Security Centre
a part of GCHQ

# Story 1: Who is the Clone? <br> A CyberSprinters Adventure Story 

## Press here to continue

## Kids

Get ready for an adventure. You are about to become a cyberspy!
Who is The Clone? is a story where you decide what happens on each page. There is more than one ending to the story. Can you solve the crime and identify The Clone?
There are some tricky choices and brain teasing puzzles along the way. You can read this story with your parent/carer, grandparent, aunt - any adult you trust - and swap ideas on what the right answers might be.

Adults
This is an adventure story families can read together. It is the lst story in a series of 3 . It includes questions and puzzles. You can read the story several times, making different choices each time.

You can read the story with your child/family member, and discuss the answers together. Or they can read the story and ask you when they want extra help with their choice.
This story contains important advice about cyber security. It's a great opportunity to talk about how to keep information secure online. For more advice for families, see our CyberAware webpages.

On each page you will see buttons to either 'continue' the story or decide what happens next. Choose 'Let's Go!' to begin your adventure.

There are three reasons you might not want to be a spy. It's difficult, it's dangerous, and you might have to work weekends.

But when you saw this advert, you didn't know what you were getting yourself into.

## Calling all brainboxes! Can you solve this riddle?

Everyone has their own name for me.
The longer the name, the better.
I'm not a key. I don't fit any lock.

## Click here for a clue

But l keep things safe, just the same.
What am I?

Press 'Continue' to find out the answer.

What's the name for a secret word that you use, to keep your information safe?

## Go back

After thinking it over, you realised the answer was "password".
You were never able to resist a riddle so you sent the answer in - and now the phone is ringing! It's a woman's voice.
"Congratulations. You've got the job. We only recruit people with very special skills. You'll make an excellent cyberspy. Welcome to GCHQ."

GCHQ! You're stunned. That's the national intelligence agency. Wow. But is it a good idea to become a spy?

Do you accept the job, or not?

You need a bit more time to think about it. Fair enough.
When you're ready for adventure, go back to the job offer.

Now it's Monday morning and your first day as a cyberspy at GCHQ. Your new boss, Jess, shakes your hand.
"Welcome to GCHQ! Our mission is to keep the UK safe. You are joining our team of cyber spies. We use the latest cutting edge technology as well as our brilliant detective skills to fight cyber crime! Before I say any more, I need to check you know how to keep your accounts secure. Is it better to use the same password on different accounts, or use different passwords?"
"Hmm - that's not quite right." says Jess. "While it's easier to remember one password, it's not secure. It's best to use a different password for each account. That way, if someone gets one of your passwords they can only access one of your accounts and not everything. That's ok though. It's your first day and we can help you learn more cyber secure ways."
"Excellent answer. Thank you." says Jess. "While it's easier to remember one password, it's not secure. It's better to use a different password for each of your accounts. That way, if someone gets one of your passwords they can only access one of your accounts and not everything."
"I had hoped to give you a tour of the building and introduce you to your new colleagues, but ..." Jess hesitates and frowns before continuing. "I could do with your help. This morning I received this." She shows you an email. It's from a credit card company. "This email says I got a new credit card and have spent $£ 15,000$ on it. Apparently l've bought a new car and paid for a cruise to the Caribbean next month. But I didn't do that. Someone else is pretending to be me! What do you think has happened?"

You give it some thought. You are pretty sure it is:

You think about it and decide it sounds like identity theft. This is when a criminal uses someone's personal information, such as their name and address, without permission. They do this to commit a crime such as fraud.

Ransomware is a type of malware (nasty software). It can be spread by clicking a dodgy email link or attachment. It locks you out of your data or device and demands money to unlock it.

At first you think it might be ransomware. But then you realise that's not right.
Ransomware is a type of malware (nasty software). It can be spread by clicking a dodgy email link or attachment. It locks you out of your data or device and demands money to unlock it.
Identity theft is when a person uses someone's personal data without asking. They do this to commit a crime. For example, using someone's name and address for fraud.

You look at the email and say to Jess, "This is identity theft. To get a credit card in your name, they would need some of your personal information. I wonder how they got it?"
"I know how," Jess says. "From my passport." She opens her desk drawer. "I put my passport in here on Thursday. But when I looked for it on Friday, it was gone".
You take a look at Jess' passport to see if you can identify the personal information on it.


NAME:
DOB:
ADDRESS:
PHONE NO:
PASSPORT NO
"Personal information is data that tells us who you are," you say to Jess. "It includes your name and birthday. Also your address, email address and passwords."
"You might be asked for this data to create an account." Jess adds. "For example a gaming account. But it can be dangerous to share this data with other people online. They may use it to do something naughty or accidentally share it with someone else."

Jess takes a deep breath. Then she leans closer so she can speak quietly. "'ve had my suspicions for a while, and this proves it. Someone here took my passport. And they opened a credit card in my name. Let's call them 'The Clone'. I want you to find out who The Clone is. Will you take on this mission?"


No

You agree to take on the mission and find out who The Clone is. This is exciting! "Thank you," says Jess "And please work quickly. Come and tell me as soon as you work out who The Clone is."

