Questacon
cyber

CYBER CASTLE CHALLENGE
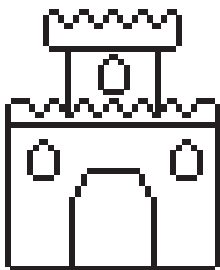
Season 1
DEFEND YOUR ASSETS

NAME :

CLASS :

Activity 1 - Castles and Cyber Security

In a castle we need to control who enters and exits. This is just like in a computer network. We can use some common castle defences to explain real-life cyber security strategies.
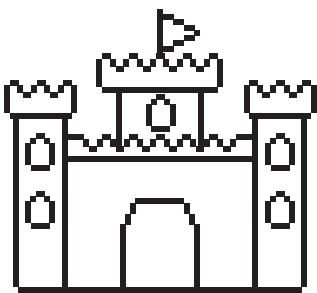
a) Match the following castle defences to their uses:

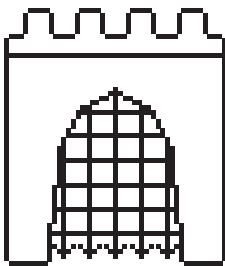HINT: There might be more than one correct answer

Watch Tower
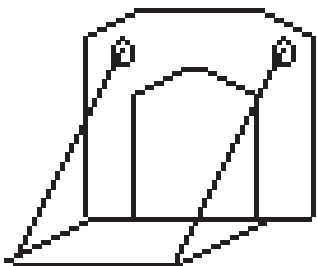
SEE WHAT THREATS ARE APPROACHING

Castle Entrance
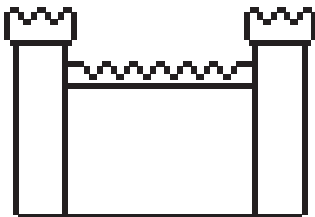
CONTROLLED ENTRY POINT

Castle Gate

STOP ENTRY

Drawbridge

STOP BRUTE-FORCE ATTACKS

Outer Walls

MULTIPLE LAYERS OF SECURITY
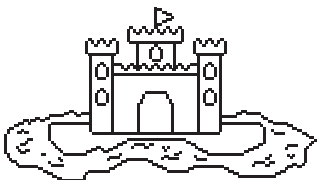
Moat

b) Draw defences for your castle
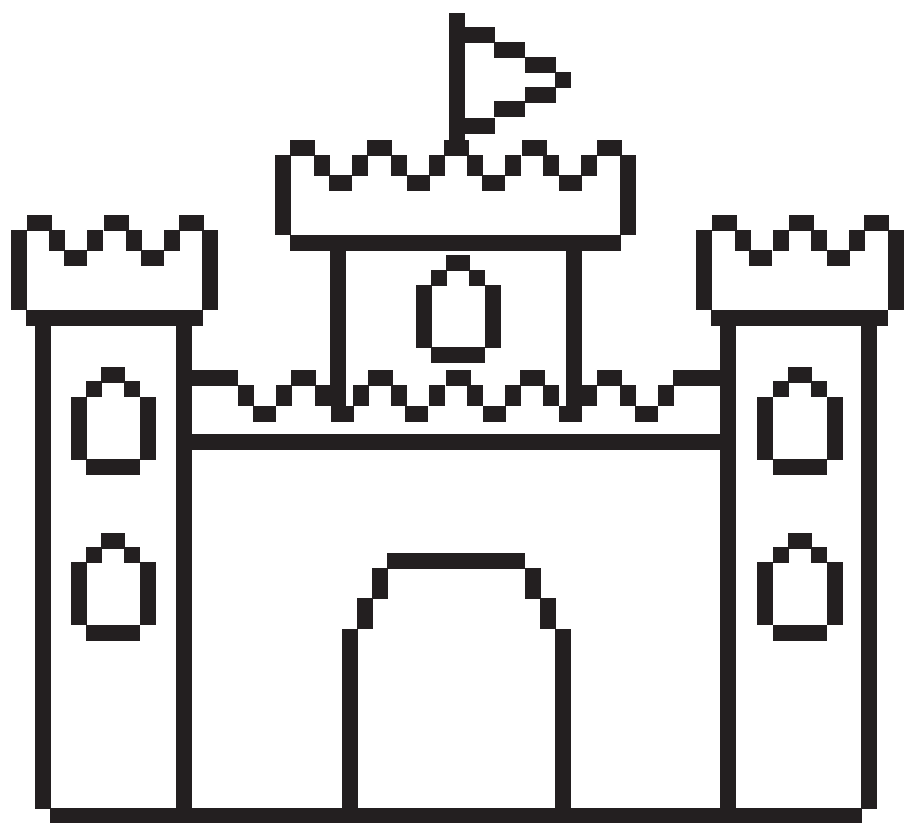
c) Explain how your castle defences protect against incoming threats:

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Activity 2 - What does a Cyber expert look like?

