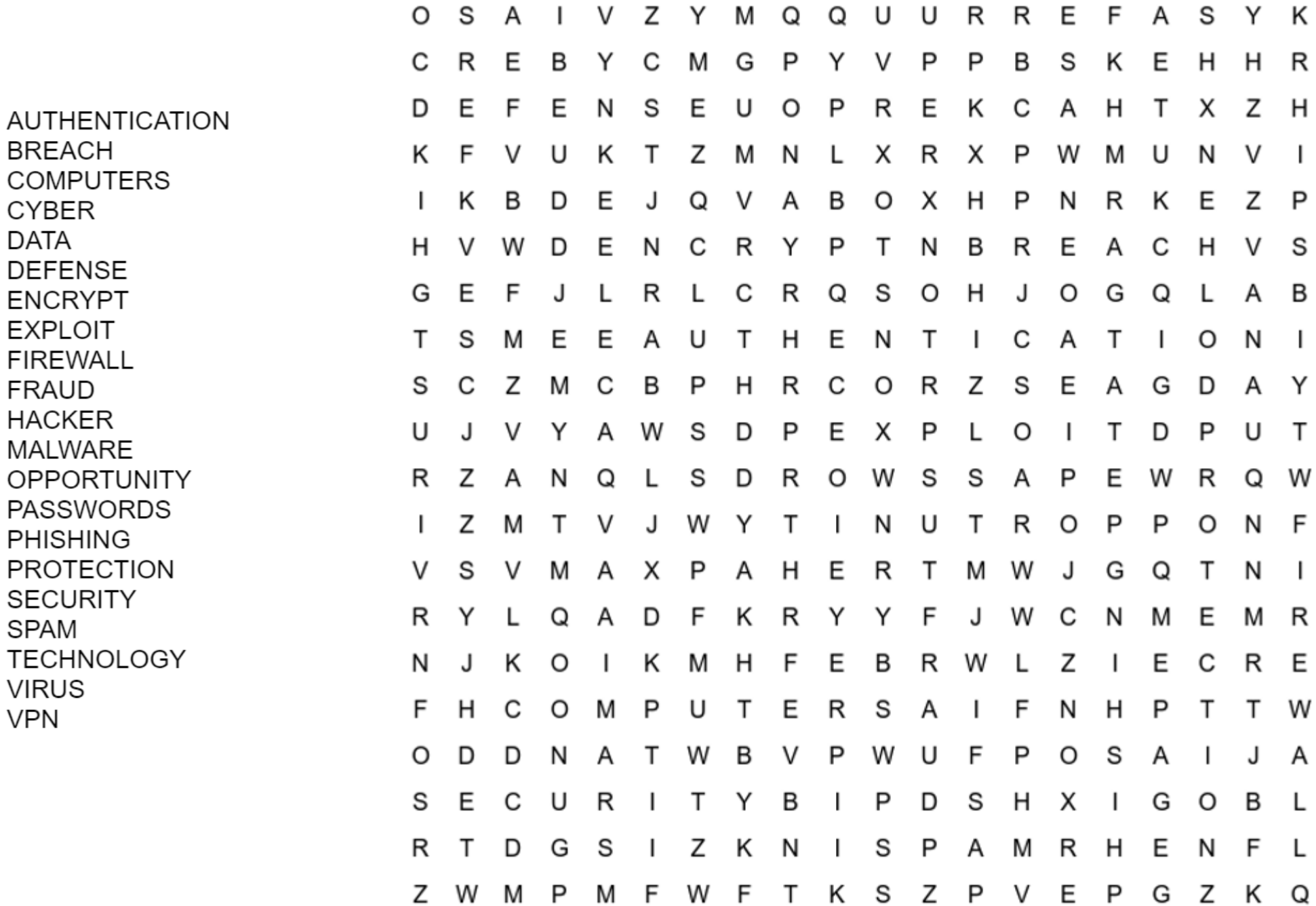

AUTHENTICATION
BREACH
COMPUTERS
CYBER
DATA
DEFENSE
ENCRYPT
EXPLOIT
FIREWALL
FRAUD
HACKER
MALWARE
OPPORTUNITY
PASSWORDS
PHISHING
PROTECTION
SECURITY
SPAM
TECHNOLOGY
VIRUS
VPN

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

Riddles While We Wait

- What travels around the world but stays in one corner?

- A cowboy rode into town on a Friday, stayed three days, and rode out again on Friday. How did he do that?

- What English word has three consecutive double letters?

- You are in a dark room with a box of matches. On a table are a candle, an oil lamp, and a log of firewood. What do you light first?

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Riddles While We Wait

- What travels around the world but stays in one corner?
  Postage stamp!

- A cowboy rode into town on a Friday, stayed three days, and rode out again on Friday. How did he do that?
  His horse's name was Friday!

- What English word has three consecutive double letters?
  Bookkeeper!

- You are in a dark room with a box of matches. On a table are a candle, an oil lamp, and a log of firewood. What do you light first?
  A match!

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Cybersecurity for Small Systems

Online Training
Date?

*** INSERT FUNDER INFO ***

This material is based upon work supported by the Washington State Department of Health (DOH)

Any opinions, findings, conclusions or recommendations expressed in this material are solely the responsibility of the authors and do not necessarily represent the official views of DOH.

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Your Moderator Today

Rural Development Specialist
RCAC | Environmental Programs
(503) 565-5302
rtrick@rcac.org

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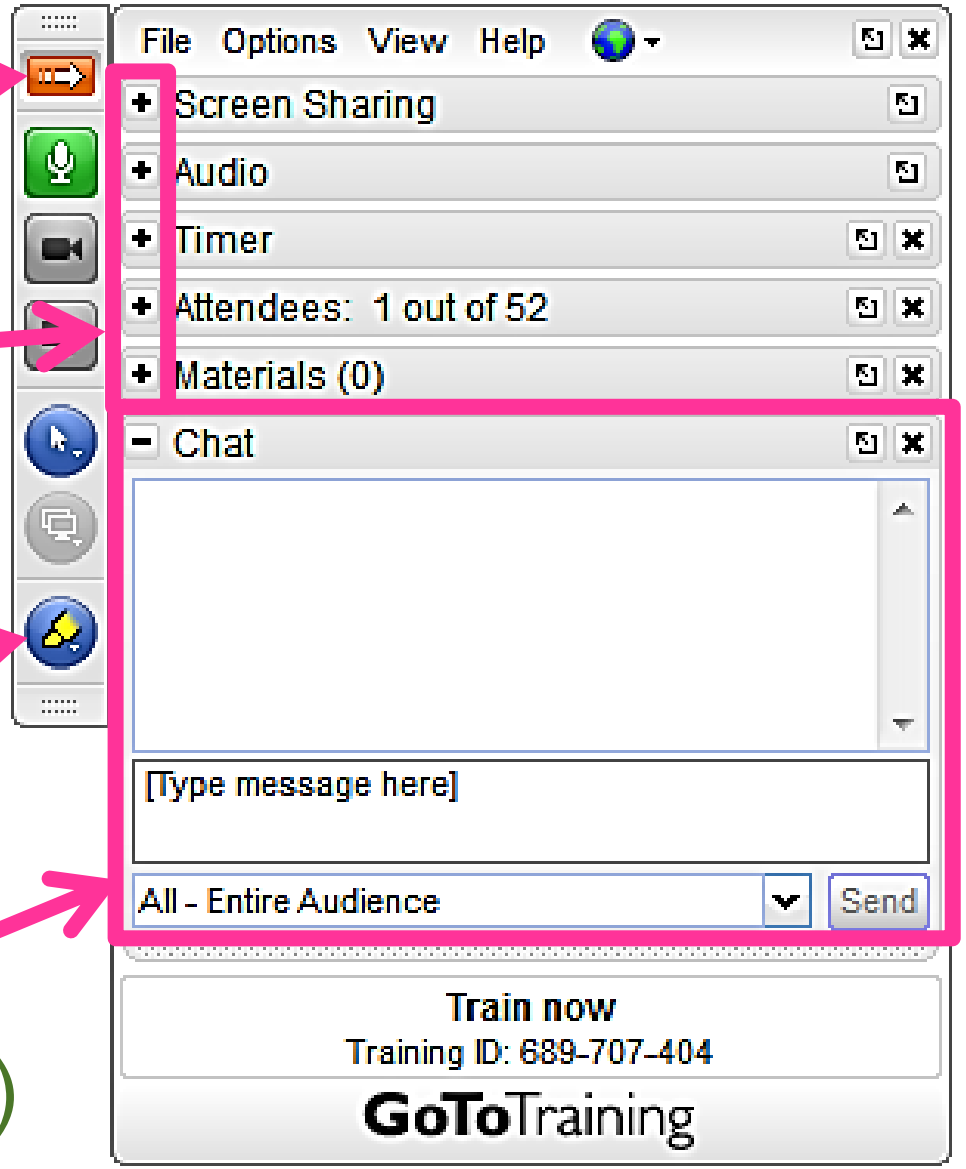
Hide/Restore Control Panel

Control Tabs
(Click “+” to open)

Marking Tool
(Will appear when needed)

Chat Box
(Send to “Entire Audience”)



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Audio Controls

Click here to test your audio

Attendee List

Today's Materials

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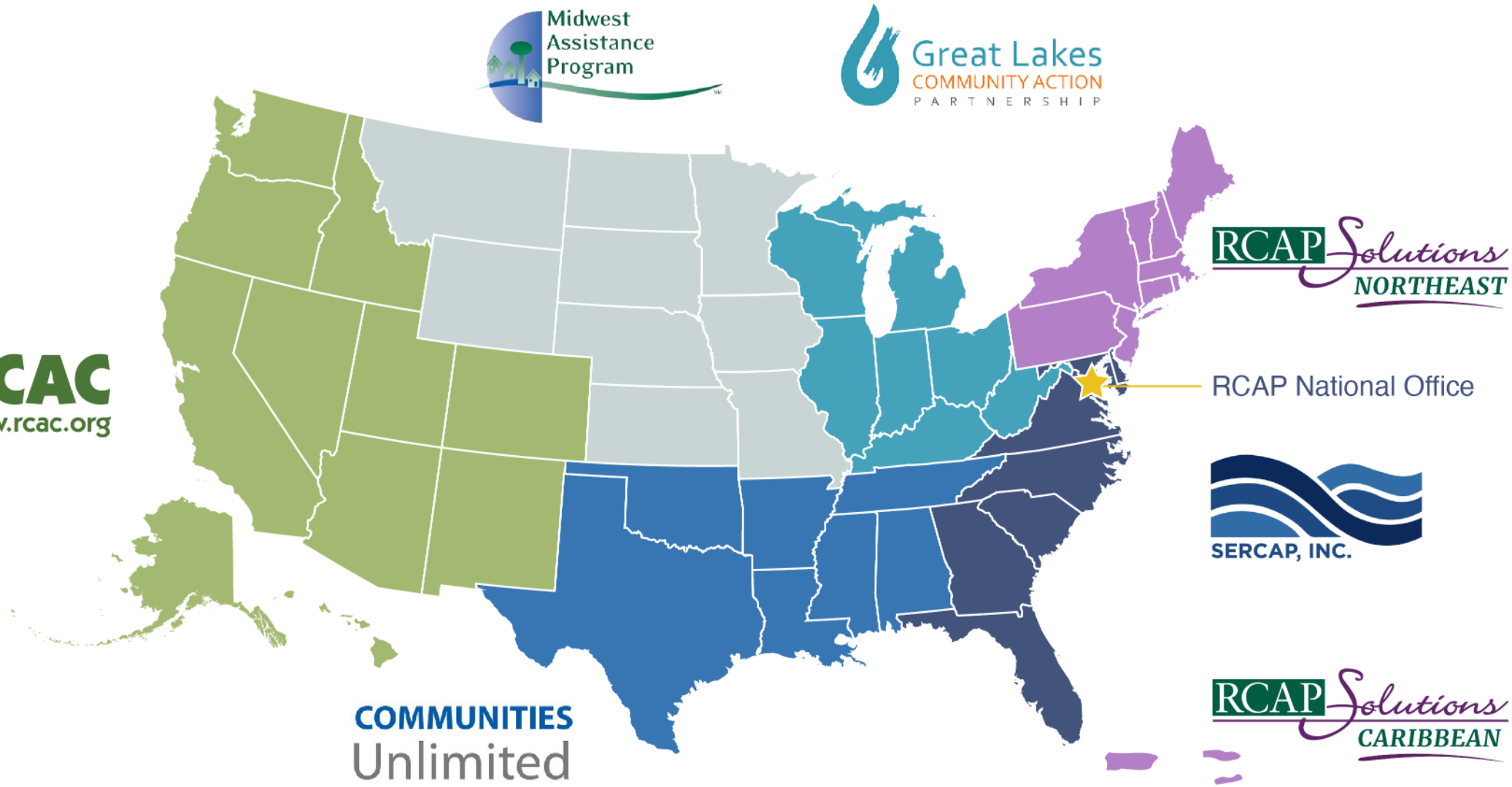
RCAP Rural Community Assistance Partnership



RCAC Programs

- Affordable housing
- Economic Development (community facilities)
- Water and wastewater infrastructure financing (Loan Fund)
- Classroom and online training
- On-site and Remote technical assistance
- Median Household Income (MHI) surveys and rate analysis

CEU's

Washington Certification Services and WA ST Dept of Ecology have awarded **0.3 CEUs** for certified drinking and wastewater system operators

RCAC will provide attendee information to WCS and DOE after the session ends:

- ✓ **You must participate in all polls, tests, activities and the end of session evaluation**
- ✓ **You must attend the entire session for CEUs**

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How to Retrieve Your Contact Hours Certificate

Certificates for training hours can be downloaded and self-printed **only**.

- Open this link: https://www.events.rcac.org/assnfe/portal.asp
- Log in
- Locate course under “My Course History
- Click “View Certificate

Certificates are available 48 hours after the completion of the class

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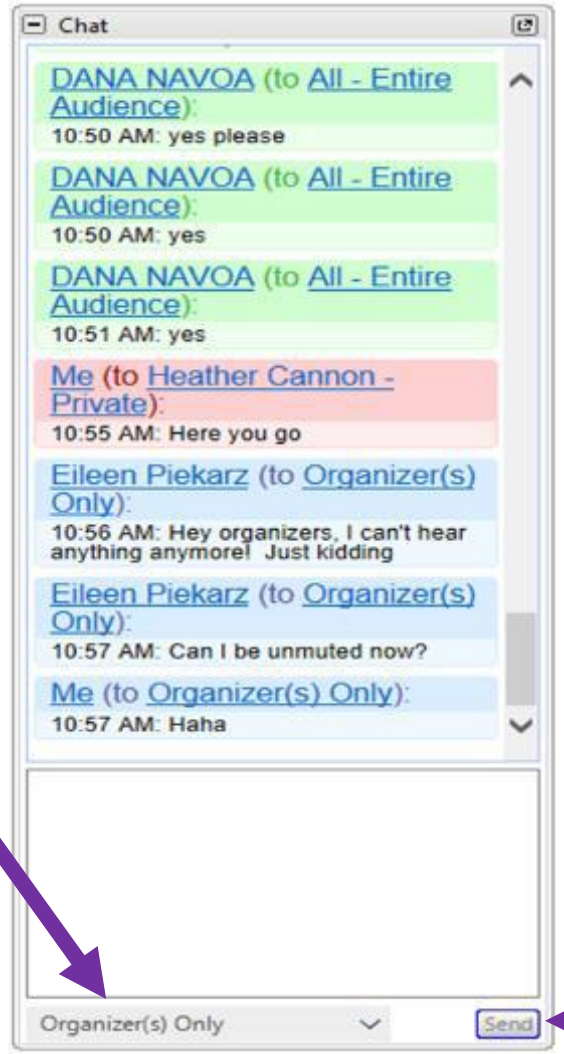
To Provide Your Certification Number



1. In Chat tab select **to Organizers Only** **(BLUE)**
2. Type **DW** & your number / **WW** & your number
3. Check to make sure chat is **to Organizers Only**
4. Send chat
5. Set Chat back to **All –Entire Audience** **(GREEN)**

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Questions?

