



Schools
Cyber Security
Challenges



Challenge 1

Breakout Activity

BREAKOUT ACTIVITY

This activity is designed to be the final activity in the Australian Computing Academy Schools Cyber Security Challenge: Information Privacy and Security.

It is designed as a breakout activity but can be delivered any way that suits the classroom in which it is being used.

There are four activities that are related to security and privacy.

BREAKOUT SET UP

Have a lockbox available with four locks. (There is a digital version that is less of a competition which can be done with four web pages with password access)

Have a prize (stickers or a bag a chocolate help)

Pair the students up because working on these problems together is a good way to overcome problems that individual students can encounter alone.

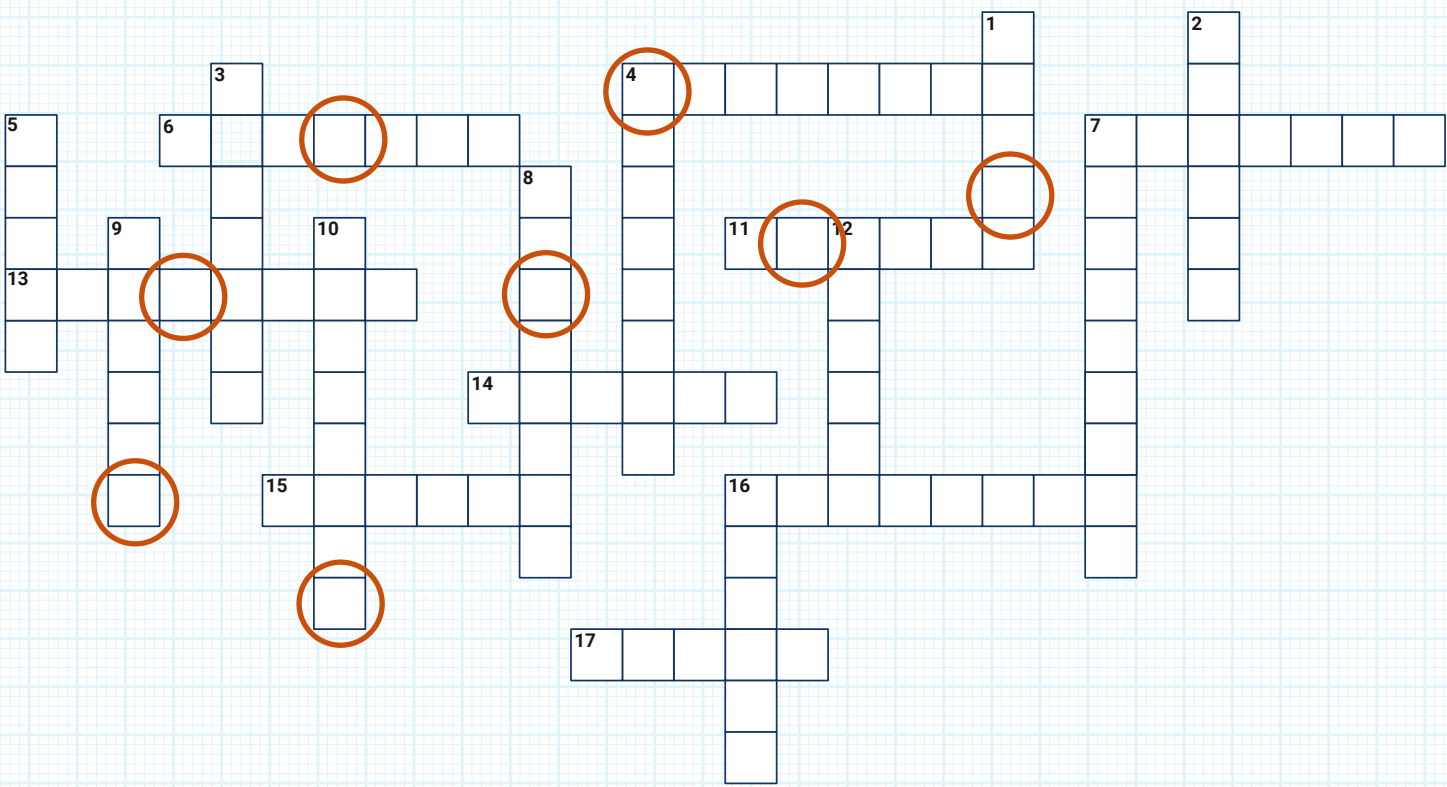
Print enough copies of the four challenges for each group to have 4 challenges. Only give out one challenge at a time.