Cyber security is very important in keeping us safe in an increasingly complicated online world. But what does a cyber security expert look like?

a) Draw a cyber security expert in their workplace:

Name your expert:

b) Compare your cyber security expert with others in your class. How are they different?

_____

_____

_____

_____

In the videos the Sarah mentions it's your responsibility
to keep yourself safe online. So, you use cyber security
every day!

c) Describe one way you practise cyber security:

_____

_____

_____

_____

_____

Activity 3 - Assets and Threats

In the game you encountered different assets and threats.
Let's explore how they relate to real-life.

a) Match the real-life assets and threats to their in-game counterparts

<div align="center">
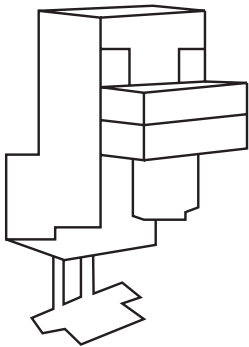
Assets   **Threats**

</div>
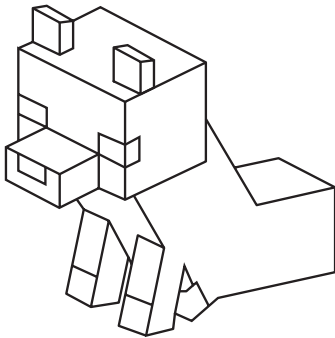
your age	passwords	social media accounts	viruses	hackers
pop-up ads	unknown emails	malware	Minecraft account	unknown websites
stranger	your name	your location	email account	your school name

b) Have you ever identified a threat in real-life? What did you do about it?

_____

_____

_____

_____

_____

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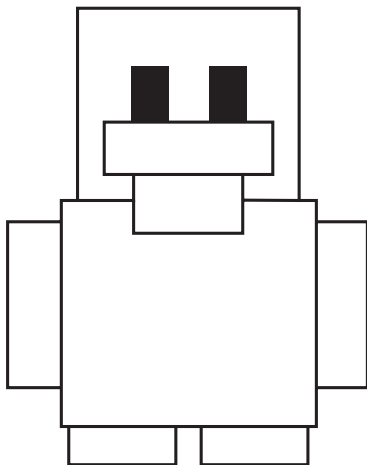
Activity 4 - Identify your Digital Footprint

Just like in the game, it's important to protect your assets. But what assets do you have online?

Find out by identifying your digital footprint, or the trail of information and data you leave behind online.

a) In the toes of the footprint list 5 of the most important assets you have shared online.

b) In the sole of the footprint, list all the websites you use and things you do online.

c) Why is it important to be aware of your digital footprint?

_____

_____

_____

_____

_____

d) How might threats use your digital footprint?

_____

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_____

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Season 2
EVOLVING THREATS

NAME:

CLASS:

Activity 1 - The Cyber Security Lifecycle

The Cyber Security Lifecycle is a strategy that can be used to work through cyber security problems. It consist of 5 steps: identify, protect, detect, respond, and recover.

a) Use the cyber security lifecycle to work through the following cyber security situation.

A friend at school mentions that last night you played an awesome game of Minecraft online together. However last night you were at your grandma's birthday party and not on the Minecraft server. Your friend is adamant you played together last night.