Chat your questions and comments anytime during the session

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Your Presenter Today

Rita Trick

Rural Development Specialist
RCAC | Environmental Programs
(503) 565-5302
rtrick@rcac.org

Introductions

We would like to meet you!
In the chat box please share your:

- Name
- Utility you are with

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How long have you been working in the water or wastewater field?

A. Less than 1 year

B. 1-5 years

C. 5-20 years

D. 20+ years

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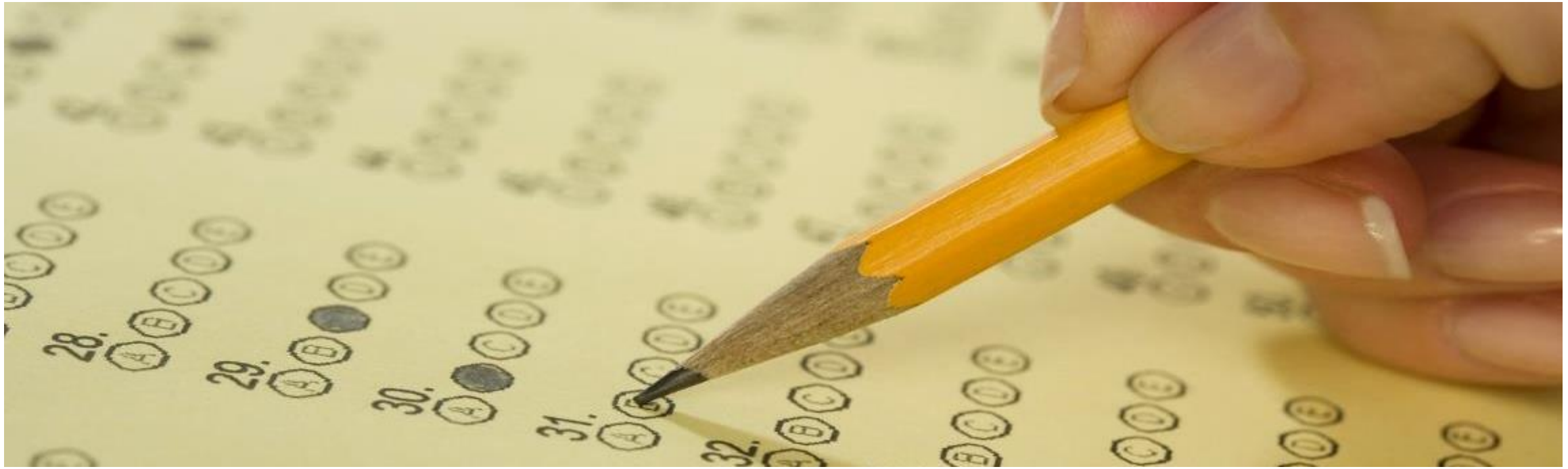
Pre-Session Quiz



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Today's Agenda

Introduction

What, who, why, and where

How

Common threats or attacks

Protection

Techniques to prevent and protect against cyber threats

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How well is your system is protected from cyber security threats?

1. Unbreakable, safe as can be!
2. Very protected.
3. Meh, protected…
4. Not very protected.
5. What protection? How do I do that?

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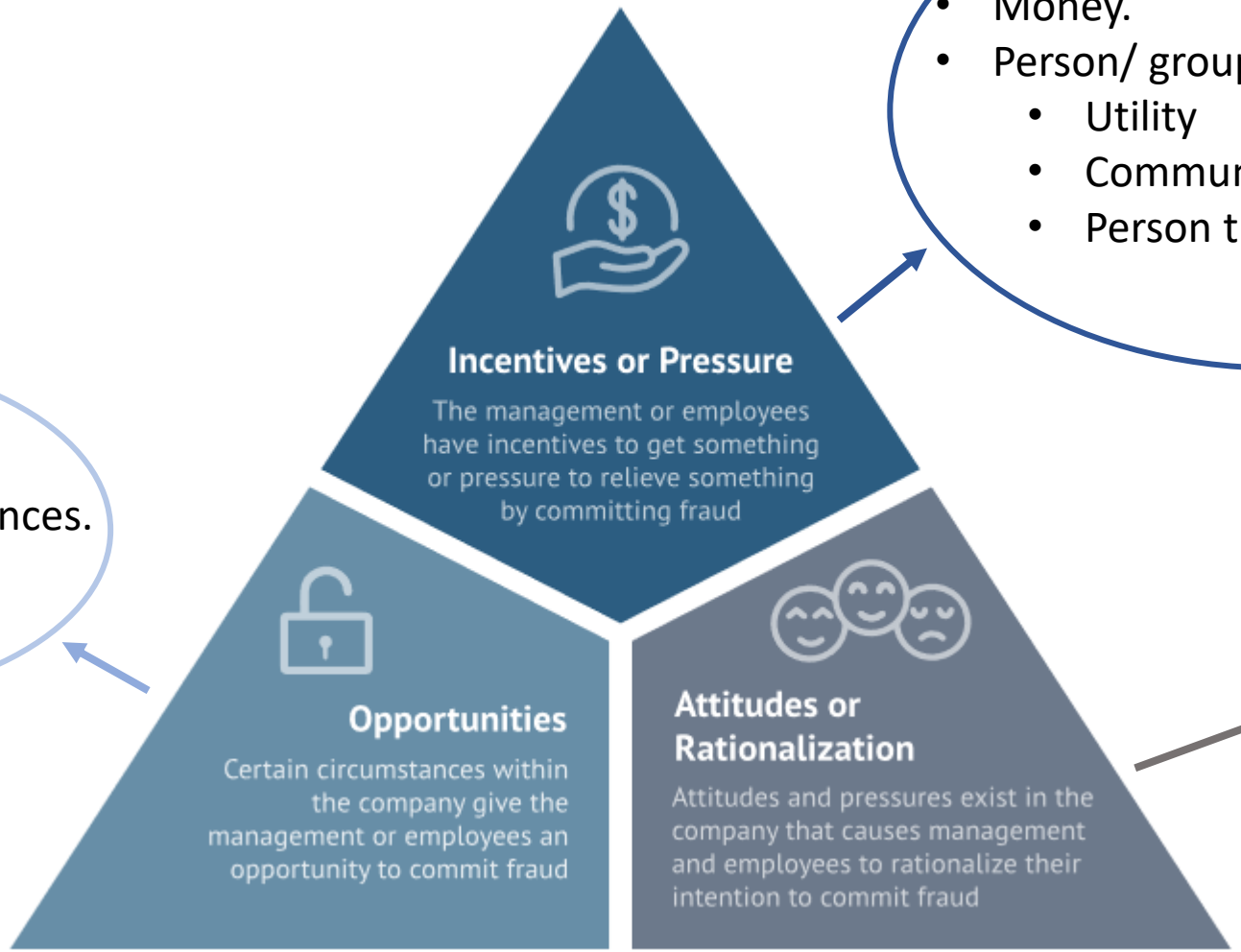
What is Cyber Security

"The art of protecting networks, devices, and data from unauthorized access or criminal use…"
–Cybersecurity & Infrastructure Security Agency

Who is attacking and why?

- Money.
- Person/ group of people upset
  - Utility
  - Community
  - Person that will be impacted



- Its easy.
- No checks and balances.
- Little odds of being caught.

- Revenge
- They'll become a hero
- They'll pay it back
- They deserve it

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Where? Cyber Security Incidents

2021 — **Florida**

- A cyber attacker gained remote access to a water treatment plant operators' computer and increased the dosage of sodium hydroxide by a factor of more than 100. Luckily, he was watching the computer and immediately reversed it.

2021 — **San Francisco, CA**

- Hacker used username and password of former employee to delete programs the plant used to treat drinking water. This wasn't noticed until the next day when programs were reinstalled.

2016 — **Michigan**

- Employee opened an email attachment that loaded ransomware into the system that made several of the water treatment plant operations unavailable. They paid $25,000 to regain access.

2001 — **Australia**

- Hacker gained control of wastewater treatment plant after being denied a job there. He gained control of pumps, causing them to malfunction and discharge wastewater outside into the sea killing animals and plants, as well as an "unbearable stench".

2020 — **Israel**

- An ethical hacker notified a water treatment facility that the control systems could be accessed from unprotected internet. The hacker "could have changed any value in the system" including water pressure, temperature, ect.

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How? Common Cyber Attack Methods.

Virus

- Malicious program attached to another file that runs and spreads when the host file is opened

Worm

- Malicious program that can self-replicate without the user interacting with it

Phishing & Spear Phishing

- Fake emails or websites that look genuine often asking for personal or confidential data
- Sometimes contains links that have viruses or ransomware

Ransomware

- Malicious software that encrypts computer files so the user can't access them until the ransom is paid

Spyware

- Malware that monitors a users' activity and can capture keystrokes and screenshots to steal personal information, data, and internet usage habits

Sniffer

- Software that monitors data that travels over a network

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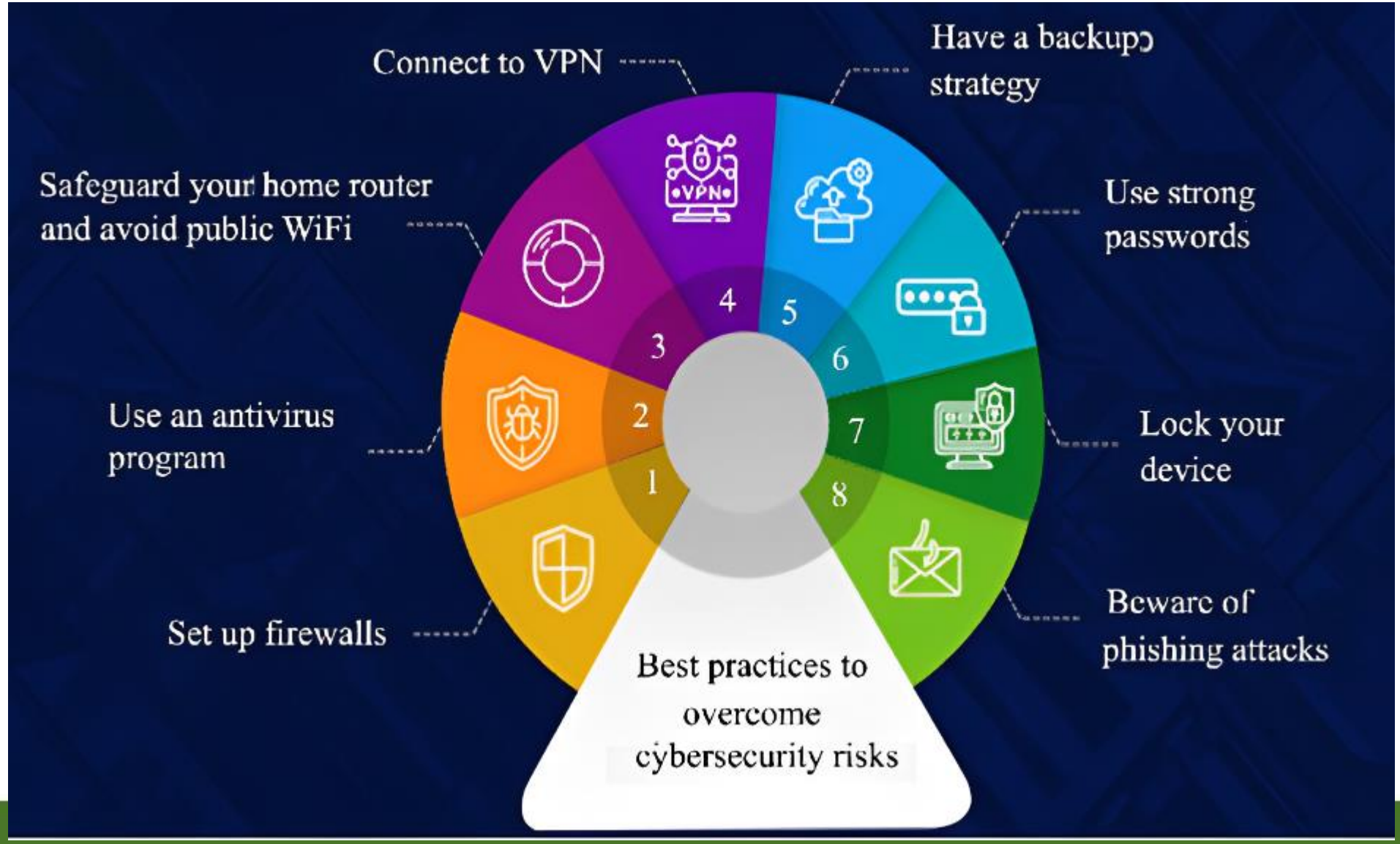
How Can I Best Protect My System?



