CYBERSECURITY SUMMER PROGRAM WITH MINECRAFT EDUCATION



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WHAT IS THIS RESOURCE?

- This is a planning guide, designed to help individuals, schools, districts, or organizations responsible for summer camps/programs who want to integrate Minecraft Education.
- It provides strategic questions and guidance to help in the planning process of preparing for summer, suggesting highly engaging content and themes, and providing resources for the utilization of Minecraft Education in summer programming.
- At the end of this resource is a complete and ready-to-use summer camp for Grades 5-12 | Ages 10-18.
- The summer camp requires the use of Minecraft Education on student devices.

HOW DO I GET MINECRAFT EDUCATION?

- Go to the Get Minecraft Education download page.
- Select the version of Minecraft Education that is compatible with your device and download it.
- Install the version of Minecraft Education that you downloaded.
- Launch Minecraft Education.

If you are a user in a Microsoft-verified academic organization with Microsoft 365 accounts or need assistance in obtaining licensing, please refer to the Licensing & Deployment Guide. This comprehensive guide will explain how to download and sign in to Minecraft Education, learn best practices for managing licenses efficiently, and direct you to resources for getting started.

HOW DO I GET HELP IF I AM NEW TO MINECRAFT?

- If you are looking for additional support, check out the Getting Started page on the Minecraft Education website.
- You should also consider joining the Minecraft Education Teacher Lounge group. Connect with other educators and administrators utilizing Minecraft Education.
- There are a series of short videos on using Minecraft Education here.
- Have a technical question? Check out the Minecraft Support Center.

INTRODUCTION

Are you running a summer camp or program? Would you like to incorporate game-based learning through the immersive world of Minecraft Education? Look no further, as this resource is for you!

Minecraft Education can be used for both self-directed learning or facilitated learning by leveraging the hundreds of pre-built lessons and tutorials to teach campers across subjects and ages.

This guide should be used to assist education leaders in thinking through, planning for, and making the decisions that will ensure opportunities are successful for students, families, and teachers. The planning guide provides space for leaders to focus on some of the most important questions, decisions, and next steps to implement high-quality summer learning opportunities with Minecraft Education.

PLANNING FOR SUMMER LEARNING

Target Audience • What age groups | grade levels will be participating in summer learning? • Who is eligible to participate? • How many students do you anticipate attending your summer program?	
Staffing • How many teachers/staff will be needed for your summer program based on your ideal student to teacher ratio? • How/when will you recruit teachers/staff for summer learning? • When will you provide training for teachers who participate in summer learning?	

• Are there additional staff members (i.e., school nurse, school counselors, etc.) who also need to be included? • Will there be a site-based coordinator to handle day-to-day duties?	
Logistics • Location(s) • Length of Summer Program • Dates for Summer Program • Start Time / Dismissal Time • Transportation • Meals | Snacks	
Stakeholder Communication • What will you call the summer learning program? (a clear, fun name is more likely to attract interest and increase participation) • How will you use multiple modes of communication (phone calls, mailers, social media, etc.) with stakeholders? What is the best way to communicate this opportunity to teachers, students, and families? • What FAQ do you need to be prepared to answer? • How can you build excitement for participation?	
Technology	

• What type of devices will students have access to? • What is the ratio of students to devices? • Is the latest version of Minecraft Education installed on the devices? Need to install? You can find download instructions HERE. You can also utilize the Minecraft IT Admin Guide for app deployment.	
Instructional Focus • What type of summer program will you be hosting (e.g., enrichment, remediation, acceleration, theme-based, etc.)? • Where should the content focus for each age group / grade level? • What kind of activities can be incorporated throughout the program? • What resources do you have to support your program? • What resources do you need to support your program?	

SUMMER SCHEDULE

Depending on the type of summer program you are hosting, your schedule will need to be adjusted to meet the needs of learners in your community. Minecraft Education may be the entire basis of your camp, or it may be a learning segment within your summer program. Various schedules are highlighted.