Identify

_____

_____

_____

_____

Recover

_____

_____

_____

_____

Protect

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_____

_____

_____

Respond

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_____

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_____

Detect

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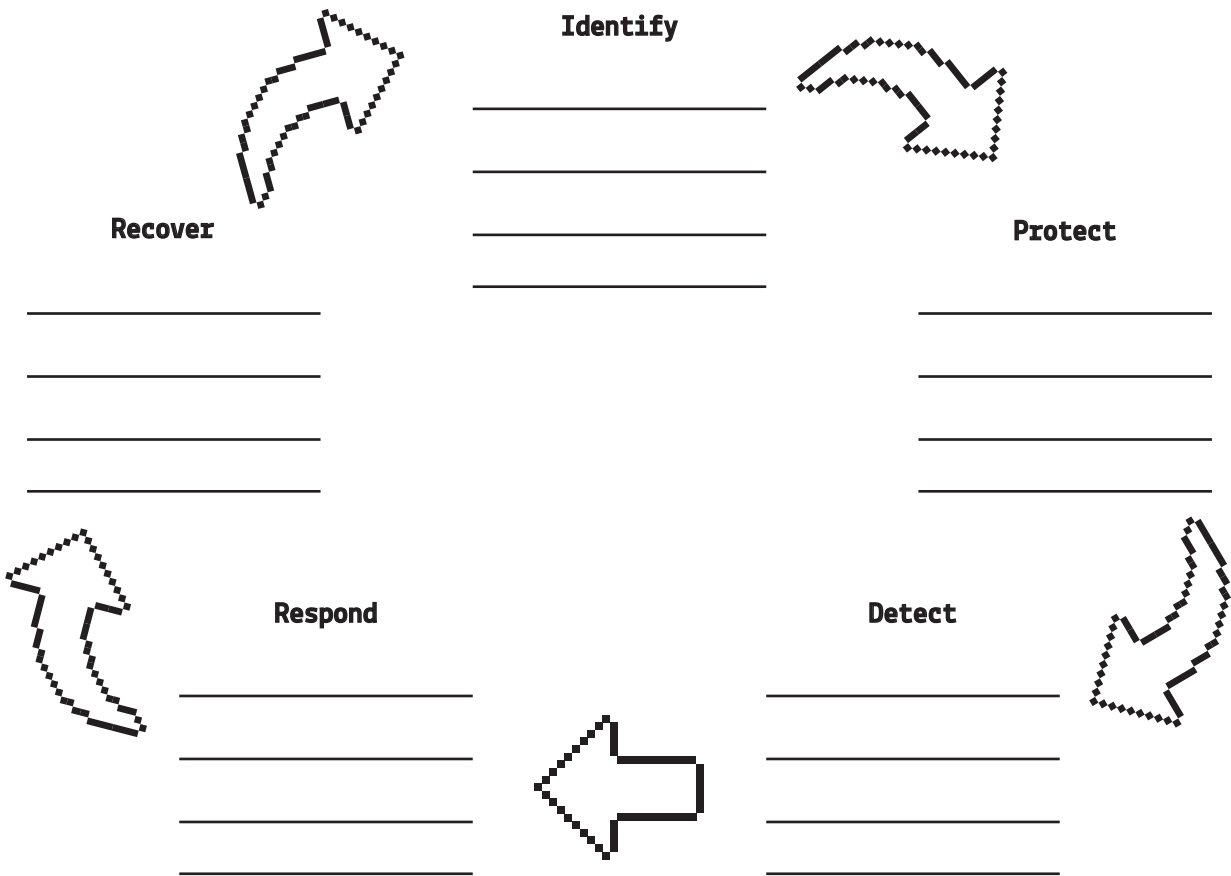
Activity 2 - Protect your data

Protect is the second step of the Cyber Security Lifecycle. In the video, Dilshan mentions this stage "is all about putting in some safeguards to protect your assets". Think about some of the ways you protect your personal data online.

a) List 5 ways you can keep your assets safe online.

b) Rank them in order from most safe (1) to least safe (5)

_____ ☐

_____ ☐

_____ ☐

_____ ☐

_____ ☐

c) Compare your list with other students in your class and describe one difference you see.

_____

_____

_____

_____

Activity 3 - Think like a fox

Cyber security experts need to test their defences. They do this by acting like a threat and attempting to find weaknesses in their system. This is known as penetration testing. If you were a fox, how would you attack your castle?

a) What does your fox look like?

Name your fox:

b) How does your fox attack the castle defences?

_____

_____

_____

_____

c) What new castle defences would you need to protect it from your fox?

_____

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_____
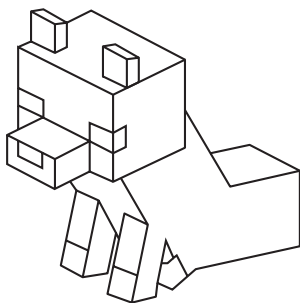
Activity 4 - Human intelligence

Non-playable characters (NPCs) have a lot of important information in the game. Collecting information in cyber security is very important. This is known as human intelligence.

a) What's one piece of information you received from a NPC?