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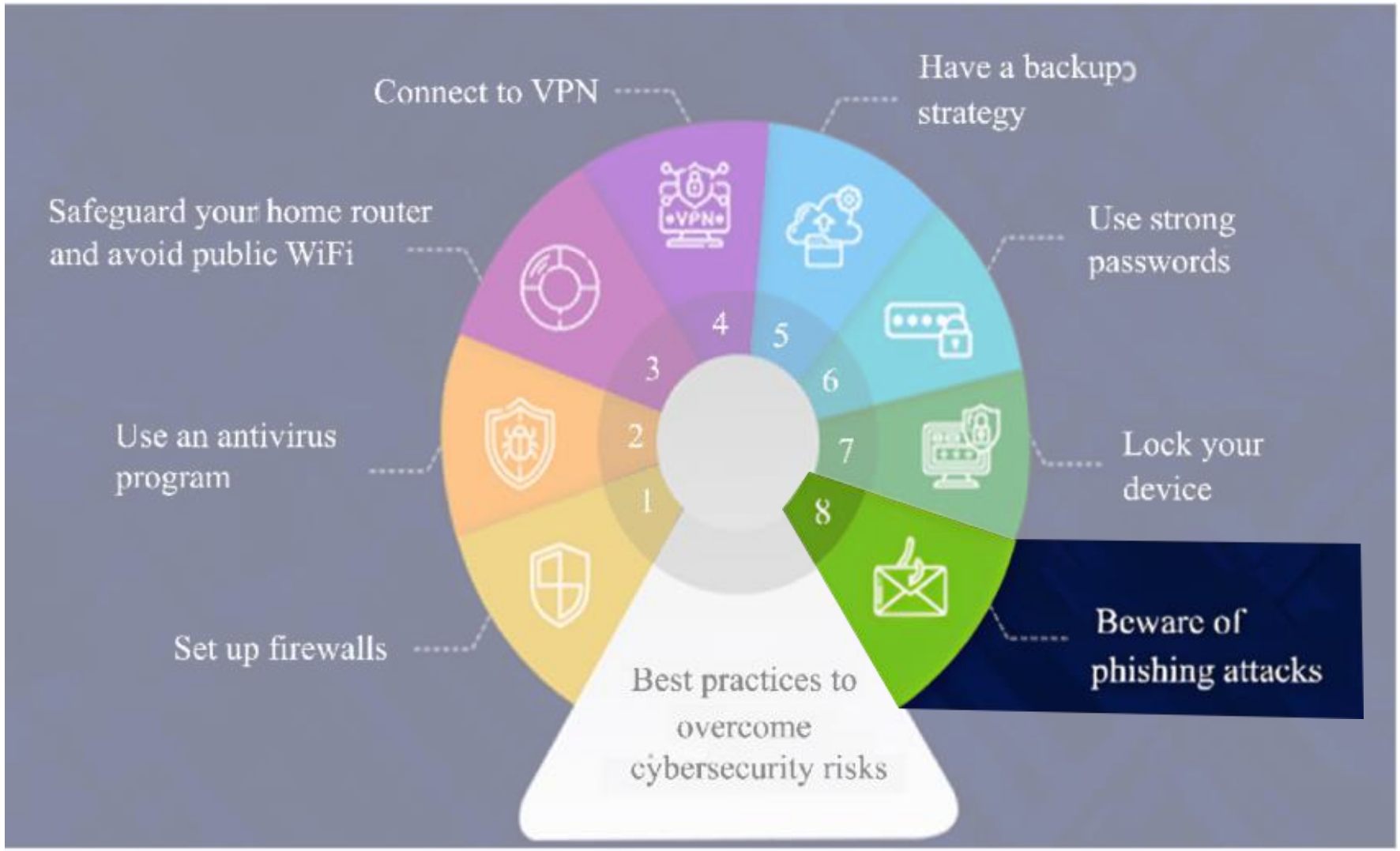

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Do you activity look for phishing in all emails?

A. Yes, every email no matter the sender

B. Only from unfamiliar senders

C. Meh, I see it when its obvious

D. What's phishing?

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Phishing

Fraudsters use email or other websites to acquire sensitive data, often posing as reputable companies.

How can you tell? Be vigilant.

1. **Check the email domain**. Legitimate companies will not have a public email domain such as @gmail.com or @yahoo.com. Nor will the domain be misspelled such as @paypall.com or @yahooo.com or @gemail.com

2. Is there a sense of **urgency**? Click the link in the next 30 minutes. Contact immediately. Phishing is fraud, they prey on fear.

3. **Hyper link does not match what the email is about**. Hover over hyper link to see the web address. If the email is talking abut your bank account but the hyper link isn't directly to the bank website, it is fraud.

4. **There are attachments** in the email, and it is the first correspondence you have received from them.

5. **Asking for passwords or log in information**.

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Real or Fake?

From: **GlobalPay <VT@globalpay.com>** Hide
Subject: Restore your account
Date: February 7, 2014 3:47:02 AM MST
To: David

1 Attachment, 7 KB Save Quick Look

Dear customer,

We regret to inform you that your account has been restricted.
To continue using our services plese download the file attached to this e-mail and update your login information.

© GlobalPaymentsInc

update2816.html (7 KB)

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update2816.html (7 KB)

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Real or Fake?

From: **Costco Shipping Agent <manager@cbcbuilding.com>** Hide
Subject: Scheduled Home Delivery Problem
Date: January 6, 2014 10:54:37 PM MST
To:
Reply-To: Costco Shipping Agent <manager@cbcbuilding.com>

Costco WHOLESALE

Unfortunately the delivery of your order COS-0077945599 was cancelled since the specified address of the recipient was not correct. You are recommended to complete this form and send it back with your reply to us.

Please do this within the period of one week - if we dont get your timely reply you will be paid your money back less 21% since your order was booked for Christmas.

1998 - 2013
Costco Wholesale Corporation
All rights reserved

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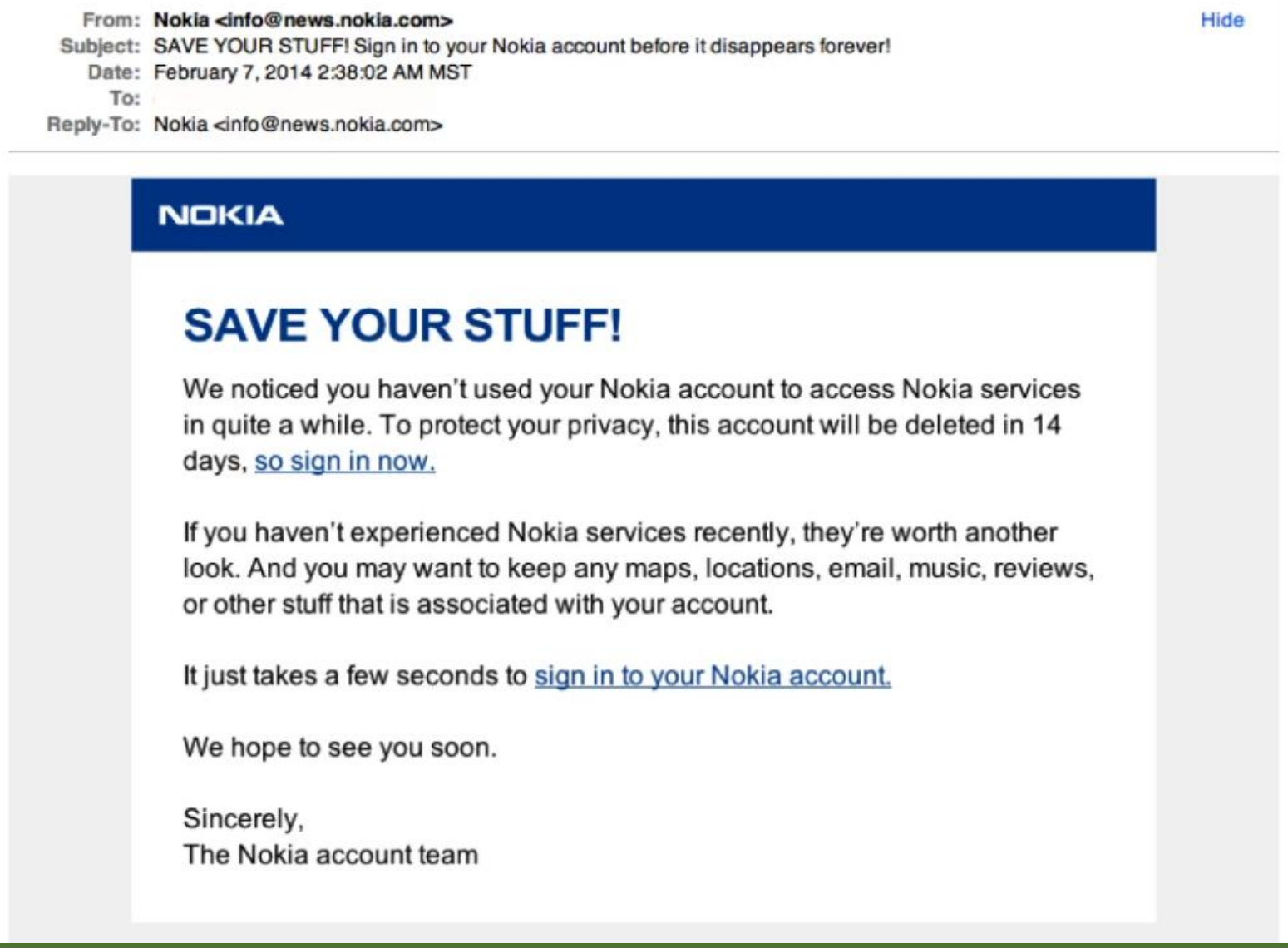

From: **Nokia <info@news.nokia.com>** Hide
Subject: SAVE YOUR STUFF! Sign in to your Nokia account before it disappears forever!
Date: February 7, 2014 2:38:02 AM MST
To:
Reply-To: Nokia <info@news.nokia.com>

NOKIA

SAVE YOUR STUFF!

We noticed you haven't used your Nokia account to access Nokia services in quite a while. To protect your privacy, this account will be deleted in 14 days, so sign in now.

If you haven't experienced Nokia services recently, they're worth another look. And you may want to keep any maps, locations, email, music, reviews, or other stuff that is associated with your account.

It just takes a few seconds to sign in to your Nokia account.

We hope to see you soon.

Sincerely,
The Nokia account team

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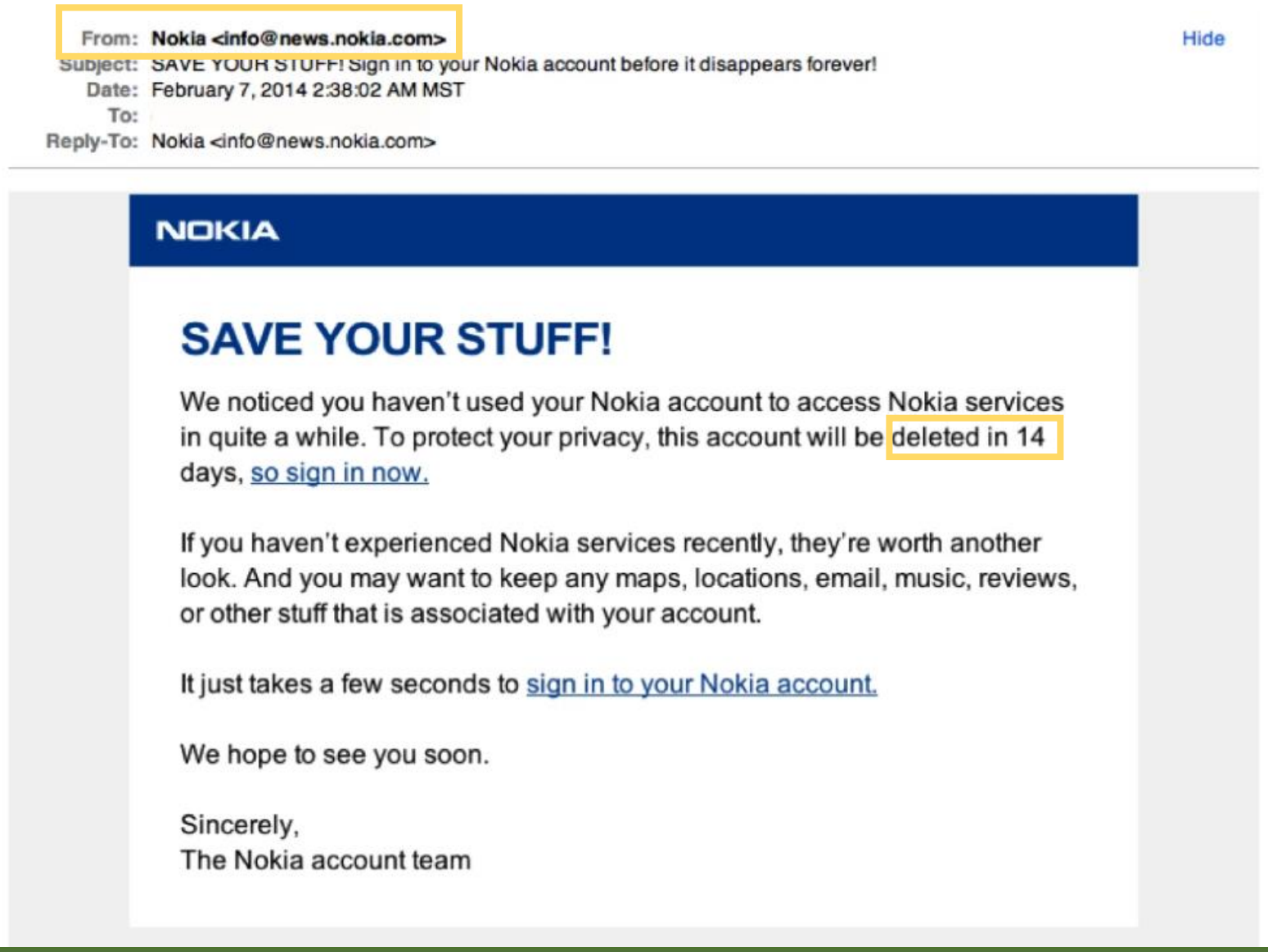

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We hope to see you soon.

Sincerely,
The Nokia account team

Media inquiries

press.services@nokia.com

Nokia phones media relations

press@hmdglobal.com

Industry and media analysts

nokia.iar@nokia.com

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Confirmation of your request from Hotels.com MISC/Scams x

Hotels.com <Hotelscom@roktpowered.com> Nov 14, 2018, 11:38 AM (1 day ago)
to dave

Hotels Hotel Deals Packages & Flights Groups Customer Service Gift Cards Secret Prices

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New York Hotels Las Vegas Hotels Chicago Hotels Los Angeles Hotels

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You must click through this email or book through our app to redeem this coupon.

*Use by 11:59 PM MT on 01/15/19 for travel by 04/30/19. Can't be used on some hotels. See details below.

Bookings using this coupon are not eligible for Hotels.com™ Rewards.

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How to redeem your coupon:

1. **Click this email or open our app** (this will activate your coupon)
2. **Search from thousands of hotels worldwide**
3. **Book using your unique coupon code** (enter code on the booking form)

Terms and Conditions

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Use this coupon to get $50 off the price of your booking at a participating Best Price Guarantee hotel when you stay between 1 and 28 nights and you spend a minimum of $350 for your entire stay.

You must pay for your stay when you make the booking. The discount only applies to the first room in the booking. You'll need to pay the full price for any other rooms. The discount doesn't apply to any taxes, fees or additional costs.

To use this coupon, you must be over 18 years old and resident in the United States. You may only use this coupon for bookings made between 12:01 am MT on July 1, 2018 and 11:59pm MT on January 15, 2019 on the US version of Hotels.com for a stay with a check-in date between July 1, 2018 and April 30, 2019. Bookings are subject to availability and the hotel's terms and conditions.

This coupon can't be used for:

1. Package bookings i.e. hotel + flight
2. Bookings made through Group Travel Services

Real or Fake?

Confirmation of your request from Hotels.com MISC/Scams ×

Hotels.com <Hotelscom@roktpowered.com> Nov 14, 2018, 11:38 AM (1 day ago)

to dave

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How to redeem your coupon:

1. **Click this email or open our app** (this will activate your coupon)
2. **Search from thousands of hotels worldwide**
3. **Book using your unique coupon code** (enter code on the booking form)

Terms and Conditions

This offer is for email subscribers. It's only valid when you click through from your Hotels.com coupon email. Access your Hotels.com coupon email from your inbox and click through to our website. Apply your discount before you book.

Use this coupon to get $50 off the price of your booking at a participating Best Price Guarantee hotel when you stay between 1 and 28 nights and you spend a minimum of $350 for your entire stay.

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How to prevent Phishing?

Tips to Prevent Phishing Attacks

Here are 10 simple tips for identifying and preventing phishing scams.