Example Schedule 1: Half-Day Program (all Minecraft)

8:00-8:15	Morning Meeting
8:15-8:35	Skill Development
8:35-9:00	Mini Lesson
9:00-9:30	Unplugged Activity
9:30-10:30	Minecraft Session
10:30-10:45	Debrief/Break
10:45-11:15	Career Connections
11:15-11:45	Minecraft Session
11:45-12:00	Reflection/Closing for the Day

Example Schedule 2: Half-Day Program (Partial Minecraft)

8:00-9:00	ELA Block
9:00-9:15	Debrief/Break
9:15-10:15	Math Block
10:15-11:15	Minecraft Session
11:15-12:00	Flexible Content Block

Example Schedule 3: Full Day Program (Partial Minecraft)

8:00-8:30	Morning Meeting
8:30-10:00	ELA Block
10:00-10:30	Math Block
10:30-11:30	Minecraft Session
11:30-12:00	Flexible Content Block
12:00 -12:30	Lunch
12:30-1:30	Math Block
1:30-2:15	Flexible Content Block
2:15-2:30	Reflection/Closing for the Day

To better understand what a Minecraft camp could look like in action, view the full camp program outline below.

CYBERSECURITY EXAMPLE OF MINECRAFT EDUCATION SUMMER PROGRAM

If you are looking for a ready-to-use summer program, here is a complete half-day camp program (i.e., four hours of daily instruction). The camp is intended to be facilitated over a five-day period. The summer camp is most suitable for students in Grades 5-12 | ages 10-18.

CYBERSECURITY WITH MINECRAFT EDUCATION



Summer Camp Program

Grades 5-12 | Ages 10-18

CYBERSECURITY EDUCATION WITH MINECRAFT EDUCATION

This ready-to-use summer program will provide students with a fun and engaging cybersecurity experience. The camp will include cybersecurity focused activities to promote the understanding of foundational cybersecurity concepts, develop future ready skills, showcase various jobs and careers, and reinforce literacy and math skills through authentic opportunities. Students will participate in daily team building activities and engage in Minecraft cybersecurity lessons.

Program Overview		
	Instructional Focus	**Minecraft Lesson(s)**
Day 1	Internet Safety Digital Footprints	• Home Sweet Hmm • Cloudcraft
Day 2	Data Privacy Online Interactions	• Privacy Prodigy • Good Game
Day 3	Network Components Authentication	• Cyber Fundamentals: Network Heroes • Cyber Fundamentals: The Interceptors
Day 4	Data Back-Up Internet of Things Encryption & Decryption Social Engineering	• Cyber Fundamentals: Cloud Champions • Cyber Expert: Cryptic Ciphers
Day 5	Firewalls DoS|DDoS Attacks Malware	• Cyber Expert: Daring Defense • Cyber Expert: Malware Mania

PREPARING FOR SUMMER CAMP

Prior to the first day of camp, complete the following tasks:

- Make sure all student devices have Minecraft Education installed.
- Gather all the necessary materials (see list below).
- Print off templates for student use.
- Play through the Minecraft lessons.
- Review the lesson plans and classroom presentations.

MATERIALS NEEDED

- Devices with Minecraft Education
- Chart Paper

- Markers
- Pencils/Pens
- Crayons (or something else to color with)
- Display/Projector
- Colored Construction Paper
- Scissors
- Glue Sticks
- Blank White Paper
- Marbles
- Tape
- Paper Fasteners
- Timer
- Student Journals
- Templates
    - Minecraft Blocks
    - The Internet
    - Data About Me
    - Minecraft Image Cards
    - Word Cards
    - Caesar Ciphers
    - Categories
    - Firewalls

DAY 1

Learning Objectives

Students will:

- Understand the importance and benefits of the Internet in our everyday lives.
- Identify and avoid common cybersecurity risks by remembering, “STOP and THINK before you CLICK.”
- Build awareness to ensure the privacy of personal information.
- Advocate for help from trusted adults if you are unsure or uncomfortable.

Daily Schedule

	Tasks	Time	Materials
8:00-8:45	**Morning Meeting - Introductions** Gather all the students together. Introduce yourself and then provide the opportunity for students to introduce themselves through the Minecraft Blocks activity. Provide the template and a device to students. If needed, allow them to research various types of blocks within Minecraft and select the 4 blocks that best represent themselves. Provide time for students to share out their responses.	45 minutes	• Minecraft Blocks Template • Pencils • Crayons (or something else to color with)
8:45-9:00	**Group Rules and Expectations** Brainstorm as a group about group rules and expectations for the week as a class. Record the responses on the chart paper and then campers sign the chart paper. Place the rules and expectations in a location that can be reviewed each day.	15 minutes	• Chart Paper • Markers
9:00-9:30	**Unplugged Activity** The Internet has changed the way that we live, work, and play.	30 minutes	• Projector/Display for PPT