_____

_____

_____

_____

b) How did you use this information?

_____

_____

_____

_____

_____

Season 3
KINGDOM EXPANSION

NAME :

CLASS :

Activity 1 - Networks

In the video, Lily mentions that "you can think about your larger network in cyber security as the people and the machines that you connect with, people and machines that they connect with, all radiating outwards in a large web."

a) Draw lines between the NPCs and entities to show how they are connected in the game

Outer Farmer

Fox

Castle Farmer

Villager

Chicken

Egg

Castle Trader

Wheat

Librarian
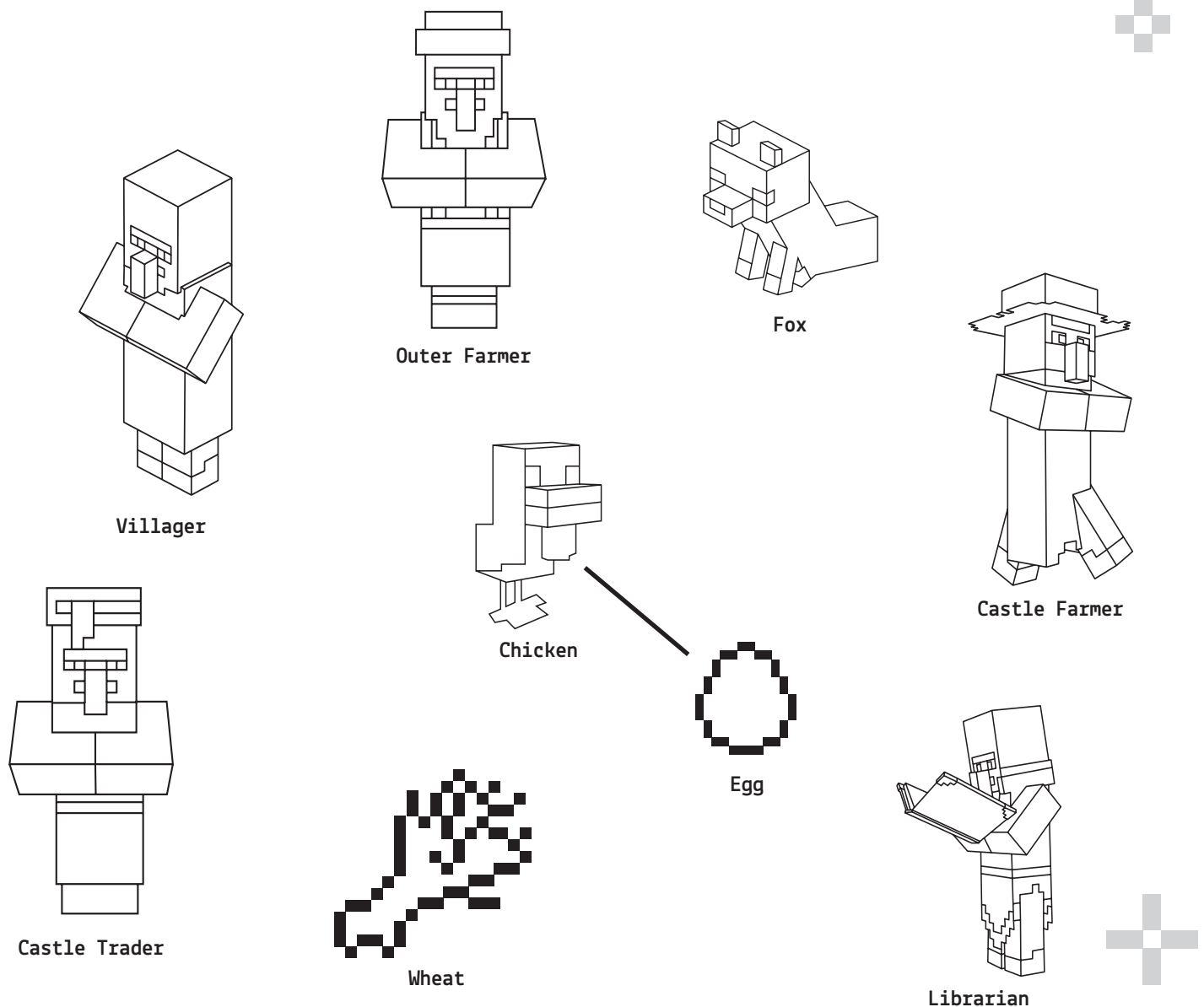
b) What are some benefits and risks of being part of a large network?

