

THE VILLAINS' VIRUS WORKSHEET

Course: SuperheroSTEM:

Materials: A pencil and paper, and your imagination 🚀

Created by: Ryan Saelens

MISSION BRIEFING:

A TEAM OF **VILLAINS** HAVE HACKED into the **Superhero HQ**

Database! They're looking for **special files** regarding **magical items**, which the **heroes have been the protectors of for ages!**

The villains are relentless--they will stop at nothing to **obtain the magical items, to then take over the world with...GO FIGURE!**

How ever will they be stopped?

YOU are a **Cyber-Scientist → CS for short ☺**

YOUR MISSION is to help **keep ANY SECRET INFORMATION** in the **database protected, especially** anything pertaining to the **MAGICAL ITEMS!**

It's important that the villains don't gain access to these files!



REMEMBER, you're working **WITH the heroes, AGAINST the villains!**

SKILLS TO MASTER:

-  **Build** Narrative
-  **Create** Folders
-  **Encrypt** Files
-  **Protect** Important Info
-  **Create** Fake "Distractions"
-  **Use** Clever Misdirection



LEARNING GOALS:

- **Learn the difference** between **encryption** and **password-protection**.
- **Develop critical thinking, storytelling, and world-building skills** to **create a believable world** that protects important information.
- **Learn** basic ways to **store and secure** information on a computer.
- **Understand** why **protecting information** is important.
- **Understand** how to **use misdirection to protect** sensitive information.

So, **WHAT** is **ENCRYPTION**? And **WHAT** is **PASSWORD-PROTECTION**?

- **Encryption** = **Locking** the file and **scrambling it** so villains **can't read it, even if they steal it**.
- **Password Protection** = Putting a **lock on the file**, but if they **pick the lock (easy for villains!)**, they can still read it.

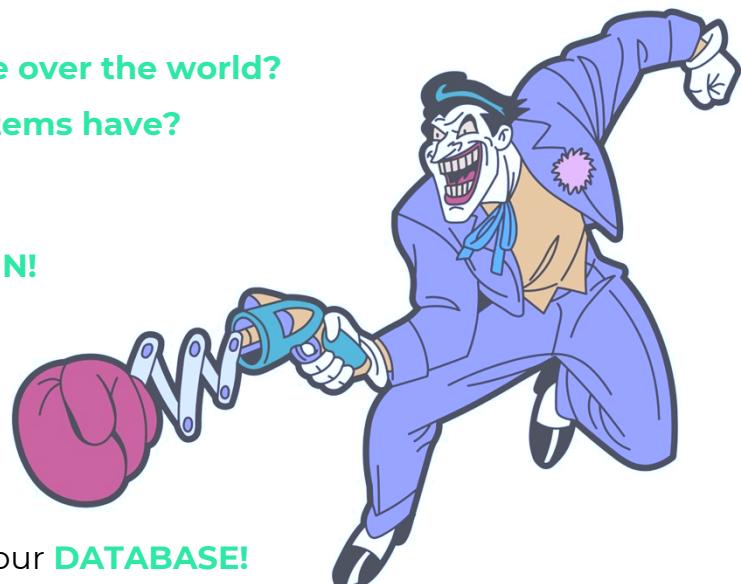
MODULE 0: START YOUR STORY!

Before you begin creating and protecting information, you'll need to **create the story** behind **WHY** the villains are **hacking the Superhero HQ Database!**

Below are a few questions to **help get you started**:

- **Who** are the **villains**?
- **Who's** on your **team of heroes**?
- **Why** are the villains wanting to **take over the world**?
- **What** importance do the **magical items have**?

GET CREATIVE WITH IT AND HAVE FUN!



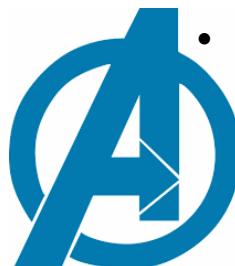
MODULE 1: CREATE YOUR DATABASE!