	Have students break into small groups. Allow each group to discuss and document their responses to how the Internet has changed the way we live, work, and play. Provide an opportunity for groups to share. Then, facilitate the opening slides in the Home Sweet Hmm presentation to set up students for game play.		• Home Sweet Hmm Presentation • The Internet: Group Response Template • Pencils/Pens
9:30-10:30	**Minecraft Session** Allow students to play through the activities in Home Sweet Hmm.	60 minutes	• Devices with Minecraft Education • Home Sweet Hmm EDU Guide
10:30-10:45	**Break**	15 minutes	None
10:45-11:00	**Minecraft Debrief** Discuss the following questions: • What was your favorite activity of Home Sweet Hmm? • Name one positive thing about the Internet. • Name one risk that can happen on the Internet. • How can you stay safer on the Internet?	15 minutes	None
11:00-11:45	**Minecraft Session** Have students play through the next Minecraft session – Cloudcraft.	45 minutes	• Devices with Minecraft Education • Cloudcraft Resources
11:45-12:00	**Reflection/Closing for the Day** Have students reflect in their journals about what they learned for the day and any new questions they may have.	15 minutes	• Student Journals • Pencils/Pens

Name: _____ Date: _____

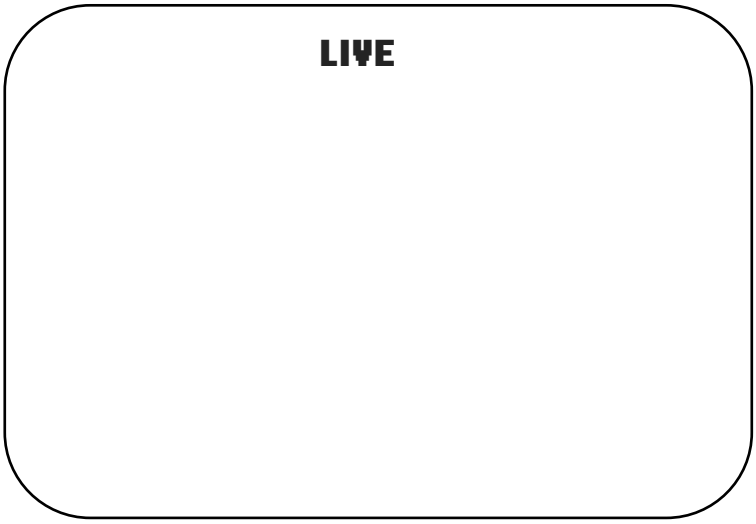
MINECRAFT BLOCKS

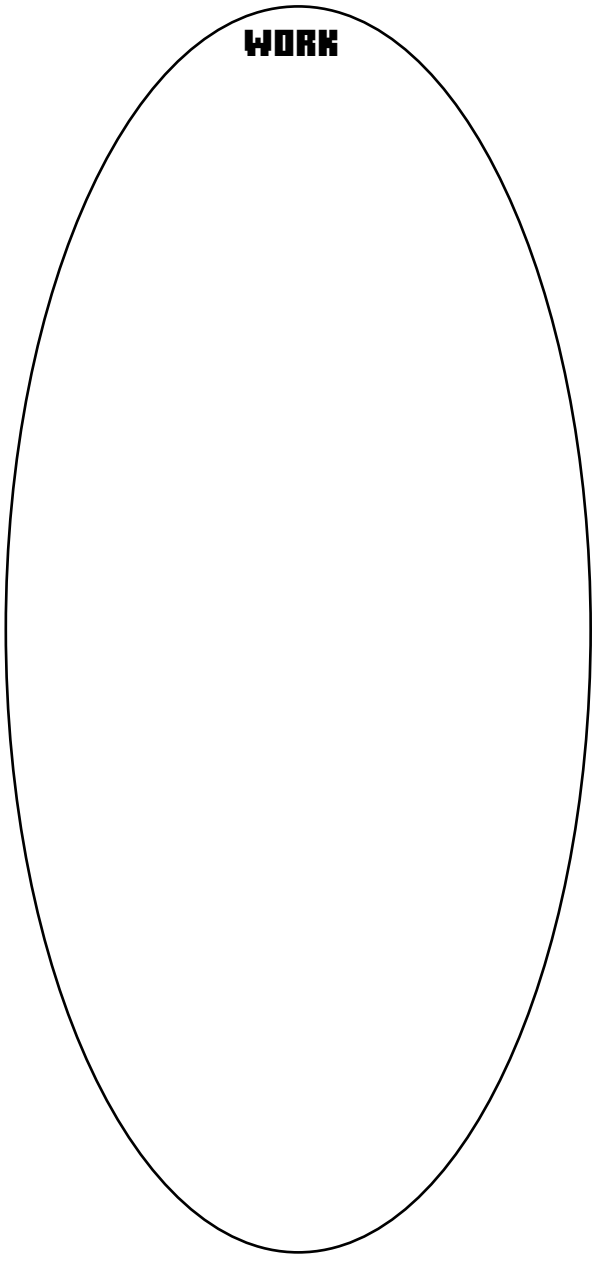
Blocks are the basic units of structure in Minecraft that make up the game's world. Many blocks can be collected and placed anywhere in the game's world, as well as be used as helpful resources. Today, you are going to select 4 blocks that best represent you for your introduction.