1. Know what a phishing scam looks like

1. Keep Informed About Phishing Techniques – New phishing scams are being developed all the time. Without staying on top of these new phishing techniques, you could inadvertently fall prey to one. Keep your eyes peeled for news about new phishing scams. By finding out about them as early as possible, you will be at much lower risk of getting snared by one. For IT administrators, ongoing security awareness training and simulated phishing for all users is highly recommended in keeping security top of mind throughout the organization.

2. Think Before You Click! – It's fine to click on links when you're on trusted sites. Clicking on links that appear in random emails and instant messages, however, isn't such a smart move. Hover over links that you are unsure of before clicking on them. Do they lead where they are supposed to lead? A phishing email may claim to be from a legitimate company and when you click the link to the website, it may look exactly like the real website. The email may ask you to fill in the information but the email may not contain your name. Most phishing emails will start with "Dear Customer" so you should be alert when you come across these emails. When in doubt, go directly to the source rather than clicking a potentially dangerous link.

Employee Awareness Training

It is paramount to train employees to understand phishing strategies, identify signs of phishing, and report suspicious incidents to the security team.

1. **Conduct regular employee training**: Train employees to recognize phishing attacks to avoid clicking on malicious links.

mails

Being vigilant about spotting phishing emails is key. If you've come across one in your inbox (that hasn't been auto filtered into spam), use these strategies to avoid becoming a victim of a phishing attack.

It doesn't matter if you have the most secure security system in the world. It takes only one untrained employee to be fooled by a phishing attack and give away the data you've worked so hard to protect. Make sure both you and your employees understand these specific email phishing examples and all of the telltale signs of a phishing attempt.

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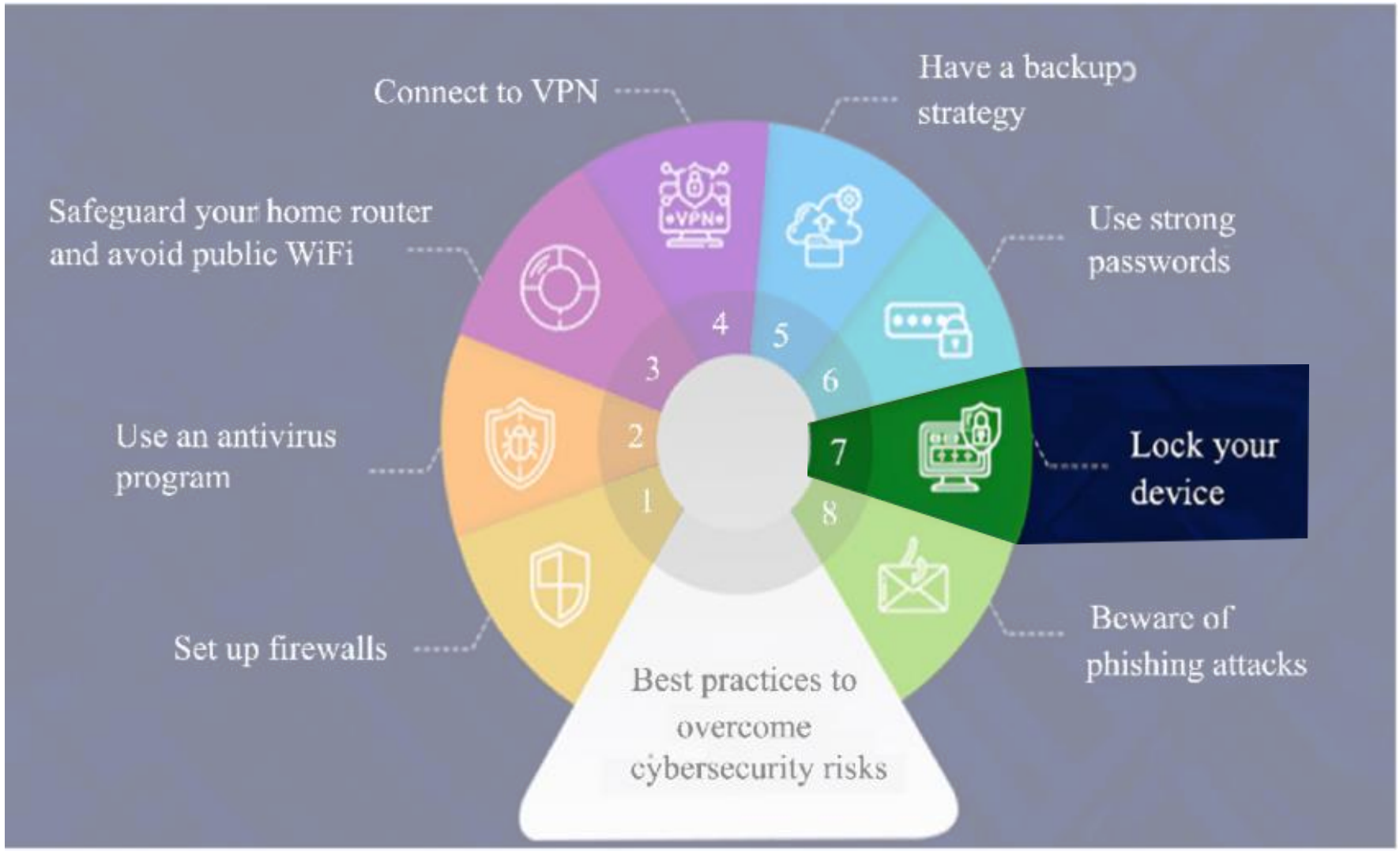
References: SecurityMetrics, Lepide, Kaspersky, Phishing.org,

How Can I Best Protect My System?



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Did you unlock your device this morning?

A. Yes

B. No

C. Hehe maybe

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Locking Device

Crime of opportunity!
Lock your phone, computer, EVERYTHING that can lock – do it.

Easy way to prevent ANYONE from tampering with your device.

Poll during break to see how many people locked device.

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Creating Multiple Users

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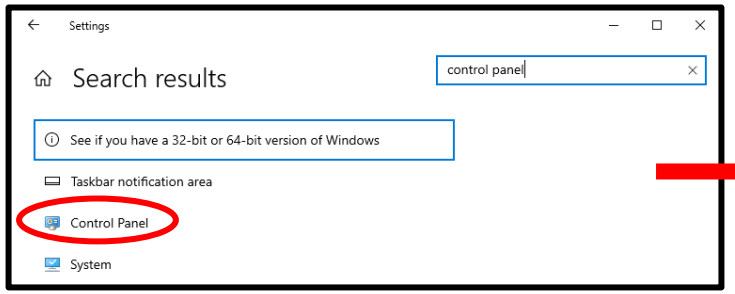
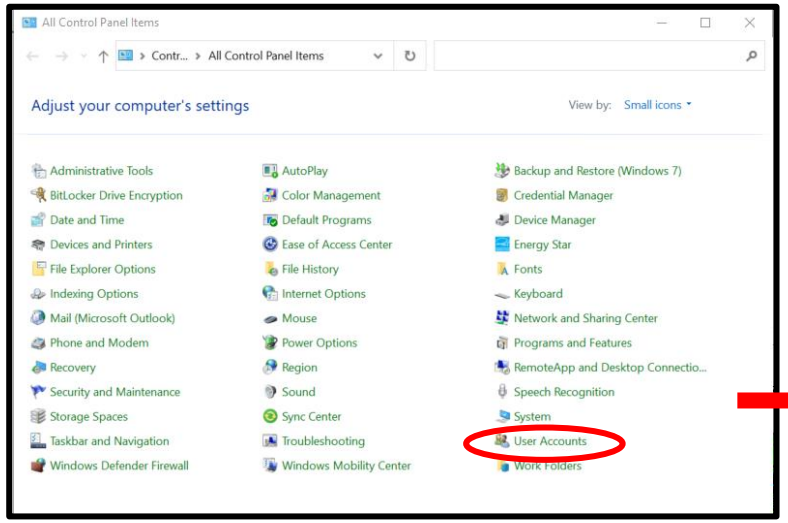
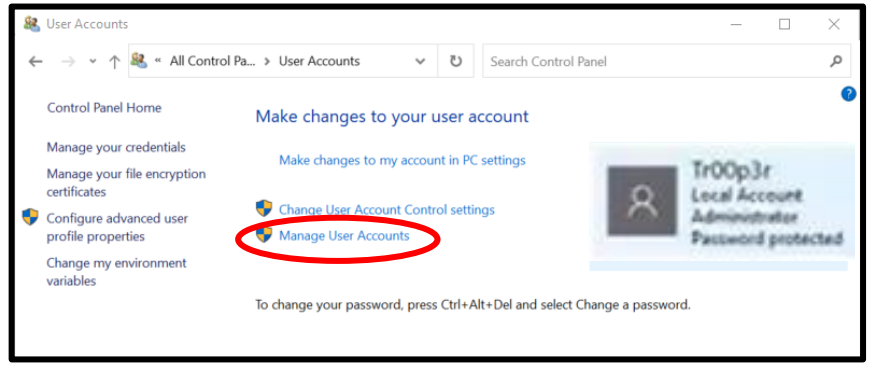
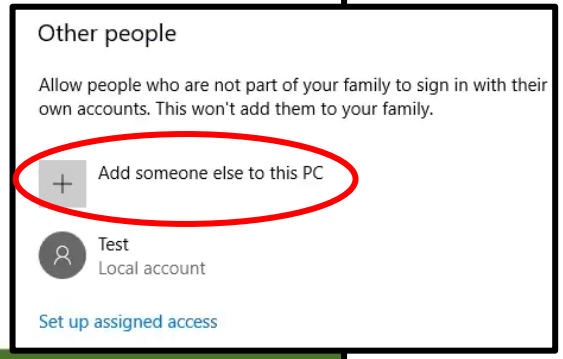
Creating Multiple Users

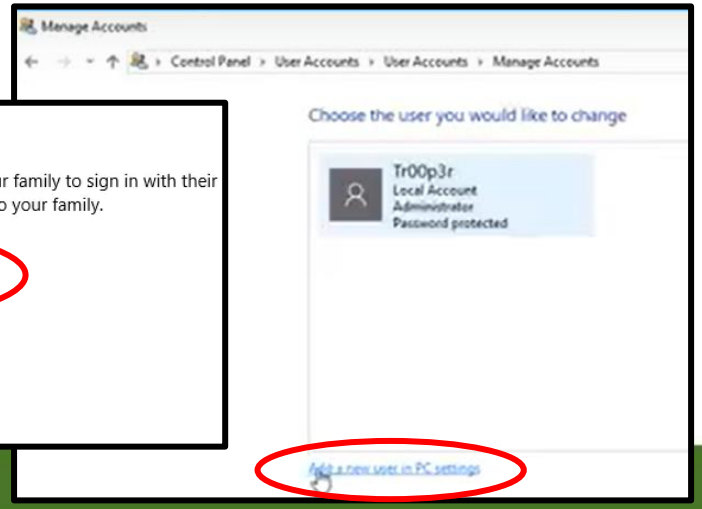
Search or find Control Panel → User Accounts → Manage User Accounts → Add New → Reboot to see changes

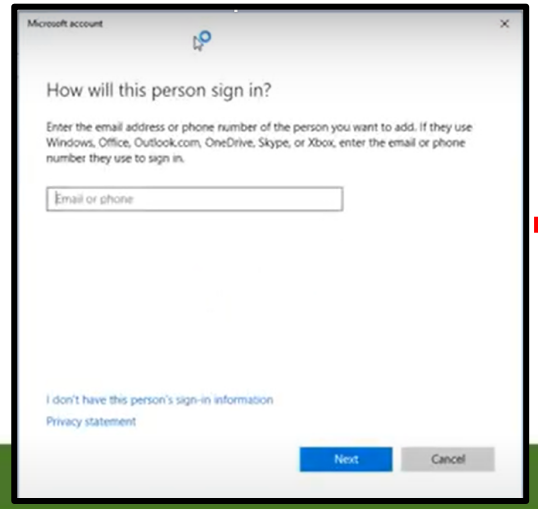


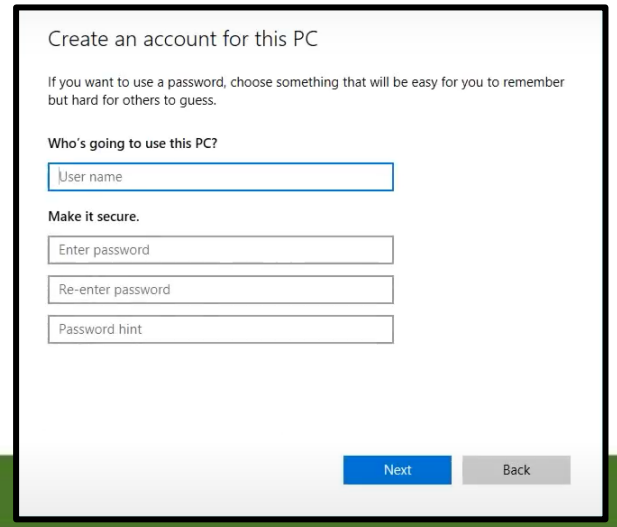






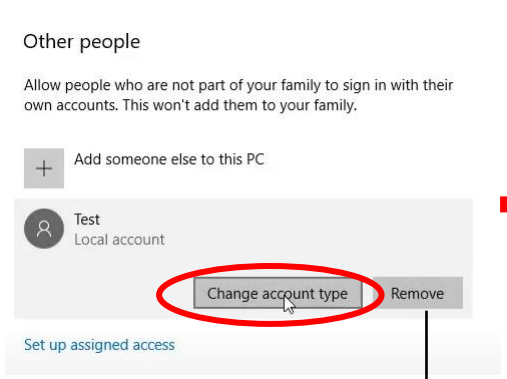




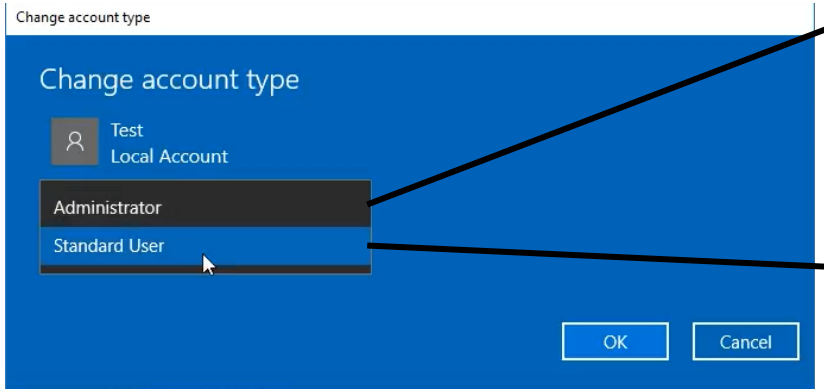


Managing Multiple Users

Search or find Manage User Accounts → Left click on Account → Change Account Type → Reboot to see changes