Benefits	Risks

Activity 2 - Supply Chains

Dilshan tells us a supply chain "is an entire system of producing or delivering a product or service." Supply chains are very complex, and if any part of the chain breaks, the product or service can't be delivered.

a) Identify the supply chain that produces defences within your cyber castle.

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_____

_____

_____

_____

b) Describe what would happen if the supply chain was broken.

_____

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_____

c) How would you repair issues with the supply chain?

_____

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Activity 3 - Passwords and Passphrases

It's important to have an access code to your castle to manage
who can enter. Over time threats can learn or decipher
this code, so it's important to update it regularly.
A more complex code will be harder for threats
to crack.

In real-life, it's also important to update your passwords
regularly. A password or passphrase should therefore be
complex, but easy for you to remember, and hard for others
to guess.
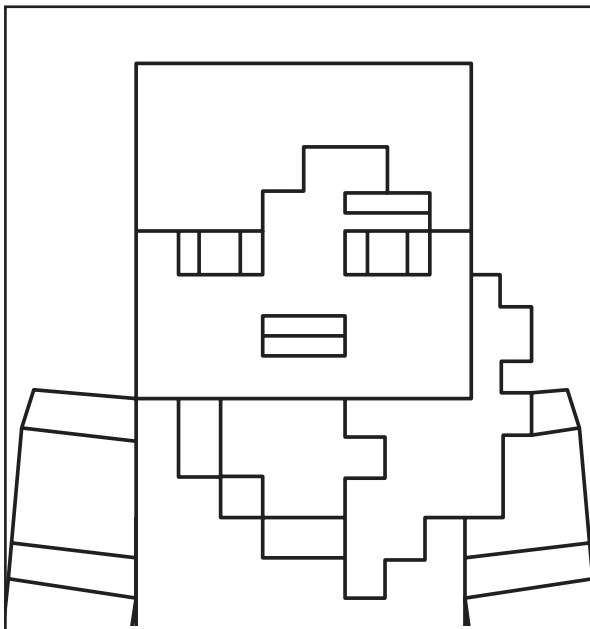
Hi, my name is Morgan Green.

I live in Canberra, Australia with
my mum and my younger brother.

I have a chicken called Daisy.

My birthday is October 17 and
I'm 12 years old.

My favourite colour is green,
just like my last name.

My friends would call me fun, but
predictable, because they can
always find me after school
playing soccer.

a) Circle Morgan's assets in the above text

b) Rank the following passwords/passphrases for Morgan from strongest (1) to weakest (5).

Soccer   _____

GreenDaisyOctober   _____

Daisy17   _____

MinecraftIsCool72#   _____

StarAppleTrain   _____

c) What makes a strong password?

_____

_____

_____

_____

Activity 4 - Digital systems
in the classroom

This season saw the creation of villages in the outer biomes. These villages had important assets for you to collect and protect. In cyber security, these outer villages represent an extended network. Networks are formed when digital devices, such as a computer and a printer, are connected either physically or virtually. Can you identify the networks in your classroom?

a) Create a list of all the different digital devices you can find in your classroom.

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_____

_____

_____

**b) Draw a map to show how these devices are connected.
Use a dotted line to show a digital connection and a solid line
for physical connections.**

c) How would you protect this system?