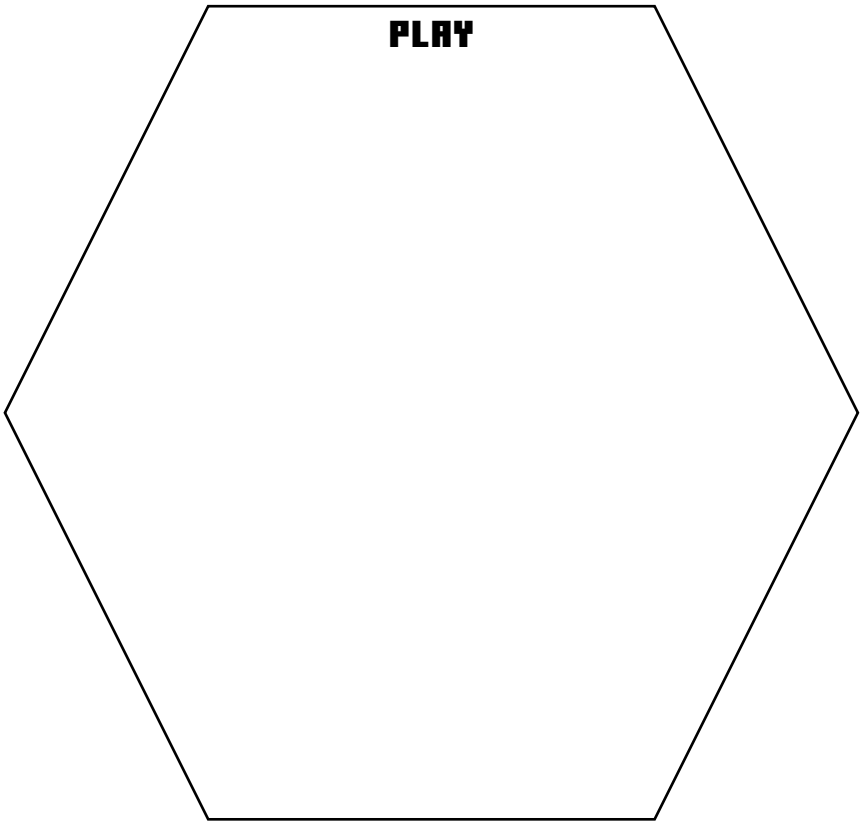
Name: _____ Date: _____

THE INTERNET

The internet has changed the way we live, work, and play. Provide examples in the spaces below.







DAY 2

Learning Objectives

Students will

- Discuss real-world cybersecurity problems and how personal information can be protected.
- Explain how physical and digital security measures protect electronic information.
- Consider ways of managing social media to maintain privacy needs.
- Discuss digital citizenship rules and behaviors for participating in an online environment.