Delete user

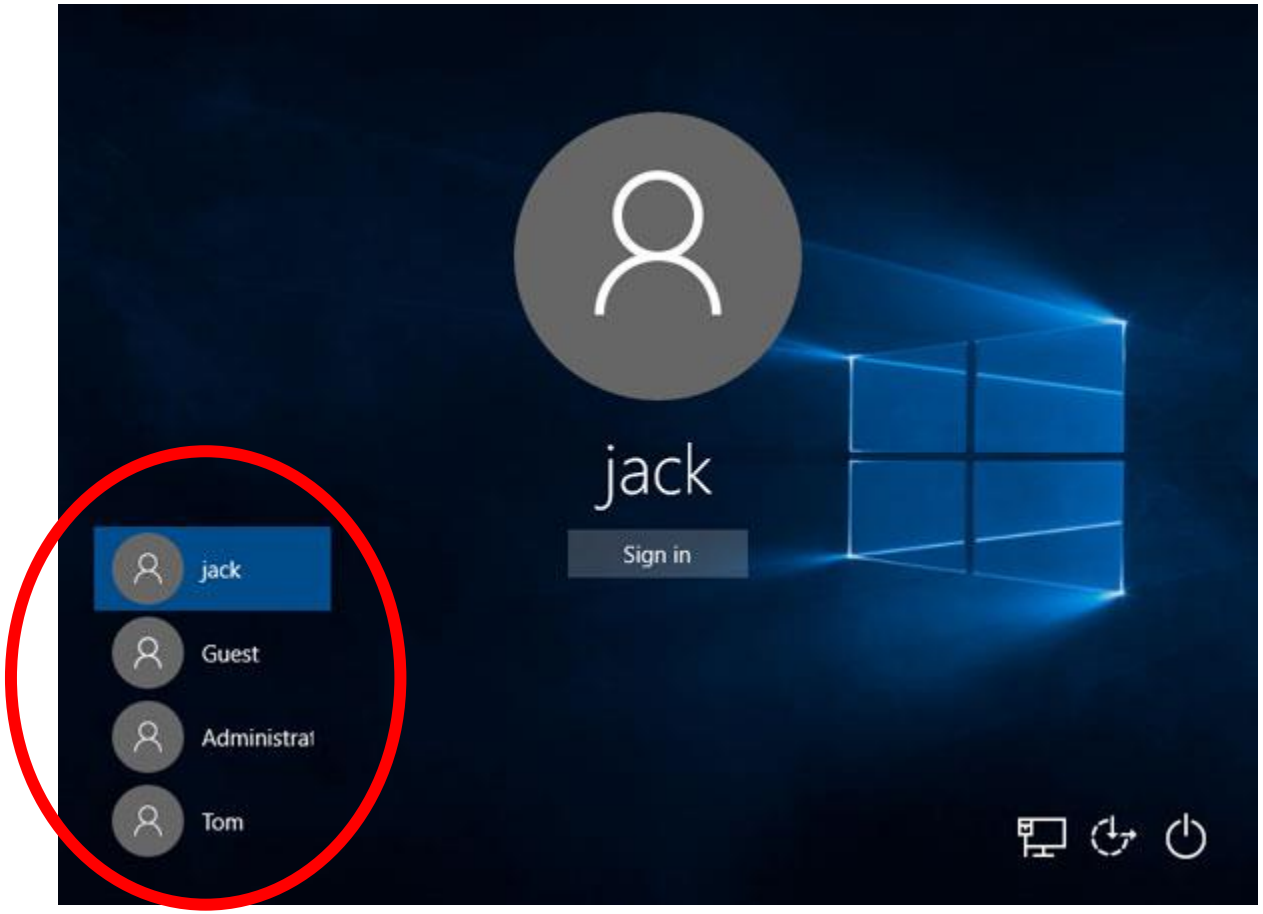


Administrator has full system control, they can install programs, make user control changes, and change files.

Standard User has less access to computer control, this prevents users from installing things on computer. Can prevent malicious files from effecting the entire computer. Also great for kids.

More information on Standard User vs Administrator and other account settings

Creating Multiple Users



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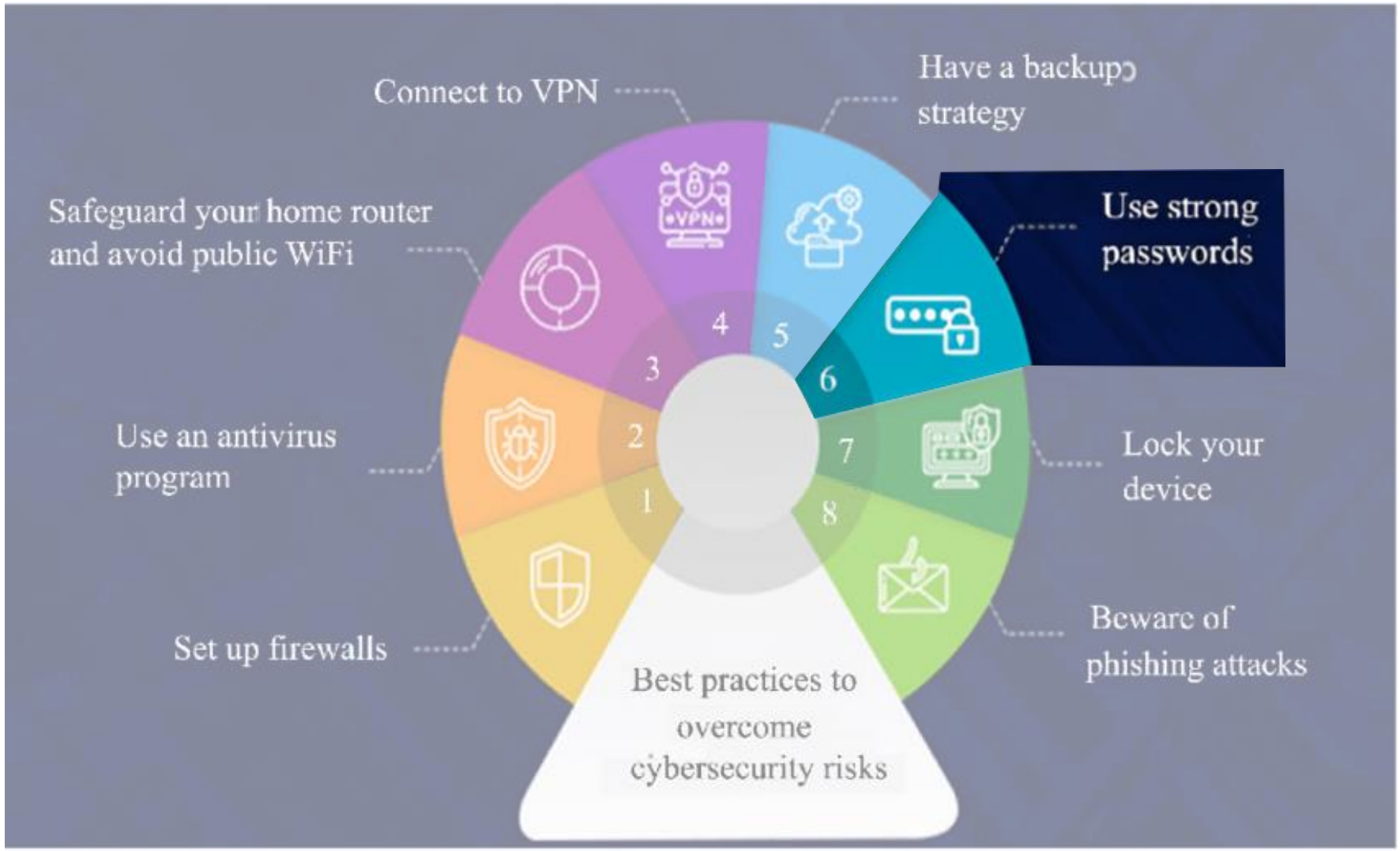

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Do you use the same password for multiple sites?

A. All my passwords are the same

B. My passwords are similar with tiny differences between sites

C. I have different passwords for important sites and the same for less important

D. All my passwords are different

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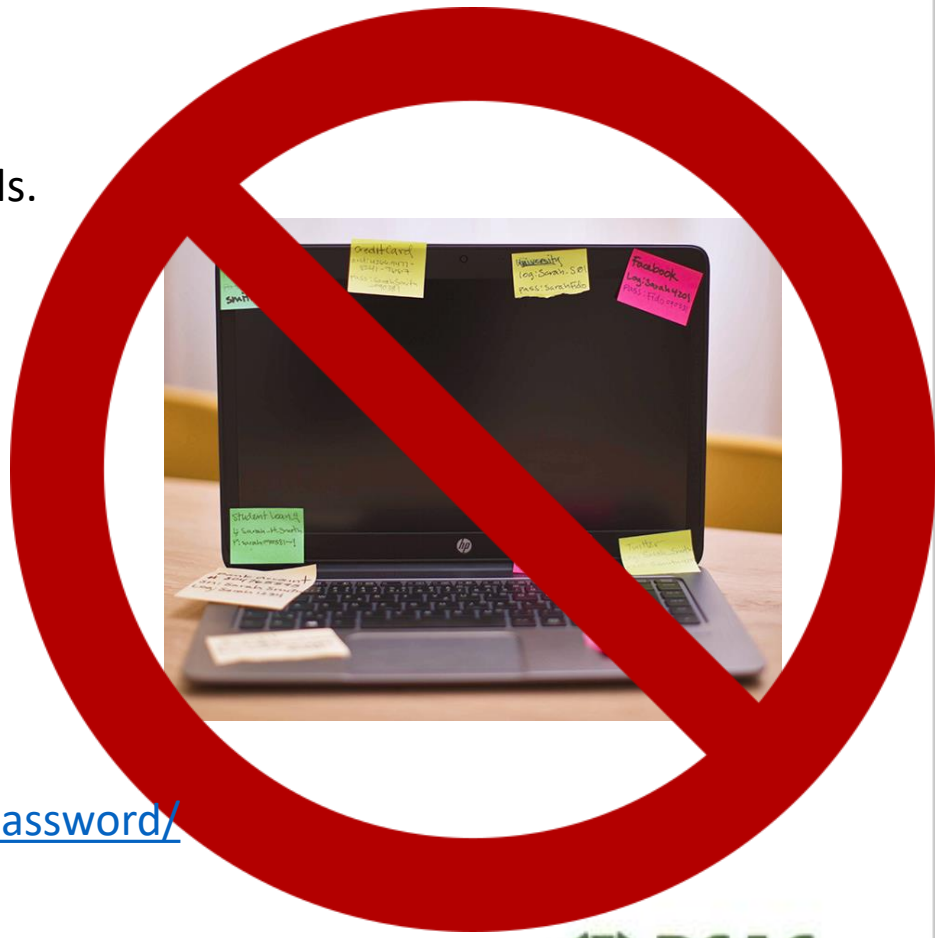
STRONG Passwords on EVERYTHING

GOAL: Make a hackers' job harder!

Strong password definition: 10+ characters with letters (both uppercase and lowercase), numbers, symbols, and no obvious information or common words.

The hard part is using different passwords for every site.

Hackers reply on patterns and finding habits.



Password Generator Lastpass.com

How secure is your password? https://www.security.org/how-secure-is-my-password/

Has your password been compromised? Haveibeenpwned.com

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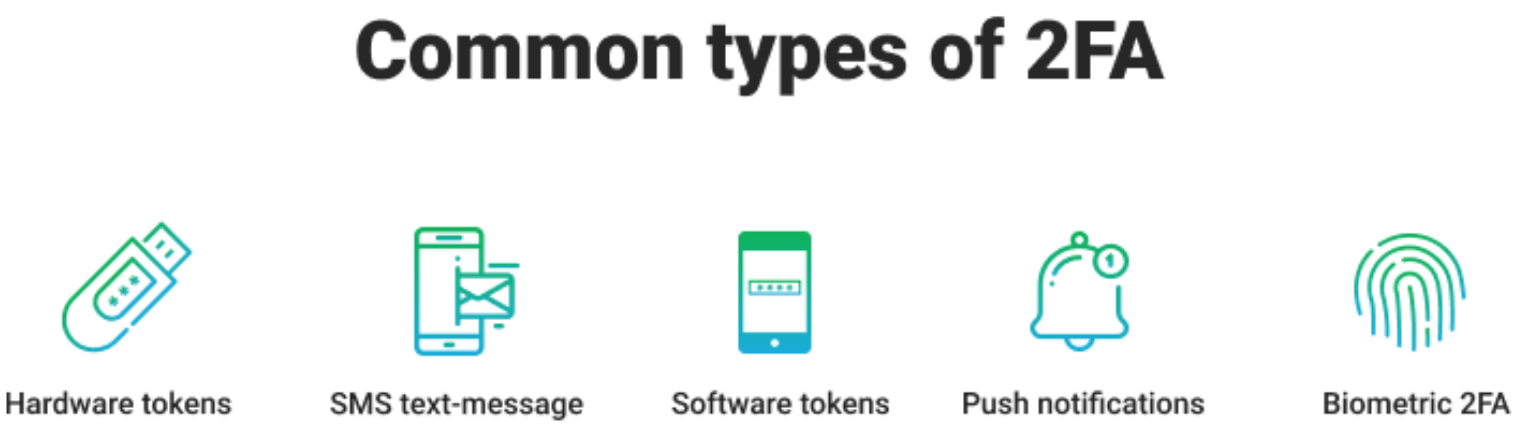
Two Factor Authentication

Extra layer of protection other than username and password
There are ways for hackers or bots to break into your account…
HOPEFULLY, hackers and bots do not have access to two

Something you know – username and password
Something you have – phone or “key”
(Sometimes) Something you are – face or fingerprint



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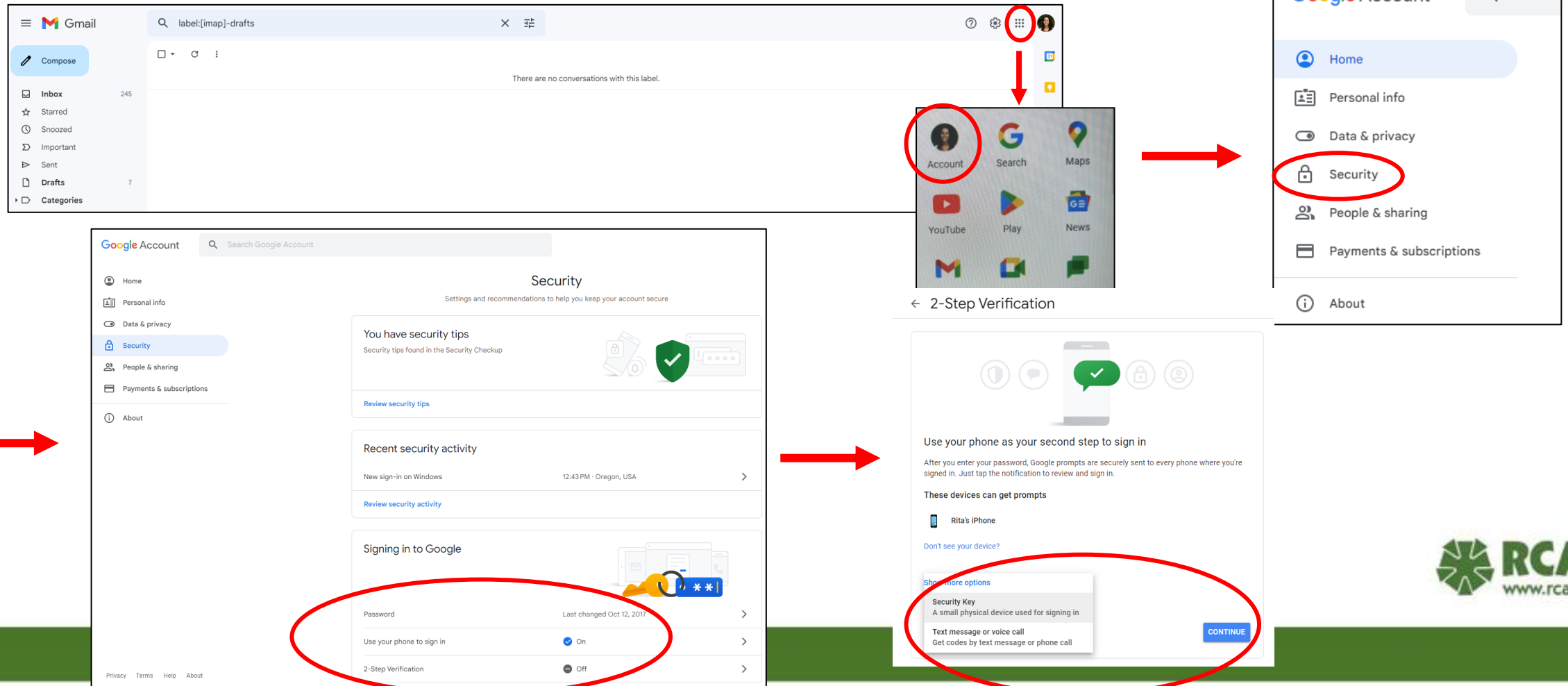
Two Factor Authentication