OVERVIEW

The four challenges are attached with answer sheets:

- 1 Terrible Password Crossword**
Students can refer to the list of top 25 passwords to find the answers
(Note: Numbers are used as well as letters)
- 2 Fistbump profile**
Belinda Brooks is worried that she might be giving her location away.
Find 5 things on her profile that she should consider changing.
- 3 CodeBreaker**
Use the patterns in English to solve the code and find the secret word.
The secret word is SAFETY. The quote is interesting in context and could be worth discussing as a class.
- 4 Logic Puzzle**
Students use deductive reasoning to find the child who lives in which house with which pet by reading the social media posts. Answering the questions at the bottom with the first letter of the answer spells the secret word PRESCRIPTION

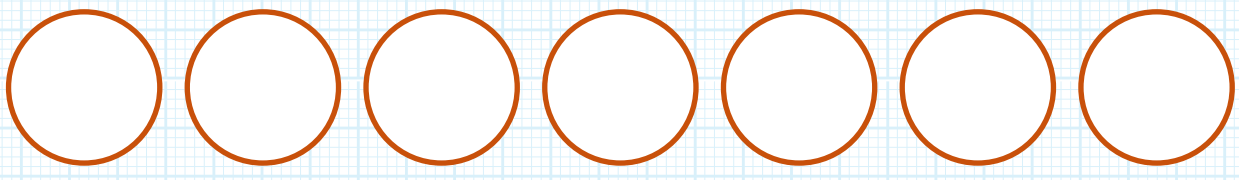
TERRIBLE PASSWORD CROSSWORD



- | | |
|---|--|
| <p>ACROSS</p> <ul style="list-style-type: none"> 4 descriptive of what it is 6 greeting 7 terrible password with some numbers 11 a mythical beast 13 three words people like to hear (no spaces) 14 top of the keyboard 15 not a slave 16 long password with consecutive numbers 17 short password with consecutive numbers | <p>DOWN</p> <ul style="list-style-type: none"> 1 this is probably a default 2 some small numbers in order repeated 3 it's three short words (no spaces) 4 descriptive of what it is but there is a number substituted for "o" (hint: the number looks the same as "o") 5 a name that you enter in order to be able to use a computer system 7 really long password with consecutive numbers 8 a movie with 2 words (no spaces) 9 a simian 10 a sport 12 first three letters and first three numbers 16 password with consecutive numbers |
|---|--|



Find the secret word by rearranging the letters that are circled into a word we've been learning about.



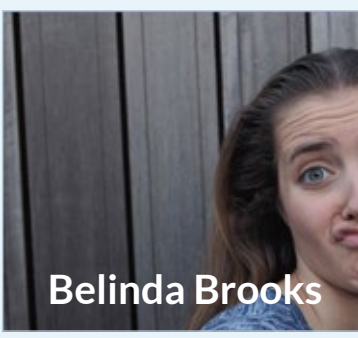
FISTPUMP PROFILE



fistbump



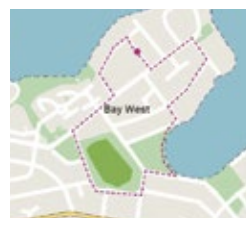
Find five things on Belinda's profile that she should consider changing.



Belinda Brooks

- 2nd September
- 6 Riverview St
- Bay West
- It's complicated
- Riverside High

Status



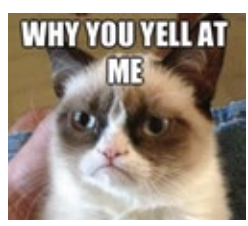
Woo! Personal best on my regular 3 km run. Feeling great right now!

Recent posts



Can't believe this is the view from the end of my street!!?! Good job parents!

12 fistpumps



Suggested to mum that I might clean my room later and ... 🌟

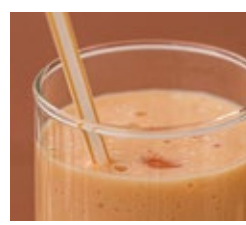
32 fistpumps

I could finish doing this English homework, or I could go for a run 🏃🏻🤔

9 fistpumps

e: <runs out of phone battery> me later: OMG like everything happened on FB while I was gone!

21 fistpumps



Breakfast of champions! At least my team hopes so!

13 fistpumps



Where can you find me every Tuesday? @Allison meet me at the oval at 6?

6 fistpumps

Doing Monday like a boss 💪🕶️

17 fistpumps

How good are 🤔 I mean seriously?

43 fistpumps

CODE BREAKER

Break the code and find the keyword

Hint: text in English follows certain patterns, there are only two 1 letter words and not very many 2 letter words. The most common letter in English is E. Patterns like this can be used to analyse a code to decrypt it.

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

KEY

				S					Z		A		B		J	Q	H													
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					

When you've finished decoding the message and rearrange the blue letters to find the secret key. (Hint: it's a word associated with security).

--	--	--	--	--	--	--	--

LOGIC PUZZLE

Use the clues below to work out which child lives in which house and which animal they have as a pet. Once you know all of the answers use the answers to fill in the keyword below. With the first letter of each answer.