Start by creating a **MAIN FOLDER**!

- **THIS FOLDER** will be the name of your **DATABASE**!
 - Give it a cool **code name** (examples: "**The Infinity Archives**" or "**Quantum Vault**", maybe something like "**The Storage of Secrecy**").
- Be sure to **TAKE NOTES** (**whether WRITTEN or TYPED in a text document**) to make sure you **DON'T FORGET THINGS!**
 - It's very important to **store passwords** and other information, somewhere **(safe)**.
 - **Imagine encrypting a bunch of files**--files that you spent time on **(perhaps a text file with certain secret information)** BUT you **cannot remember the password**, so you **cannot access it**.

MODULE 2: ASSEMBLE YOUR HERO TEAM!

Now, you will start to **fill the DATABASE FOLDER**!



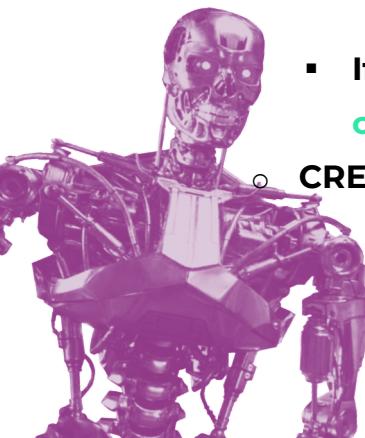
- Inside your **DATABASE FOLDER**, create **4-7 folders**, one for **each hero** you choose!
 - Mixing universes is **highly recommended!**
 - **Example Team:** Sonic, The Hulk, Dr. Manhattan, Spider-Man, and Naruto!
- **Give each hero a fun code name too!**

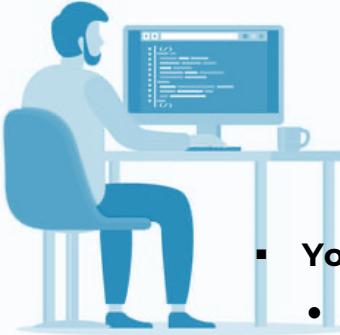
- Something that will **make the villains scratch their heads!**
 - Something that **you can remember**, though **if you forget**, it's okay, because **you're taking notes, right?** 😊

MODULE 3: FILL YOUR HEROES' FOLDERS!

Next, you will spend time **filling the HERO FOLDERS!**

- Inside **each hero's folder**, do any (or all) of the following:
 - **SEARCH** and **SAVE 2-3 fun images** about the hero! Make sure to **save them to the right folder!** Some examples are below to help **get you started:**
 - Favorite Food(s)
 - Favorite Sport(s)
 - Pet(s)
 - Hobbies
 - Silly Fact(s)
 - **CREATE FAKE FOLDERS** with **important sounding names!**
 - They can have **unimportant files inside**, or **nothing at all!** Your choice!
 - This is to **make the villain think the folder is important, when really, it's not!**
 - This is called **misdirection**, and it's a **wonderful skill for a Cyber-Scientist** to have!
 - **CREATE TEXT DOCUMENTS** with **clever names**, and **fill it with unimportant information**, or again, **nothing at all.** Your choice!
 - The **goal** is to **make the villain think it's important!**
 - **Example:** Text document named "**Important Secrets of Science**", but when the villain opens it, **it's just a text file with a picture of a hot dog and a bit of text that says, "Did you find what you were looking for?"**
 - **If you create a text document**, make sure you **save it inside the correct hero folder!**
 - **CREATE WEBSITE SHORTCUTS** with **WHATEVER names you want!**





- Think of websites that the hero may visit!
 - Keeping it appropriate of course 😊
 - Example: "The Flash" or "Sonic" may visit **shoe websites because they like to run.** "The Guardians of the Galaxy" would most likely **visit sites of companies such as NASA or SpaceX!**
- You can also create shortcuts to websites that don't work!
 - Example: Open an internet browser tab and in the **top search bar, type a bunch of random none-sense** and **CLICK ENTER!** This will more than likely, **load nothing.**
 - You can then **CREATE a shortcut** and **SAVE it** to the **correct hero folder!**
- **NOTE:** These are files that would **NOT HURT** the heroes if a **villain found them.**

MODULE 4: PROTECT THE MAGICAL SECRETS!