Google Accounts: Account → Security → Signing in to Google → turn on 2-Step Authentication or use your phone to sign in → Get Started



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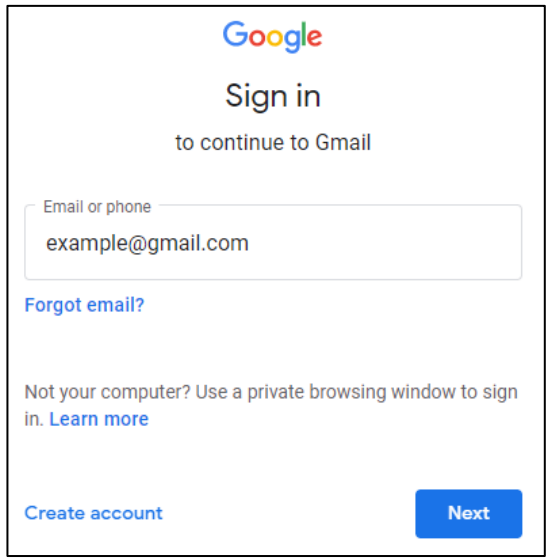
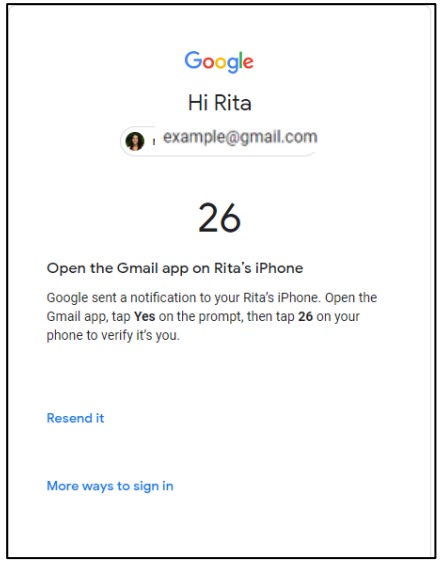
Two Factor Authentication

What is looks like…

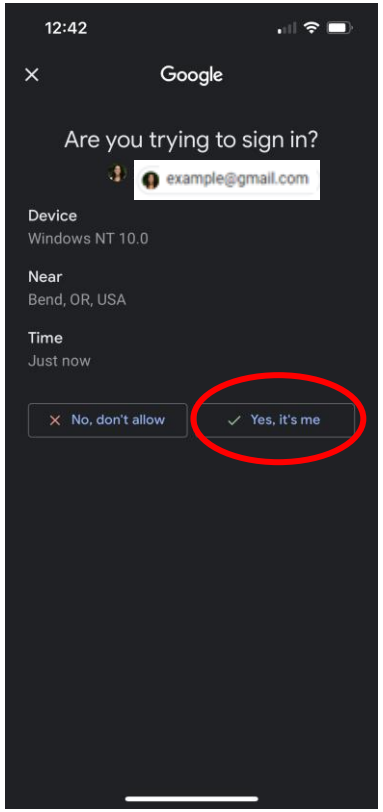


"2-Factor Verification" will ask for password and then prompt phone notification.

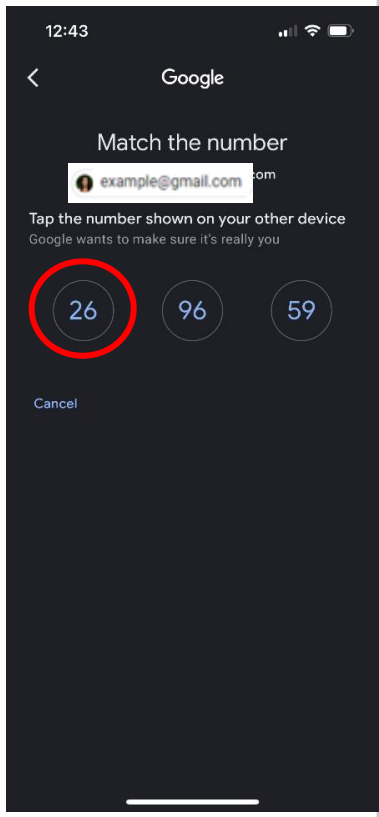
"Use your phone to sign in" will only prompt phone notification

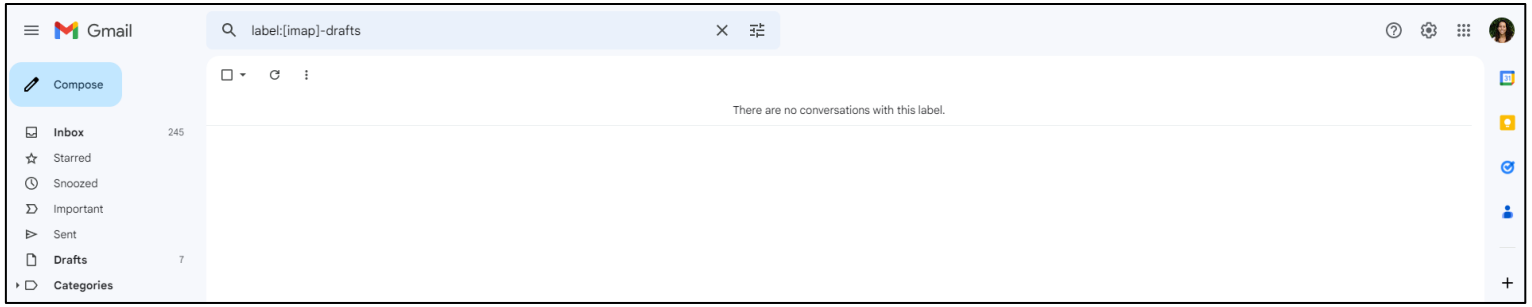


Notification was sent to my phone →



FaceID signed me in





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Password Managers / Vaults

Program that stores log in, password, and payment information in an encrypted format

Can also create strong passwords and change them regularly

Free Password programs likely lack compared to paid, some may be safety-related lacking's.

Free version cannot be used on multiple devices simultaneously

Free with paid extras

Free version limited to one device
Paid can be expensive

Highly rated, easy to use

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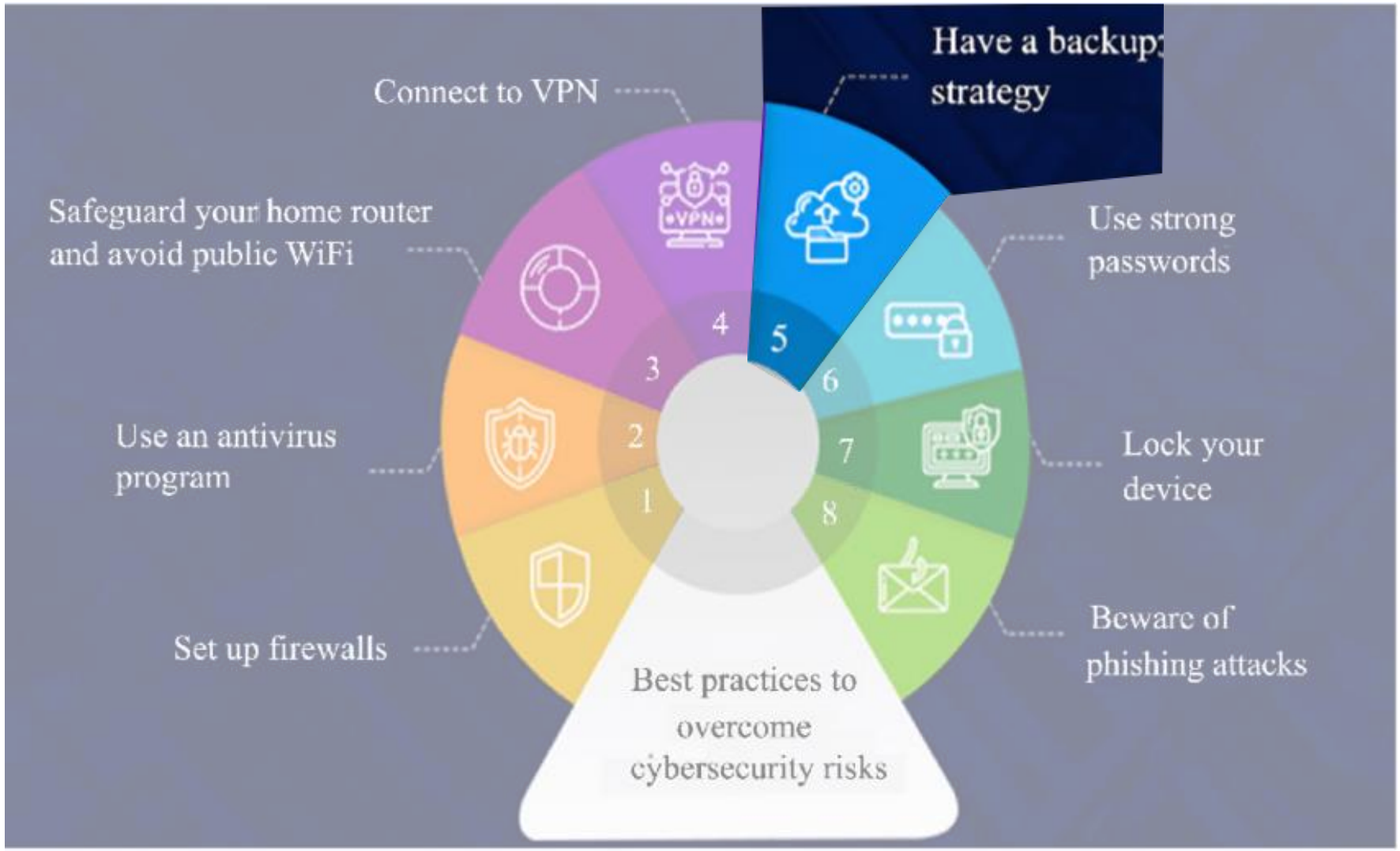

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Do you back up your device?

A. Constantly

B. On a regular basis

C. Oof… sometimes…

D. How do I back up my device?

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Backups

Externally
USB, hard drive

Pros: Do not need internet to get information

Cons: Physical, if lost or stolen all the information is too

Cloud Backups
IDrive, BackBlaze, Acronis

Pros: Accessible only with internet connection. Not physical.

Cons: Comes with a fee, can be slow

Cloud Syncs
Google Drive, Dropbox, Microsoft OneDrive

Pros: limited space for free

Cons: limited, can have security concerns

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Update

“60% of data breaches were due to not systems where an update was available but not applied” – SecurityBlvd

1. Operating System aka computer
   Start → Settings (scroll down) → Update and Security → Update
   If available set up automatic updated by adjusting active hours

2. Browsers
   Open Browser → click on three dots in upper right corner → scroll down to “help” or “about” → clicking this will open new page and start update → restart to activate updates

3. Apps and Programs
   Google how to look up updates for each app or program

4. Internet Routers (at least once every five years)
   Network status → connect to router via ethernet cable → open and log into router → update button should appear if update is available. Updates can also usually be found on manufacturers homepage.

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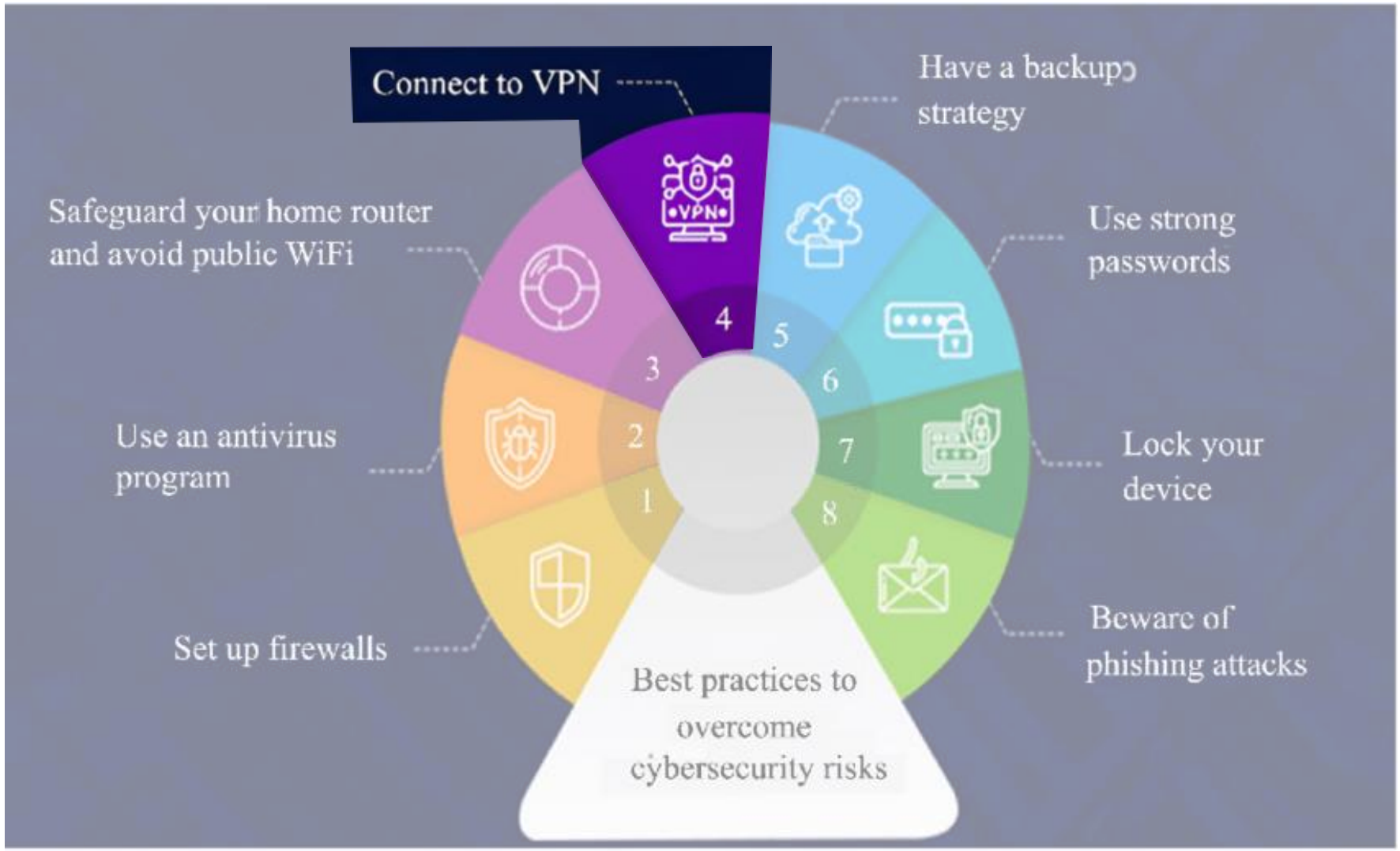
How Can I Best Protect My System?