Just then, a young man walks into the room. "Ollie, this is our new trainee," Jess explains. "Can you show them their desk and cyber spy handbook?" You follow Ollie into the room next door. "Here's your desk," he says. You switch on the computer. It asks you to set a new password. You notice that Ollie is standing behind you. He can see what you're typing. It makes you feel a little suspicious of him.

Oh please! You've come this far! You can do this. And it might be fun.

## Go back and accept the mission

This doesn't feel right.
You know your password should be secret but you haven't asked Ollie to turn away.

You think about why that might be before continuing.

You realise you felt a bit embarrassed and like you might be making a fuss. You were worried what Ollie might say because he might be offended.

But you also realise that password security is important and that Ollie will understand. You are not asking for anything big, just for him to look away for a moment.

Ollie looks away.
You have to come up with a new password. What a great opportunity to use your new cyber spy handbook! What is the most commonly used password in the world?

They are both very common passwords. But 12345 is the most commonly used password. The table in your handbook shows common passwords that are regularly hacked.

| Most common | Names | Football teams | Fictional characters |
| :--- | :--- | :--- | :--- |
| 123456 | ashley | liverpool | superman |
| 123456789 | michael | chelsea | naruto |
| qwerty | daniel | arsenal | tigger |
| password | jessica | manutd | pokemon |
| IווווII | charlie | everton | batman |

Using a common password like these would make it easy for a criminal to get into your account. They should be avoided.

You think of two ways to come up with a new password:

1. Put three random words together such as carpet, red and fluffy.
2. Use your dog's name such as sandy and add a number e.g. sandyl

Which password do you use?

You feel sure that a strong password is one that nobody else can guess (even people who know you very well). A good way to do this is to use three random words. You can also add numbers or special characters to make your password even more difficult to crack.

To help you remember your password, you can think of a silly idea, or a picture in your head that is made up of the words you chose. Like 'a pink penguin stood on apples' for PinkPenguinApples.

## Stick with carpetredfluffly

Change your mind and try Sandyl

You type in the password sandyl but the computer says it is too short! It's a good idea to add numbers or special characters to your password. But even with the number 1 in it, sandyl is still easier to crack than carpetredfluffy.
You look in your handbook and see that criminals can use powerful computers to crack passwords quickly. The computer tries lots of different combinations of letters and numbers. It's called a brute force attack. Just look how quickly a short password can be cracked this way:

| Password | Time to crack |
| :---: | :---: |
| sandyl | instantly |
| carpetredfluffy | 1 thousand years |

Your handbook also explains that 1 in 7 people use their pet's name as a password. Could criminals guess your pet's name to get into one of your accounts?
The computer prompts you to use three random words to make your password.

## Choose a different password

As you finish typing your password, a woman walks into the room and sits at one of the desks. She gives a loud sigh and picks up the phone.
"It's still not working!" she says. "You said you were going to fix it when I was off work last week!" And then, after a pause she adds, "Yes, l've turned it off and on again. You always say that. Just come and fix it. I can't get my emails!" She slams the phone down.

A message pings on your computer. It's from Ollie. "Don't mind Nila. Her car broke down this morning so she's in a bad mood."

The door opens and a man walks over to Nila's desk.
Ping! Another message from Ollie. "That's Ross. He a whizz from IT. Really clever guy. He can do anything with technology."

Ross presses some buttons on Nila's computer and says something to her, before leaving the room. You hear Nila muttering "I need a holiday."
Hmm, Nila seems pretty unhappy. She needs a new car and she wants a holiday. Could Nila be The Clone?

Nila calls over to Ollie "It's time for our meeting". They both leave and you are all alone.

You pick up your phone and search online for Nila. Her social media profile comes up straight away. There's a picture of a new car with the words "My new baby. Just bought it today!" You walk over to her desk to see what else you can find out about her.
Nila's laptop is on her desk. You lift the lid. The screen is locked but there is a post-it note stuck on it.

A voice behind you says angrily "What are you doing?!" You turn round to discover Nila standing there.

Nila raises her eyebrows. She doesn't look convinced but hands you a pen. "Thanks!" you say, before leaving the room. That was close! You decide you should speak to Jess straight away.

You march into Jess's office and announce that Nila is The Clone. "She needed a new car. So she stole your identity to buy a new car with a credit card!" Jess stares at you. She says "Nila was off work last week when my passport was stolen. I put it in my drawer on Thursday, but on Friday it was gone. Nila wasn't here so she didn't take it. Nila isn't The Clone."
"Oh," you say. You can feel your cheeks going red.
"No need to worry!" Jess says with a smile. "It's only your first day and I like you enthusiasm!"

You quite like being a cyber spy... your story doesn't have to end here.

## Go back to your last decision and change your mind

> "Yes," Nila says.
"But, if it's written on this note, anyone could see it," you explain.
"I know. But it's just easier, you know? I can never remember passwords."
"But why don't you use a password manager?" "What's that?" Nila asks.

Your first thought is that it is someone who looks after all your passwords. But then you remember that's not right.