_____

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_____

_____

_____
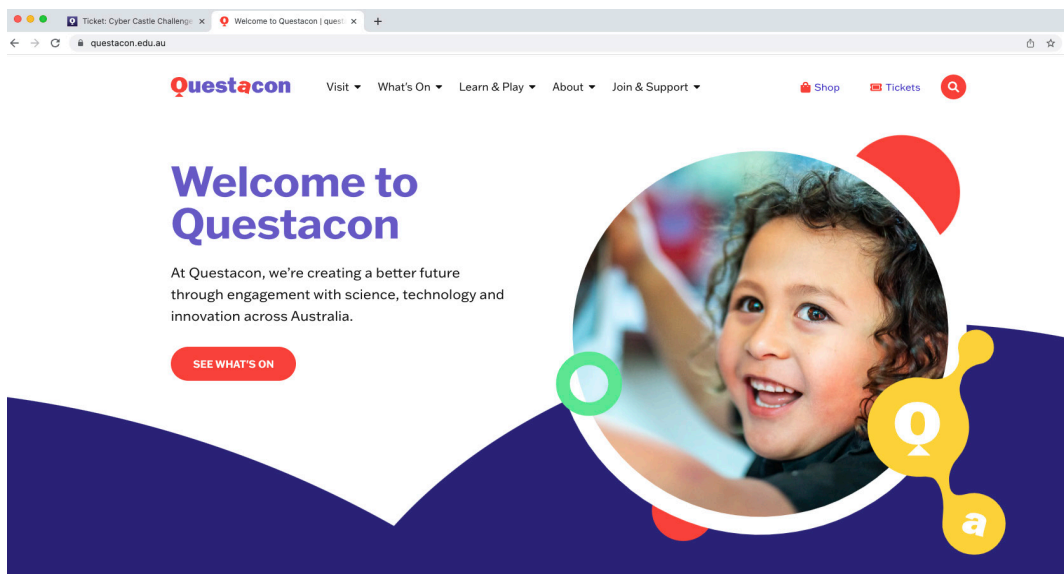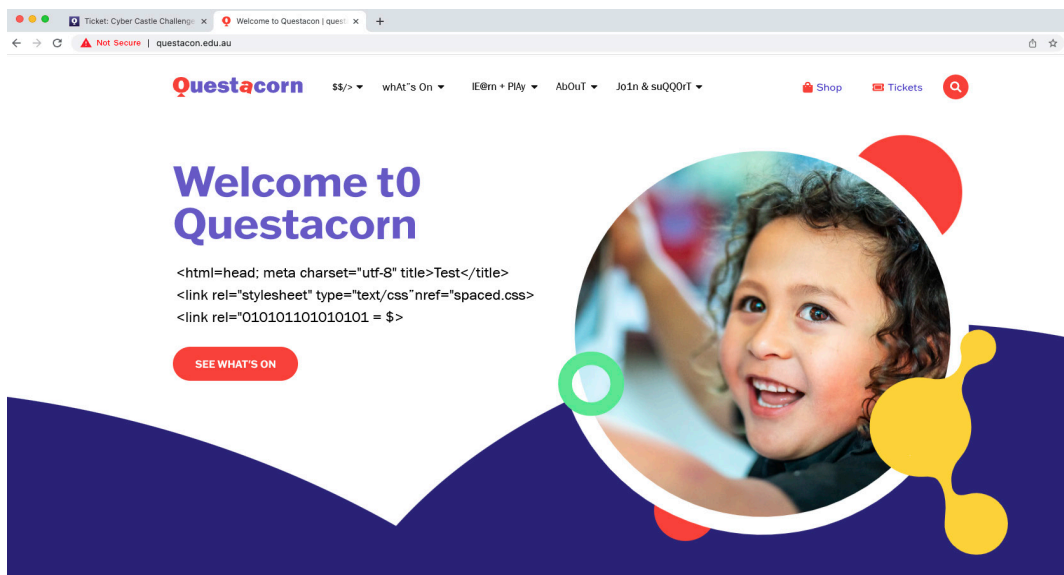
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Season 4

WHO CAN YOU TRUST?

NAME :

CLASS :

Activity 1 - Let's go phishing!

Phishing is where scammers pretend to be a trusted website, email sender, or company to trick you into giving your personal information. Can you distinguish what's real or not online?

a) Look at the two websites below. Can you spot any differences?

b) Which of these websites do you think is the fake? Explain your choice.

_____

_____

_____

_____

_____

c) Have you ever heard of a phishing campaign in real-life? What happened? How would you stop it happening again?

_____

_____

_____

_____

_____

Activity 2 - What does a cyber security expert look like: Part 2

Cyber security experts help us stay safe online, but a lot of cyber security practices rely on you! What do you think a cyber security professional looks like?

a) Draw a cyber security expert

Name your expert:

b) Compare your cyber security expert to the one you drew in season 1. Are they different? How?

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_____

c) Why do you think cyber security is an important career of the future?

_____

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_____

Activity 3 - Can you teach cyber security?

After four seasons of gameplay, you have learned a lot about cyber security. But cyber security is the responsibility of everyone. Use your new knowledge to create a way to teach others about cyber security.

a) List one cyber security concept you learned from each season of the game.

Season 1 _____

Season 2 _____

Season 3 _____

Season 4 _____

b) Using what you've learned during the Cyber Castle Challenge, create a way to teach others about cyber security. This might be a cartoon, short story, poster, video, or dance. Be creative and share your creation with the class.