Daily Schedule

	Tasks	Time	Materials
8:00-8:15	**Morning Meeting** Welcome students back to camp. Review the group rules and expectations for camp. Provide any necessary updates and/or housekeeping task for the day.	15 minutes	• Group Rules and Expectations Chart (from Day 1)
8:15-8:35	**Team Building Activity** Teams are given the task of carrying a marble or ball from a start line to a finish line, without it ever touching the floor—or students' hands. Here's how it works: Each team member is given paper and tape (needs to be the same amount to ensure fairness). Allow five minutes of planning time, so teams can strategize how they will transport the object as a group; if it falls to the floor, they must start over.	20 minutes	• Marbles • Paper • Tape
8:35-9:00	**Mini Lesson** Explain to students that they are going to be learning about data. Everyone has both public and private data.	25 minutes	• Privacy Prodigy Presentation

	Use slides 1-13 to guide the conversation about personal data.		
9:00-9:30	**Unplugged Activity** Have students complete the "Data About Me" activity.	30 minutes	• Data About Me templates
9:30-10:30	**Minecraft Session** Allow students to play through the activities in the CyberSafe: Privacy Prodigy experience.	60 minutes	• Devices with Minecraft Education • Privacy Prodigy EDU Guide
10:30-10:45	**Break**	15 minutes	None
10:45-11:00	**Minecraft Debrief** Discuss the following questions: • What was your favorite part of CyberSafe: Privacy Prodigy? • Who should you share your personal data with? • Name one way to protect your personal data. • Why is it important to protect your personal data?	15 minutes	None
11:00-11:45	**Minecraft Session** Have students play through the next Minecraft session – CyberSafe: Good Game.	45 minutes	• Devices with Minecraft Education • Good Game Resources
11:45-12:00	**Reflection/Closing for the Day** Have students reflect in their journals about what they learned for the day and any new questions they may have.	15 minutes	• Student Journals • Pencils/Pens

CYBERSAFE: PRIVACY PRODIGY – DATA ABOUT ME ACTIVITY

PRIMARY | GRADES 2-5 | AGES 7-11

Look at the boxes below. Fill in this information.

Age

Full Name

School Name

Birthday

Grade Level

City You Live In

Student ID

Draw a picture of yourself in the space above.

Look at the boxes again. Is any of this information considered “data”?

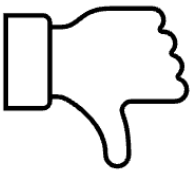
If you think the information is data, outline the box with a crayon or marker of your choice.

CYBERSAFE: PRIVACY PRODIGY - DATA ABOUT ME ACTIVITY

SECONDARY | GRADES 6-12 | AGES 12-18

Every person has a unique set of data. Data can include any personal detail that can be used to identify an individual.
In the thumbs up column, list data types that **are acceptable** to share with others.
In the thumbs down column, list data types that **should not be** shared with others.





DAY 3

Learning Objectives

Students will:

- Articulate the components that make up a local-area network (LAN).
- Explain the importance of encryption for confidentiality.
- Describe layered security practices (such as 2FA and network firewalls) to keep unauthorized users from accessing their networks.
- Define malware and identify common types of malware.
- Define the concept of authentication.
- Explain why authentication is important in cybersecurity.
- Describe how multi-level authentication works.
- Provide real examples of multi-level authentication.

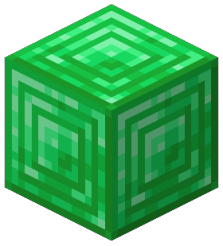
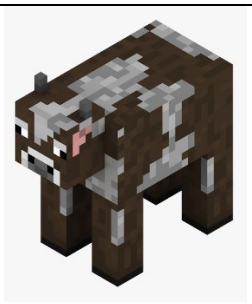
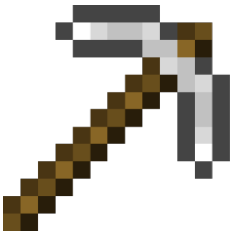
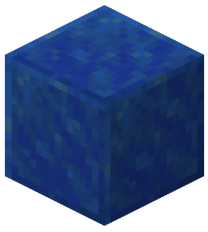
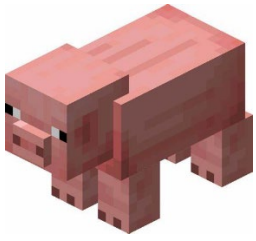
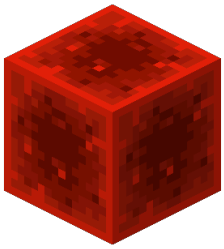
Daily Schedule