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Do you use a VPN?

A. Yes, I use it whenever I use my device

B. Yes, only to access specific documents or files

C. I do not use it.

D. What is a VPN?

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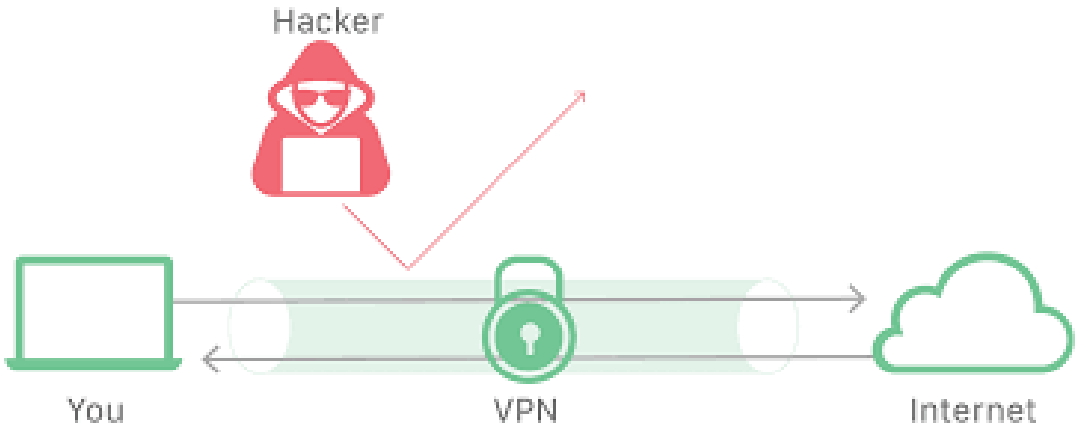
VPN

Virtual Private Network creates extra encryption around your data, extra protection against hackers. However, the internet speed may slow down due to increased data AND its costs money.

Set up is fairly easy.

1. Download VPN service
2. Different for different devices, generally, Settings → Network → VPN → Add VPN → enter VPN information

A VPN is not a substitute for anti-virus. It is protection for your information, not defense.
There are antivirus software(s) that also offer VPNs.



How To Set Up A VPN (2023 Guide) – Forbes Advisor

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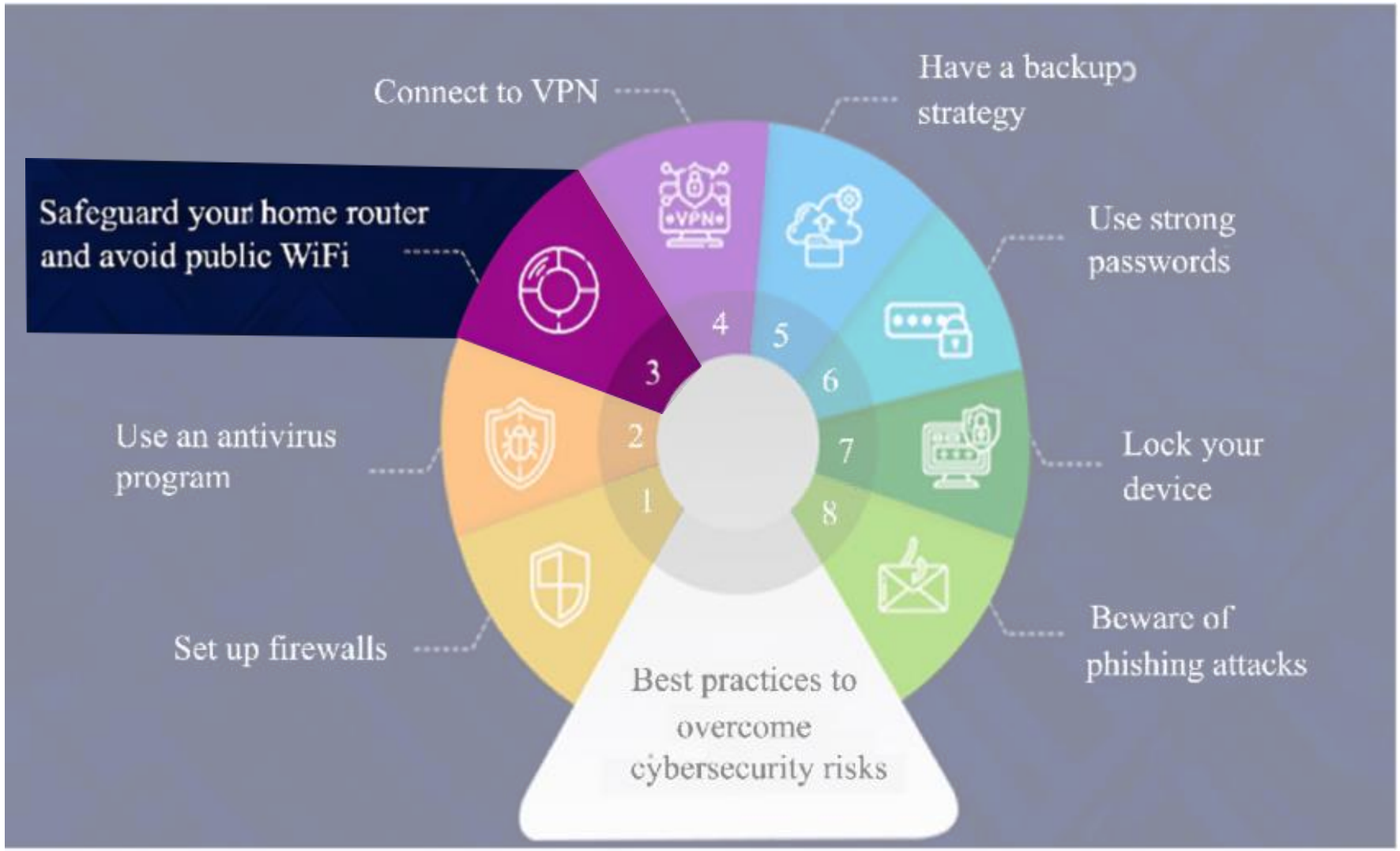
How Can I Best Protect My System?



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Does your Wi-Fi have a password?

A. Yes

B. No

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Do you know where your router is?

A. Yes

B. No

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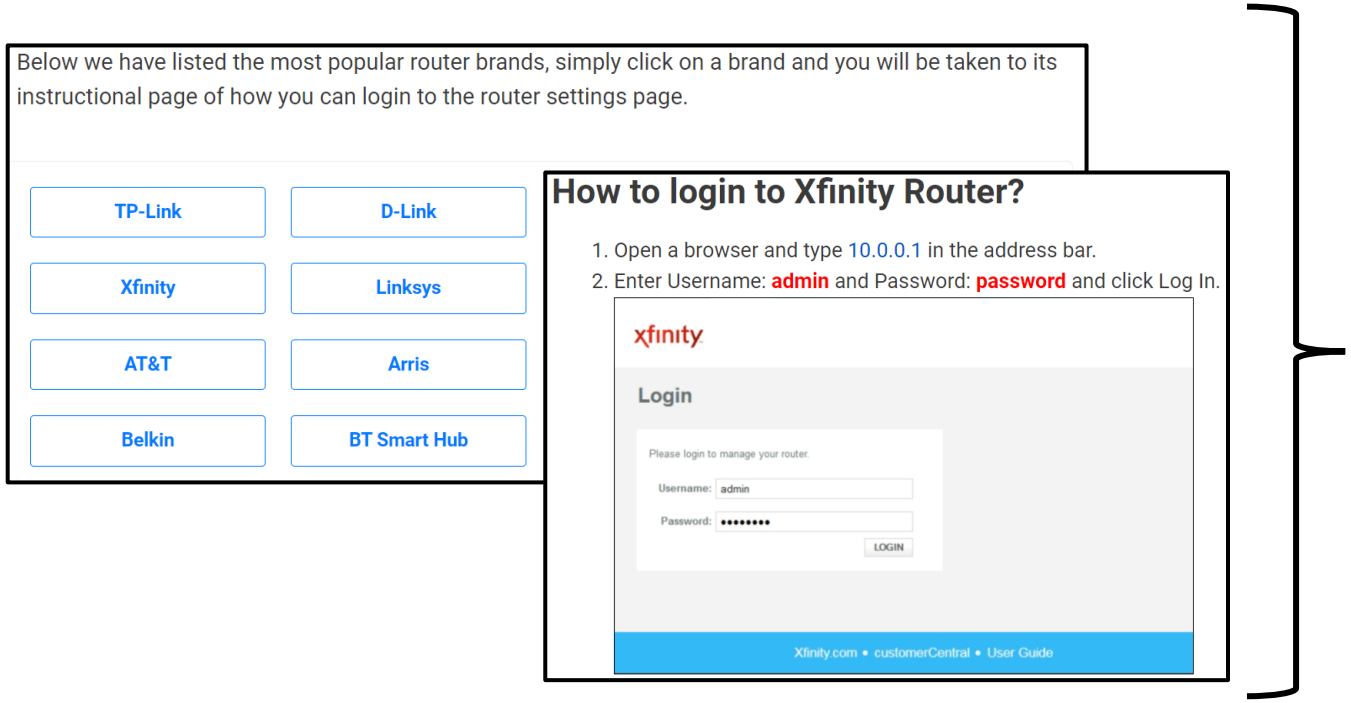
Safe WIFI and Router Settings

AVIOD free public WiFi. If you have a hot spot use a hotspot.

Changing router settings

open browser window → type IP address (usually 192.168.1.1 or 192.168.0.1) this can be found on bottom of router or by googling router type + admin log in page → get log in and password which is usually on bottom of router as well (try username: admin and password: password)



Safe WIFI and Router Settings

What to change:

1. Change log in and password!
    - Tape the new one on the bottom.
    - Advanced → Administration → set password →

2. Change default name of your WIFI (aka SSID)
    - This can be done in wifi settings or wifi security pages

3. Have different WiFi for employees and guests
    - Can be configured in settings. Be sure to turn off access to “local network resources” in the guest wifi

4. Enable encryption
    - Some routers come this is feature but turned off.
    - The most recent is WPA3(2018), followed by WPA2(2004) and WPA(2003)
    - The newer the WPA the more power needed (thus can slow down network) and the newer the device needs to be to be compatible

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Safe WIFI and Router Settings

Advanced Settings to Change:

1. DNS
2. Unup
3. WPS
4. Turn OFF remote management or remote administration

5. 5 Router Settings You Should Change Now! - YouTube

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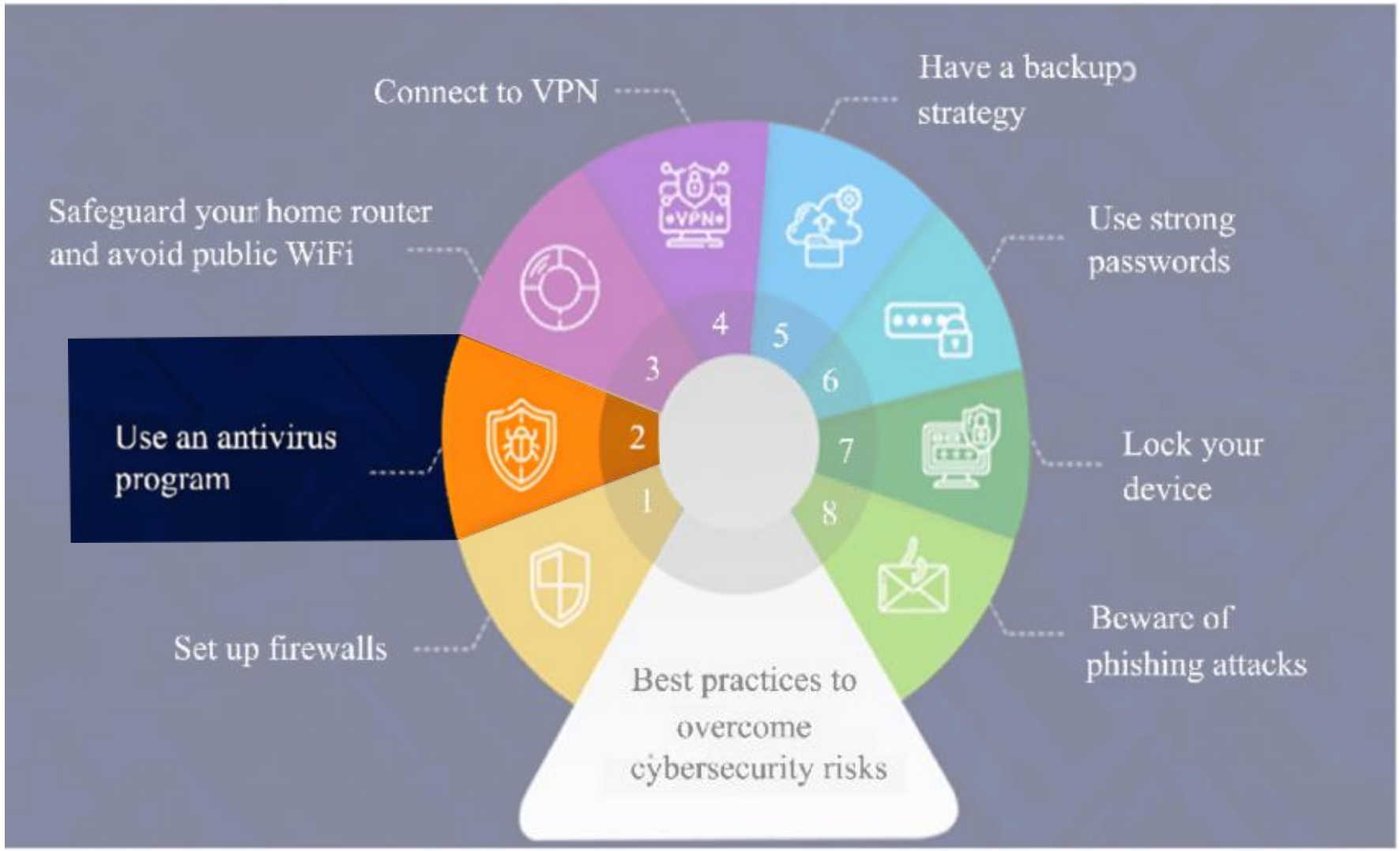

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Do you have antivirus software?