Lastly, we want to **add important files about the magical items**, and then **protect them by adding encryption!**

- Still inside each hero's folder, **do the following:**
 - **CREATE 2-3 important secret files** that are about the **magical items**
 - Then **save them** in the **correct hero folder!**
 - **Examples:**
 - **Images** (Drawings or Blueprints, Places Item Has Been Seen)
 - **Text Documents** and **Website Shortcuts** (Fake "Data Files,", Location Information files, Etc.)
 - **Think about what you did in the last module and APPLY THINGS** to this module! **REMEMBER, these files are important!**



- **ENCRYPT or PASSWORD-PROTECT important files!**

- **TO ENCRYPT:**

- **RIGHT-CLICK the File/Folder you wish to encrypt**
 - **SELECT “Properties”**
 - **NAVIGATE to the “General” Tab**
 - **CLICK “Advanced”**
 - **CHECK the “Encrypt contents to secure data” box**
 - **CLICK “Okay” and “Apply”**



- **TO PASSWORD-PROTECT:**

- **MUST BE MICROSOFT DOCUMENT (offers password for files)**
 - **OPEN the Microsoft file** you wish to password-protect
 - This can be a **Word file, a PowerPoint Presentation, Excel File, Etc.**
 - **Example using Word:**
 - **Open document in Microsoft Word**
 - **CLICK “File” (top-left corner)**
 - **CLICK “Info”**
 - **CHOOSE “Protect Document” button**
 - **CHOOSE “Encrypt with Password”**
 - **TYPE a password you want, CONFIRM it, SAVE it!**
 - **Be sure to store passwords in a safe place (notebook that only you know about)**



CONGRATS! You've added encryption and passwords to your files!

NOTE: If you try to **encrypt an entire folder**, you will be asked if you wish to **encrypt all the folders or files inside**, so just **be careful** with what you **ACTUALLY** want to encrypt.

**** Encrypt each file before moving on to the next one!** You **don't want to forget** which files you **want to add protection to**. Best way to do this is to **protect as you go!**

**** This is to make things easier on you,** unless of course you're **writing down the files that are important and those that are not so important, to encrypt later.** (**HINT: YOU SHOULD BE!** 😊)

QUICK CHECKLIST:

REMEMBER, you don't have to include everything below. **BUT** the more you **do include**, the **harder it will be for villains to steal important information!** Check what you included in your DATABASE FOLDER, below:

- 🔎 **Searched and saved** fun images
- 📁 **Created** fake folders
- 💬 **Made** funny text documents
- 🌐 **Built** website shortcuts
- 🔑 **Encrypted** important files
- 🔑 **Password-Protected** important files



The Idea:

If the villains **snoop through the heroes' folders**, they **find some harmless fun stuff**, but if they **find the real secrets**, they **can't open them without the right password!** 😎

After you're done, you'll be able to **PRESENT YOUR DATABASE** with the **rest of the class!**

QUICK GLOSSARY:

Encryption

→ Locking a file and scrambling it **so nobody can read it without the special key.**

Password Protection

→ Locking a file with a password — **but if someone guesses or hacks the password, they can still open it.**

Database

→ A special place (folder) where you store **and organize important files and information.**

Misdirection

→ Tricking villains into thinking **something is important... when it's not!**

Cyber-Scientist (CS)

→ Another name for a **Cyber Security Specialist!**

Shortcut

→ A small file that quickly takes you to a website **or another file when you click it.**