	Tasks	Time	Materials
8:00-8:15	**Morning Meeting** Welcome students back to camp. Review the group rules and expectations for camp. Provide any necessary updates and/or housekeeping task for the day.	15 minutes	• Group Rules and Expectations Chart (from Day 1)
8:15-9:00	**Team Building Activity** This might take some students out of their comfort zone, but it encourages teamwork and collaboration. Divide the class into teams of up to ten people and provide each team with a 'goodie bag' filled with random Minecraft image cards. Set a time limit for each group to create a short skit based on the items in the bag. You can also provide them with additional materials (i.e., construction paper, scissors, markers, etc.) to make any props for their skit. When ready, allow the teams then present their skits.	45 minutes	• Minecraft image cards • Construction Paper • Markers • Scissors • Tape
9:00-9:30	**Mini Lesson**	30 minutes	• Chart Paper

	Explain to students that they are going to continue to learn about cybersecurity. Provide an opportunity for students to create a chart paper poster with their definitions of cybersecurity. Allow groups to share out their responses and find common language to create one shared definition.		• Markers
9:30-10:30	**Minecraft Session** Allow students to play through the activities in Cyber Fundamentals: Network Heroes.	60 minutes	• Devices with Minecraft Education • Network Heroes EDU Guide • Classroom Presentation • Student Workbooks • Pencils
10:30-10:45	**Break**	15 minutes	None
10:45-11:00	**Minecraft Debrief** Review the students' responses in their workbooks.	15 minutes	None
11:00-11:45	**Minecraft Session** Have students play through the next Minecraft session – Cyber Fundamentals: The Interceptors.	45 minutes	• Devices with Minecraft Education • Cyber Fundamentals: The Interceptors Resources
11:45-12:00	**Reflection/Closing for the Day** Have students reflect in their journals about what they learned for the day and any new questions they may have.	15 minutes	• Student Journals • Pencils/Pens

MINECRAFT IMAGE CARDS

Print and cut out these Minecraft image cards. Place 4 image cards into a “goodie bag” (i.e., this can be a bag or an envelope – anything you have readily available!) for each group. Each group will use these images to create a 5–10-minute skit.

DAY 4

Learning Objectives

Students will:

- Explain what is a digital footprint and actions that contribute to a digital footprint.
- Articulate the concept of the Internet of Things (IoT)
- Explain the risks and benefits of IoT devices.
- Differentiate between encryption and decryption.
- Encrypt and decrypt messages using Caesar Ciphers.
- Explain how individuals can avoid falling victim to social engineering.

Daily Schedule

	Tasks	Time	Materials
8:00-8:15	**Morning Meeting** Welcome students back to camp. Review the group rules and expectations for camp. Provide any necessary updates and/or housekeeping task for the day.	15 minutes	• Group Rules and Expectations Chart (from Day 1)
8:15-8:45	**Team Building Activity** Like the game Pictionary, have students work in groups of 4. Each team needs paper and a pencil. One player on a team picks a card and has to sketch the word. The person sketching has 1 minute to draw the word without using letters or symbols. If their team guesses the word, they receive a point. Allow students to play a couple of rounds.	30 minutes	• Blank Paper • Pencils • Word Cards Template • Timer
8:45-9:00	**Mini Lesson** Explain to students that they are going to continue to learn about cybersecurity. Provide an opportunity for students to create a chart paper poster with their definitions of cybersecurity. Allow groups to share out their	15 minutes	• Classroom Presentation • Display/Projector

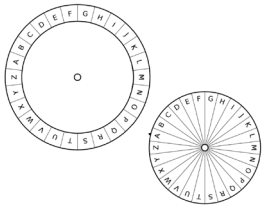
	responses and find common language to create one shared definition.		
9:00-10:00	**Minecraft Session** Allow students to play through the activities in Cyber Fundamentals: Cloud Champions.	60 minutes	• Devices with Minecraft Education • Cloud Champions EDU Guide • Student Workbooks • Pencils
10:00-10:15	**Break**	15 minutes	None
10:15-10:30	**Minecraft Debrief** Review the students' responses in their workbooks.	15 minutes	None
10:30-11:00	**Unplugged Activity** Students will pair up and work on encrypting and decrypting messages! The Caesar Cipher wheels will help them. • Partner A is going to encrypt a message. Choose a word (or message if you want a challenge!). • Then you must provide Partner B with the "shift" (aka the "key"). • Partner B will then need to decrypt the message based on the shift. • Check your answers. • Switch roles!	30 minutes	• Caesar Cipher Wheels template • Scissors • Paper Fastener
11:00-11:45	**Minecraft Session** Have students play through the next Minecraft session – Cyber Expert: Cryptic Ciphers.	45 minutes	• Devices with Minecraft Education • Cyber Expert: Cryptic Ciphers Resources
11:45-12:00	**Reflection/Closing for the Day** Have students reflect in their journals about what they learned for the day and any new questions they may have.	15 minutes	• Student Journals • Pencils/Pens