You tell Nila that a password manager is an app on your phone, tablet or computer that stores your passwords securely. This means you don't have to remember all your passwords. It can make new, strong passwords for you as well.

That's right - a password manager is an app on your phone, tablet or computer that stores your passwords securely. You tell this to Nila and explain that it means you don't have to remember all your passwords. It can make new, strong passwords for you as well.

You have more questions for Nila. "Does this mean you've been using the same password on different accounts?"

Nila looks sheepish. "Sometimes. I mean, just for my social media and email and my laptop login."

You're surprised. "Has no-one explained the password policy to you? About how to keep your accounts safe?"
"Huh!" Nila rolls her eyes. "Ross runs cyber security training sessions for staff. But we don't get on so I don't go to them. Ross and I both applied for my job in this team last year, but I got it. He's been less friendly with me ever since".
"Look at this," You hand your phone to Nila. It shows her social media account and the picture of the new car.
"That's odd," she says. "I haven't bought a new car!"
You explain to Nila that it looks like someone has hacked into her social media account and posted that picture. Nila's password was on the post-it note. So anyone in the office could have got into her account. Someone is trying to make it look like Nila bought a new car. It must be The Clone.

Nila logs into her social media account and changes her password. This means The Clone can't get into her accounts anymore.

You remind Nila to make new passwords on any other accounts that used the same password. And, she needs to set up two step verification as well.
"What is two step verification?" Nila asks

A quick check of your handbook confirms you are right - you tell Nila two step verification (which is sometimes called two factor authentication or 2FA) helps stop hackers getting into your accounts, even if they have your password. It does this by asking for more information to prove your identity. Such as a code that is sent to your phone. It's important to use two step verification everywhere it is offered.

A quick look in your handbook reveals it is not putting in your password twice.
You and Nila read that two step verification (sometimes called two factor authentication or 2FA) helps stop hackers getting into your accounts, even if they have your password. It does this by asking for more information to prove your identity. Such as a code that is sent to your phone, or using your fingerprint. It's important to use two step verification everywhere it is offered.

You now know that Nila isn't The Clone because her social media account was hacked by The Clone.

You decide what to do next.

Ollie's desk is very untidy. It's covered in pieces of paper. There is an odd message on his screen. It is just dots and dashes. You realise it is Morse Code.


Using your handbook you work out what the message says and write it down on a piece of paper from Ollie's desk. It says:

That's not right. Try again!

Go back

The message says 'She has no idea'. What is Ollie hiding? Could he be The Clone? You hear footsteps in the corridor.

You walk into Jess's office and announce "The Clone is Ollie. I found a secret message on his computer. It said that you have no idea what's going on. Plus, he tried to see what my password was."
Jess's phone rings. She picks it up. "What, now? I'm just in the middle of ..oh, OK, l'll be right out." She puts the phone down. "That was Ollie. He said I need to speak to him immediately."

Jess opens the door and there's a huge cheer "Happy birthday Jess!" A group of people are gathered in the corridor. There's a cake with candles lit. Jess looks thrilled.
"We managed to keep it a surprise," says Ollie. "I've been secretly messaging Nila about it all week. You didn't suspect a thing!"
Jess turns to look at you. She doesn't need to say anything. This was the secret message. The Clone is not Ollie. Everyone heads back into their offices.

You wonder what to do next... your story doesn't have to end here.

You ask Jess for advice.
"You're doing well," says Jess between mouthfuls of cake. "Don't give up now. Being a cyber spy is all about learning new things. Keep going!"
You thank Jess and decide to keep trying.

You knock on Jess' office door.
"Come in. Can I help?" she asks as she holds the door open for you. "Sit down," she says, closing the door. She walks round the desk to her chair. "Ah, brilliant. It's here!" "What is?" you ask.
"My new tablet. Ross must have dropped it off just now." Jess explains.
Hmm. You realise that Ross has access to Jess's room. He could have stolen her passport. Could Ross be The Clone?

You announce "The Clone is Ross."
"Ross?!" says Jess "I don't understand".
"I realised just now that Ross has access to your office. He could have stolen your passport."
"But, why would he do that?" asks Jess. "He wants a job in this cyber spy team. Why would he risk that by stealing my identity?"
"You're right, he wants a job on the team. And he is upset with Nila. They both applied to be a cyber spy but she got the job. He thought that if he could get rid of Nila, he could take her job."
Jess looks confused "I still don't understand."
"Ross took your passport to set up a credit card account, and bought a new car," you explain. "Then he hacked into Nila's social media account and posted a picture of the new car there. He wanted to make it look like Nila was the identity thief. She could lose her job and get in trouble with the police. And he could take her place on the team".

Jess smiles. "Well done. That will be all".
You frown. "But, what about Ross? Don't you want to confront him?"
"Ross didn't steal my passport. No-one did." Jess explains. "You passed the test. I set a trail of clues for you. I wanted to check you have the skills to be a cyberspy. And you do. Welcome to the team."
Congratulations! You solved this puzzle!
Did you uncover all the clues? If you want to try some different paths through the story- you can!

