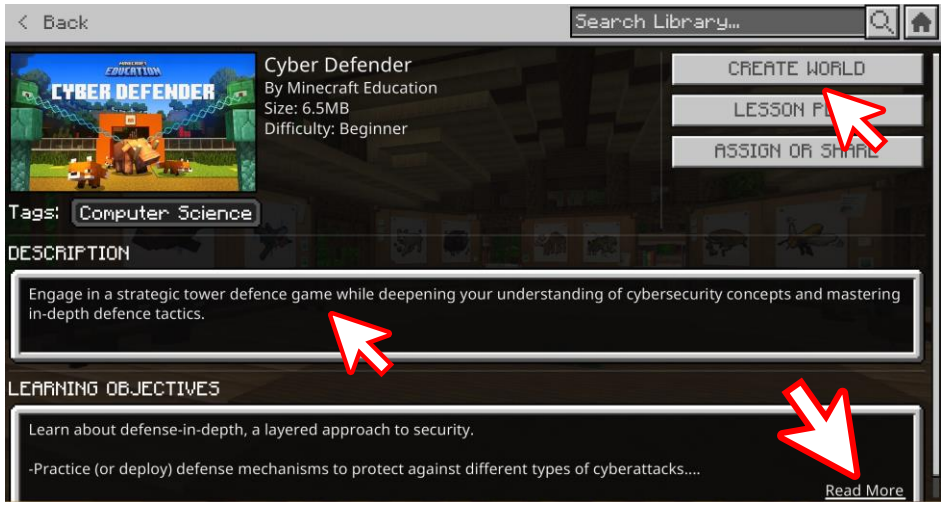


Select “Cyber Defender”

Launch the Cyber Defender world



Select “Cyber Defender”

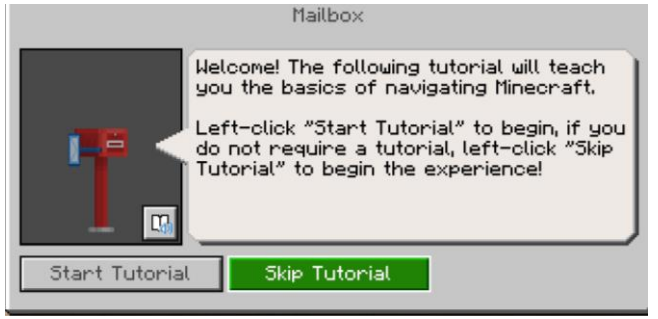


Read the description and learning objectives, then select “CREATE WORLD”

Beginning Game Play

When you spawn into the world, you will need to interact with the banner to start the world.

Then, you will be prompted to participate in the tutorial. If you are participating in the tutorial, select “Start Tutorial”.



Otherwise, if you answer “Skip Tutorial”, you will move directly into game play and skip the tutorial sequence.

Tutorial Sequence

Look at the golden orbs

Practice moving

Navigate past the wall

Practice jumping

Interact with the mailbox

The hub

Select Your Level

Select Your Level

There are four different locations in the Hub.

- **Forest Level (shortened)**: This level is recommended for beginning players. This version of the forest level only has 5 waves, so game play time is approximately 15 minutes for this level.
- **Forest Level**: This level is recommended for beginner players. Game play time is approximately 45 minutes for this level.
- **Mesa Level**: This level is recommended for advanced players. Game play time is approximately 1 hour for this level.
- **The Library**: This location will provide players will more information about the types of threats and defenses within the levels.

Action items

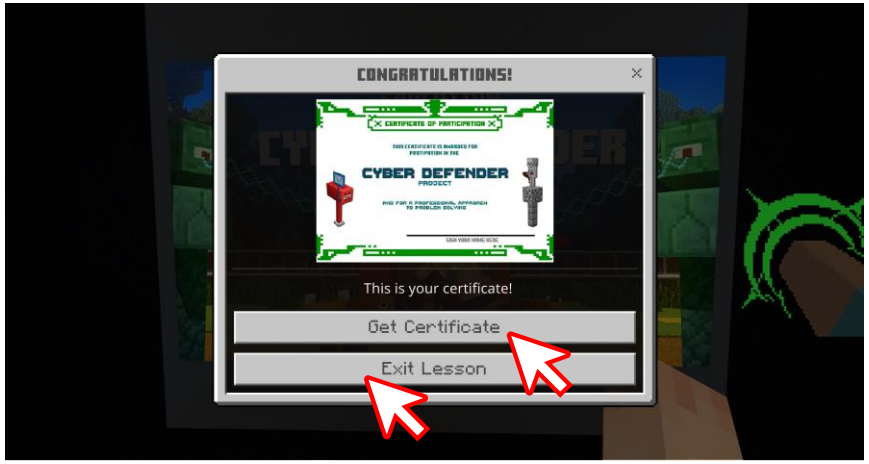
Throughout the game, you will be guided through a series of mini tutorials to help you better understand how to play the game. You will be introduced to different defenses to mitigate the cyberattacks, which represent real cybersecurity threats.

You will:

- ❑ Earn money from friendly traffic buying in the marketplace
- ❑ Defend your berry farm from attackers
- ❑ Set up gates and towers to defend the berry farm
- ❑ Revise your defense strategy as the waves continue in the game
- ❑ Earn as many points as possible!

Ending Game Play

To quit, press escape and select “Finish the lesson”



Select “Get Certificate”. Then, download and/or print the PDF certificate of completion. Then return to your Minecraft: Education Edition window and select “Exit Lesson”, followed by “Save and Exit”.

Check for understanding

- Provide some examples of common cybersecurity threats. How were these portrayed in the Cyber Defender game?
- Explain tradeoffs when selecting and implementing cybersecurity measures.
- How do we achieve balance for organizations as it relates to cybersecurity?
- What skills are needed in cybersecurity fields and careers?