Red



Orange



Pink



Purple

CLUES



Songbird



Terrier



Rabbit



Cat



Ingrid



Ivan



Elise



Nick



Elise



Ingrid



Ivan



Nick

I heard people were talking about house colours, how could anyone bear to live in a purple or orange house? I know I couldn't. Also, cats are gross!

Did you see the terrier is now living in the orange house? That's not my house.

I love our red house!

I'm allergic to cats and Ingrid is allergic to rabbits!

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

- House with rabbit
- Elise's pet
- Person in purple house
- Person in pink house
- Pet in pink house
- Ivan's pet
- House where the cat lives
- Person in red house
- Ingrid's house
- Nick's pet
- Person with pet of Songbird
- House where the terrier lives
- Person with pet of terrier

Solutions

TERRIBLE PASSWORD CROSSWORD ANSWERS

1 A
2 1
2 2
3 1
3 2
3 3
4 1
4 2
4 3
4 4
4 5
4 6
4 7
4 8
4 9
5 A
5 D
5 M
5 I
5 N
6 W
6 E
6 L
6 C
6 O
6 M
6 E
7 1
7 2
7 3
7 4
7 5
7 6
7 7
8 S
8 T
8 A
8 R
8 S
8 T
8 I
8 R
8 O
8 D
9 M
9 M
9 F
10 F
10 T
10 B
10 L
11 Q
11 W
11 E
11 R
11 T
11 Y
12 B
12 C
12 1
12 2
13 I
13 L
13 O
13 V
13 E
13 Y
13 O
13 U
14 Y
15 M
15 A
15 S
15 T
15 E
15 R
16 1
16 2
16 3
16 4
16 5
16 6
16 7
16 8
16 9
17 1
17 2
17 3
17 4
17 5
18 1
18 2
18 3
18 4
18 5
18 6
18 7
18 8
18 9
19 1
19 2
19 3
19 4
19 5

SECRET WORD

P R I V A C Y

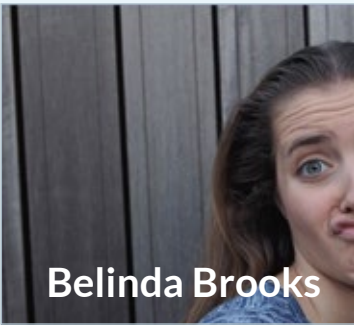
FISTPUMP PROFIL ANSWERS



fistbump



Home



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- 6 Riverview St
- Bay West
- It's complicated
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Status



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Photo taken from Bayview, Australia

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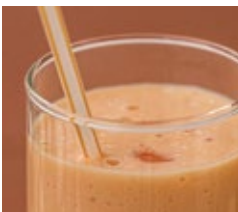
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CODE BREAKER ANSWERS

SECURITY IS MOSTLY A SUPERSTITION
F Q B E Z D J I D F A N F J O I P F E K Q Z F J D J D N Y

IT DOES NOT EXIST IN NATURE, NOR
D J H N Q F Y N J Q T D F J D Y Y P J E Z Q, Y N Z

DO THE CHILDREN OF MEN AS A WHOLE
H N J X Q B X D O H Z Q Y N C A Q Y P F P R X N O Q

EXPERIENCE IT. AVOIDING DANGER IS
Q T K Q Z D Q Y B Q D J. P L N D H D Y V H P Y V Q Z D F

NO SAFER IN THE LONG RUN THAN
Y N F P C Q Z D Y J X Q O N Y V Z E Y J X P Y

OUTRIGHT EXPOSURE. LIFE IS EITHER
N E J Z D V X J Q T K N F E Z Q. O D C Q D F Q D J X Q Z

A DARING ADVENTURE OR NOTHING
P H P Z D Y V P H L Q Y J E Z Q, N Z Y N J X D Y V.

HELEN KELLER
X Q O Q Y G Q O O Q W

KEY

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

DECODED MESSAGE

S A F E T Y

LOGIC PUZZLE ANSWERS



Red



Orange



Pink



Purple



Songbird



Terrier



Rabbit



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- Ivan lives in red house (given)
- Ingrid doesn't live in purple or orange (given) or red (above) so must live in pink.
- Elise doesn't live in orange house (given) so she lives in purple and Nick lives in orange.
- Nick owns the terrier (orange)
- Ingrid doesn't own cat (given) and allergic to rabbits (given) and Nick owns terrier so Ingrid owns songbird.
- Elise is allergic to cats (given) and Nick owns terrier and Ingrid owns songbird so Elise owns rabbit.
- Ivan owns cat because all other animals are taken.

P R E S C R I P T I O N

House with rabbit

Elise's pet

Person in purple house

Pet in pink house

Ivan's pet

House where the cat lives

Person in red house

Ingrid's house

Nick's pet

Person with pet of Songbird

House where the terrier lives

Person with pet of terrier