WORD CARDS

TREE	DOG
HOUSE	BOAT
PLAYGROUND	CAT
HAT	CHAIR
APPLE	SANDWICH
CHILD	DRAGON

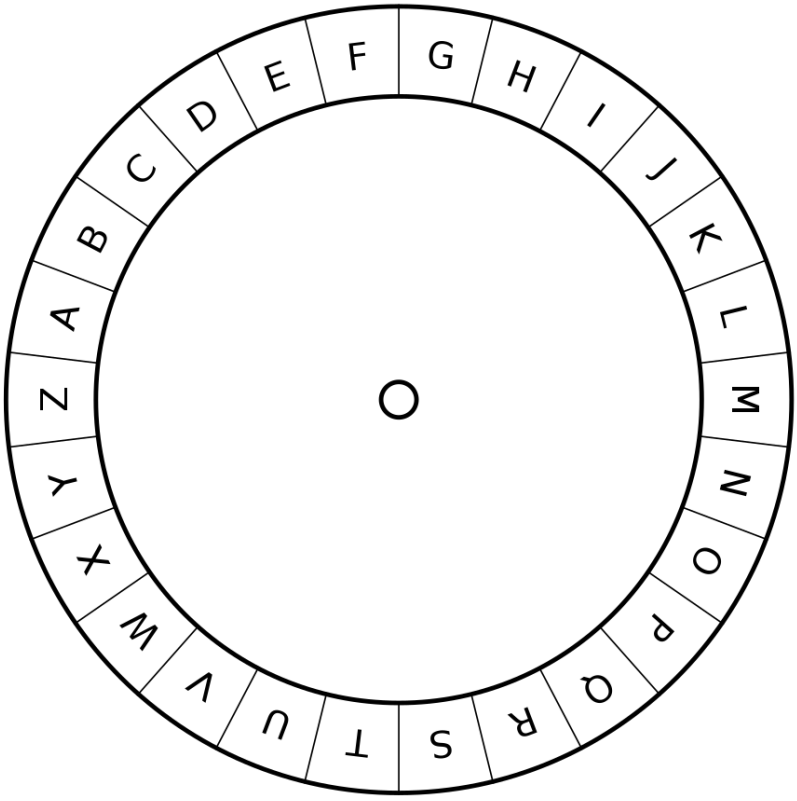
CAESAR CIPHER WHEELS

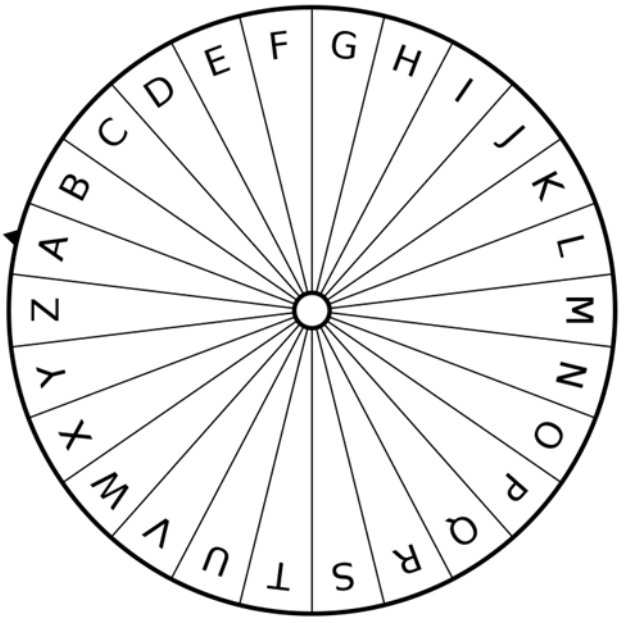
MATERIALS NEEDED

Copy of Wheels	Scissors	Paper Fastener
		

DIRECTIONS

- Each participant will need a copy of these wheels (shown below).
- After cutting them out, the smaller circle should go on top of the larger circle.
- Poke a hole in the middle of both circles and use a paper fastener to assemble.