A. Yes, I check it regularly

B. Yes, I downloaded it and I haven't checked it

C. No, but I know what it is

D. I don't know what antivirus is

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Anti-virus

“Program or programs that prevent, search for, detect, and remove viruses and other malicious software” – Webroot.com

Many common programs do this by warning about dangerous websites and links + preventing theft, phishing, and fraud + scan files for threats + detect, block, and remove malicious software.

Avira

^ free but can come with VPN for fee

avast

^ comes with VPN for ~$5/ month

kaspersky

^ free and ranked well

Bitdefender

^ free and paid options
Ranks high

Malwarebytes

^ free and paid options
Ranks high

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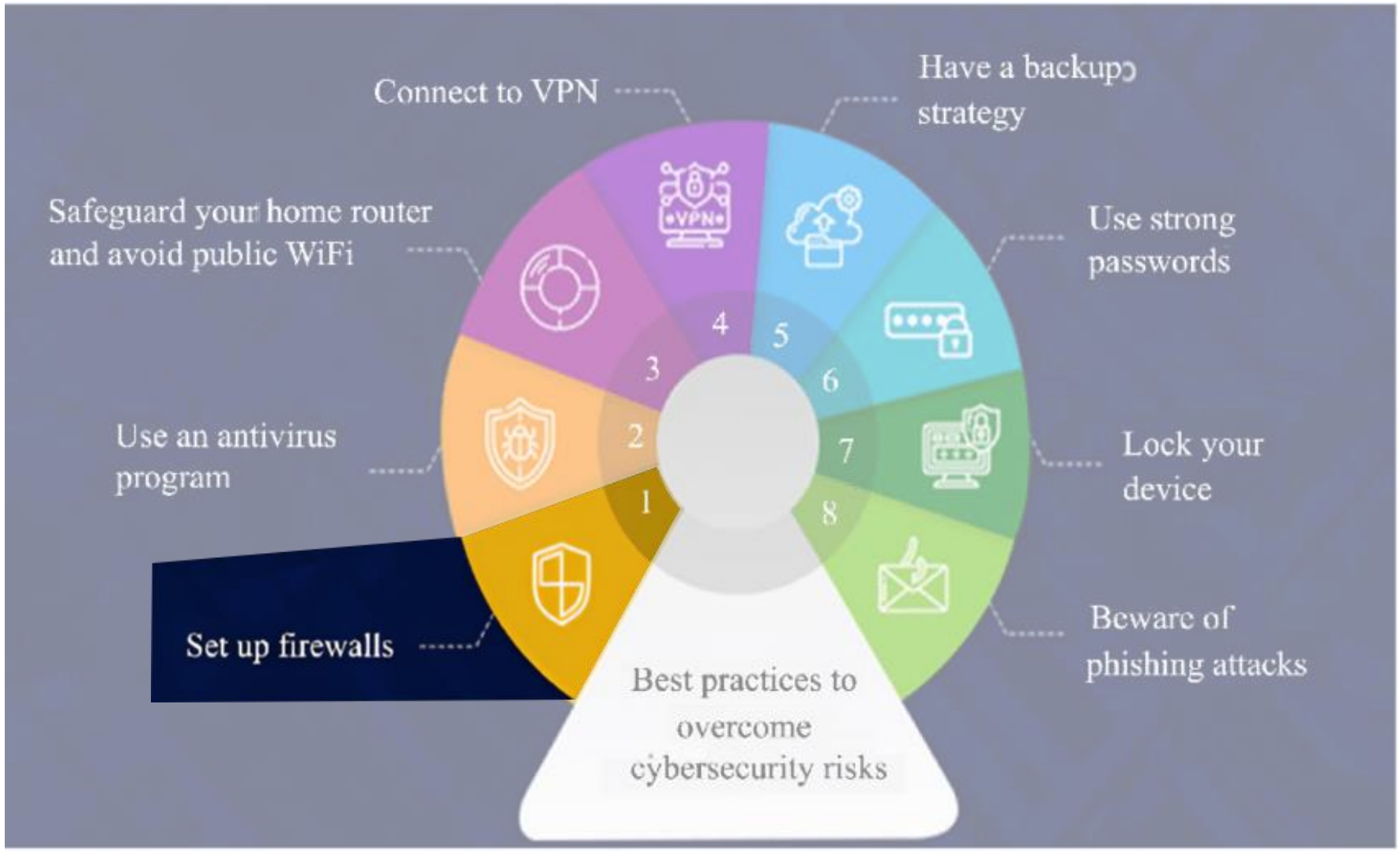
How Can I Best Protect My System?



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Does your Wi-Fi have a password?

A. Yes

B. No

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Firewall – prevents the bad from coming in

- Every windows computer comes with a firewall.
- Usually, they part of an antivirus software

Other options…

Free
Our IT guy likes it

Free

Highly rated
Real time visibility

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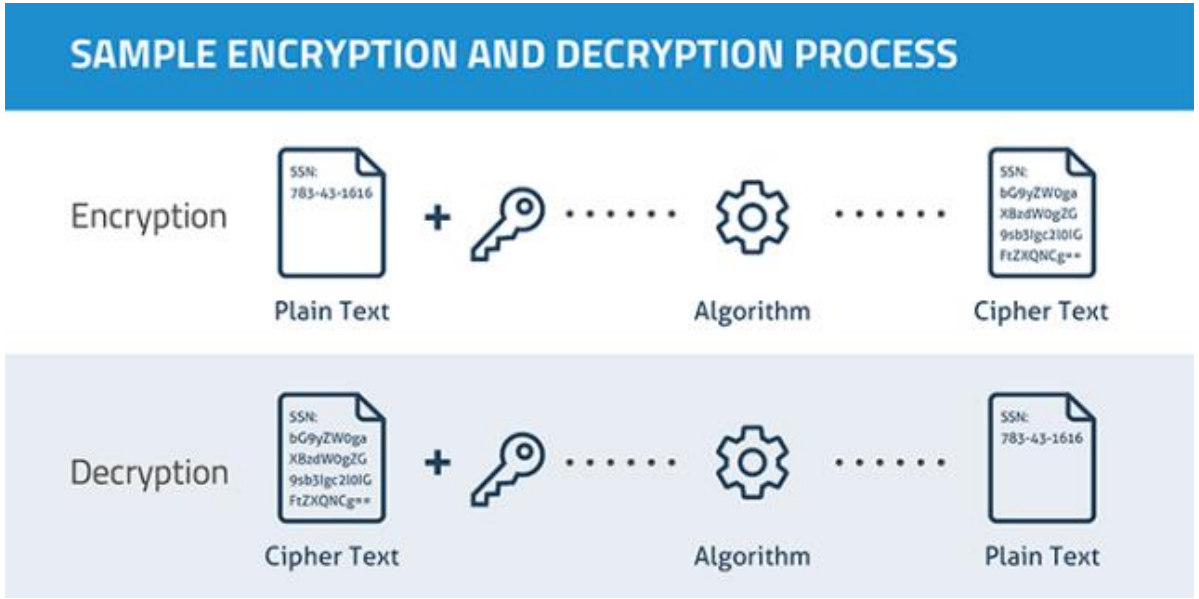
Encryption (this can be similar to VPN)

Changes data into an illegible form unless “key” is used to solve it

EX



Every windows 10 computer comes with BitLocker

BitLocker is AES, which is military style encryption, and can be turned on and off

VeraCrypt

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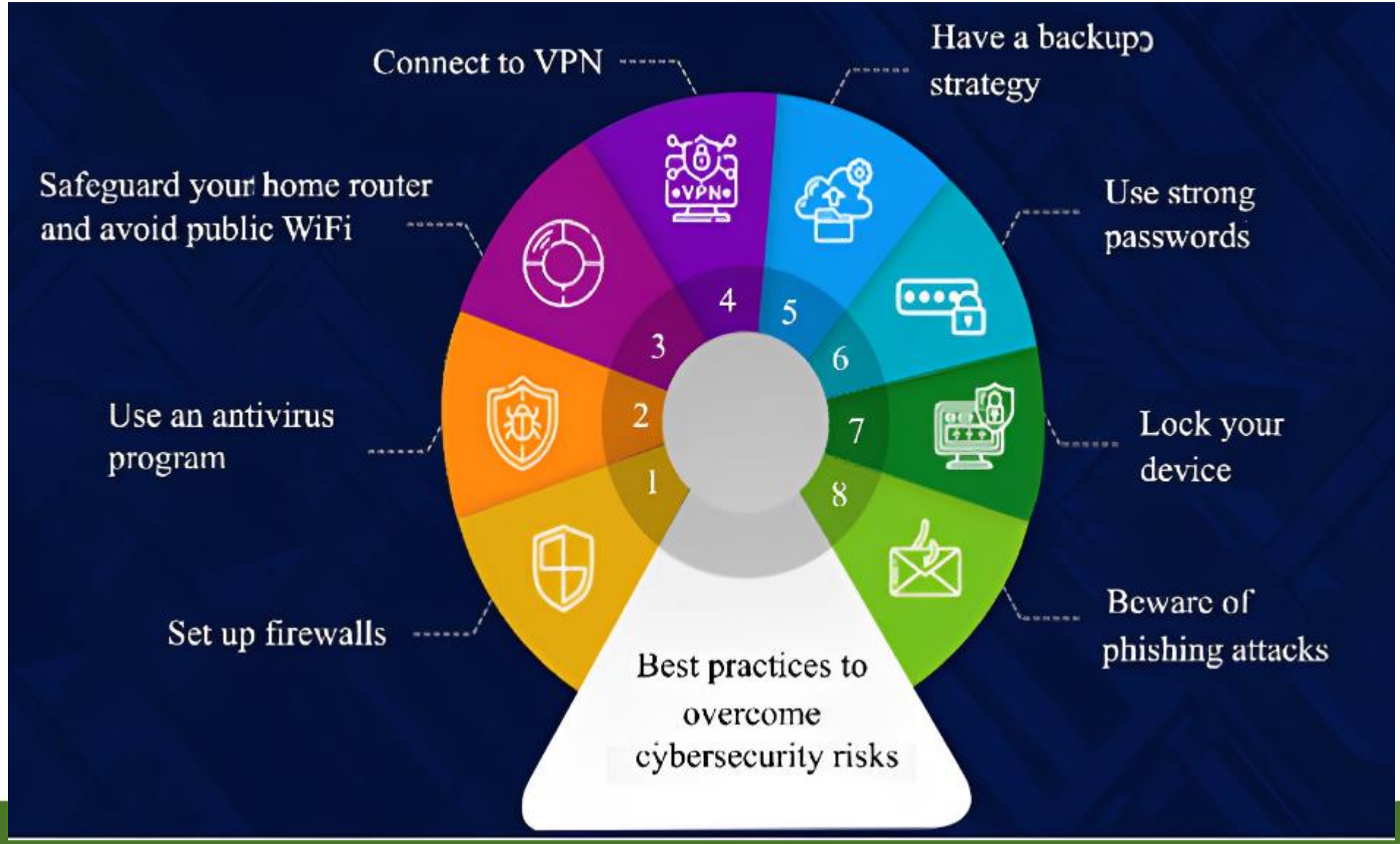
How Can I Best Protect My System?



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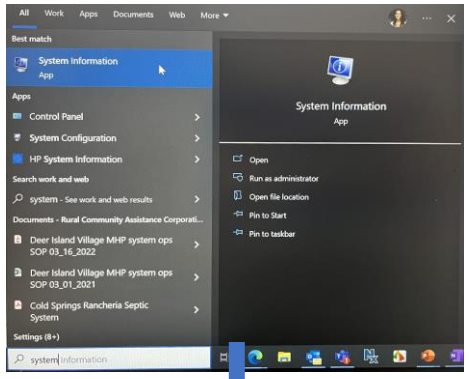
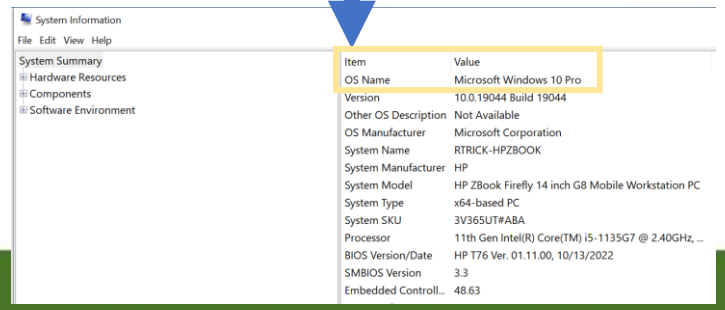
How do I do this on MY computer?

Find Operating System (OS) and Version!

Windows

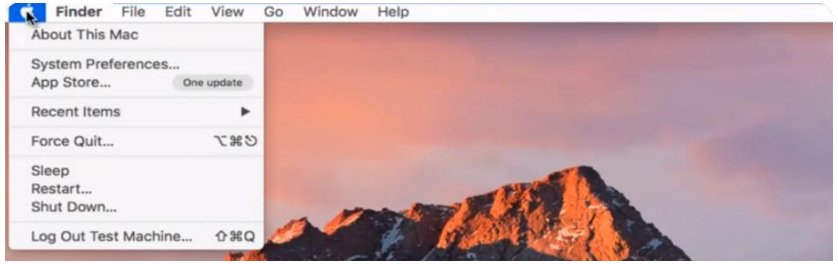
Search System Information → OS Name and Version on first two lines

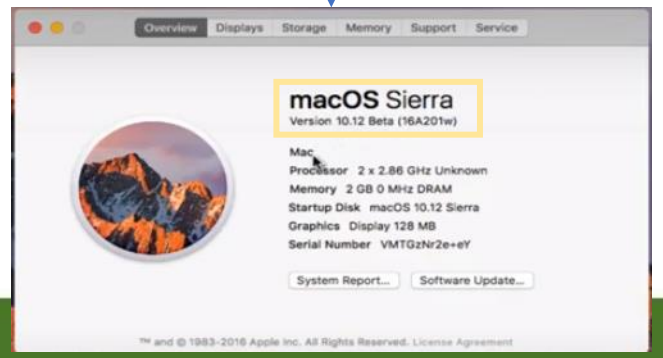




Apple

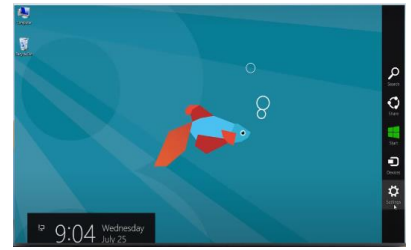
Upper left apple icon → About this Mac

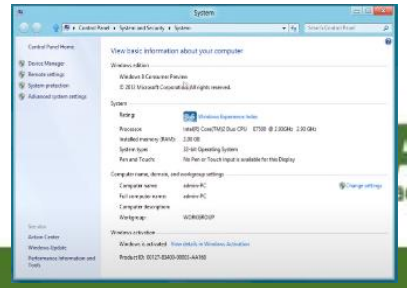




Dell

Settings → PC Info





Contact Information

Rita Trick
rtrick@rcac.org
(503) 565-5302

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Performance Assessment Rating Tool (PART)

- 4 to 6 weeks from today
- Email w/ today's workshop in subject line
- 3 questions – 3 minutes maximum
- $50 Amazon gift card (quarterly)
- How did you use the information that was presented today?
- Funders are looking for positive change
- Help us continue these free workshops!

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Thank you!

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