Name: _____ Date: _____

UNPLUGGED ACTIVITY: CAESAR CIPHERS

The Caesar cipher is a simple encryption technique that was used by Julius Caesar to send secret messages to his allies. It works by shifting the letters in the plaintext message by a certain number of positions, known as the “shift” or “key”.

It’s a type of substitution cipher, i.e., each letter of a given text is replaced by a letter with a fixed number of positions down the alphabet. For example, with a shift of 1, A would be replaced by B, B would become C, etc.

Let’s use the shift of **forward by 3**.

Plain	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Cipher	X	Y	Z	**A**	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W

ENCRYPTION	
Plain Text	Cipher Text
HELLO	_____

NOW YOU TRY...

- Partner A is going to encrypt a message. Choose a word (or message if you want a challenge!).
- Then you must provide Partner B with the “shift” (aka the “key”).
- Partner B will then need to decrypt the message based on the shift.
- Check your answers.
- Switch roles!

DAY 5

Learning Objectives

Students will:

- Differentiate between DoS and DDoS attacks.
- Create a firewall using allow and deny rules.
- Prevent unauthorized users on the network by implementing an access control system.
- Differentiate between the different types of malwares.
- Define the concept of ransomware.
- Describe the importance of backup software.

Daily Schedule

	Tasks	Time	Materials
8:00-8:15	**Morning Meeting** Welcome students back to camp. Review the group rules and expectations for camp. Provide any necessary updates and/or housekeeping task for the day.	15 minutes	• Group Rules and Expectations Chart (from Day 1)
8:15-8:35	**Team Building Activity** Provide students with the Categories Template. Like the game “Scattergories”, the teacher will randomly select a letter. The students will have two minutes to write down responses corresponding to the selected letter and the categories listed on the template. Play through several rounds to see who can score the most points.	20 minutes	• Categories Template • Pencils
8:35-9:00	**Mini Lesson** Firewalls are used to protect a network or system from unauthorized access. Using the templates, students need to create their allow/deny rules for their firewall.	25 minutes	• Firewall Template • Minecraft Images

9:00-10:00	**Minecraft Session** Allow students to play through the activities in Cyber Expert: Daring Defense.	60 minutes	• Devices with Minecraft Education • Classroom Presentation • Daring Defense EDU Guide • Student Workbooks • Solutions Guide • Pencils
10:00-10:15	**Break**	15 minutes	None
10:15-10:30	**Minecraft Debrief** Review the students' responses in their workbooks.	15 minutes	None
10:30-11:30	**Minecraft Session** Allow students to play through the activities in Cyber Expert: Malware Mayhem.	60 minutes	• Devices with Minecraft Education • Classroom Presentation • Malware Mayhem EDU Guide • Student Workbooks • Solutions Guide • Pencils
11:30-11:45	**Minecraft Debrief** Review the students' responses in their workbooks.	15 minutes	• None
11:45-12:00	**Reflection/Closing for the Day** Have students reflect in their journals about what they learned for the day and discuss the big overall learnings from the week. If desired, you can also pass out certificates of completion.	15 minutes	• Student Journals • Pencils/Pens

CATEGORIES TEMPLATE

LIST 1	
Things in a Grocery	
Things Found in a Hospital	
Drinks	
Awards/Ceremonies	
Children's Books	
Things That are Red	
Animals	
Items You Save Up to Buy	
Things That Have Wheels	
Parts of the Body	
Math Terms	
Breakfast Foods	

LIST 2	
World Leaders/Politicians	
Artists	
Vegetables	
Toys	
Reasons You're Running Late	
Pizza Toppings	
Appliances	
Office Supplies	
Vehicles	
Tools	
Things That Can Fly	
Flowers	

CATEGORIES TEMPLATE

LIST 3	
School Subjects	
Things You Do at Work	
Sports	
Musical Instruments	
Things Found IN New York	
Costumes	
Cosmetics/Toiletries	
Brand Names	
Cooking Utensils	
Animals in Books or Movies	
Desserts	
4-Letter Words	

LIST 4	
Board Games	
Birds	
Gifts/Presents	
Terms of Endearment	
Things That Are Green	
Store Names	
Science Terms	
Crimes	
Nonliving Things	
Adjectives	
Countries	
Musicians/Musical Groups	

FIREWALLS

Create a firewall below. Consider the allow/deny rules for your firewall.

Look at the Minecraft images below. Create rules for what will and will not be allowed through your firewall.

