

## 3.6.1 Cyber security threats

### Lesson plan and printable activities

#### Materials needed

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1. 3.6.1 [Lesson](#) PowerPoint.
2. Starter activity [cards](#).
3. Cyber security threat [worksheet](#).

#### Starter activity (~5 minutes)

##### 1. Slide 2: Activity – Silent card sort

Students are divided into pairs – [cards](#) should be cut up before hand. In silence they should rearrange the words into the correct order to create a definition of cyber security.

**Differentiation:** Students could be given the start of the definition or part of the sentence and fill in the missing words as an easier alternative.

**Extension:** If students finish early, get them to mind map ideas they have for cyber security threats.

2. **Slide 3:** Answer to silent card sort.
3. **Slide 4:** Discussion and questions leading into the topic.

#### Main activities

##### 1. Slide 5: Introduction to the objectives of the lesson.

**Slide 6:** Cyber security threats that students need to know about are listed. There is a break down of the threats in the notes section of the PowerPoint, with some supporting links.

**Alternatives:** Depending on ability of class, the teacher may wish to discuss the threats with the class, or get them to independently research them – completing the [Cyber security threats worksheet](#) on slide 10. They may also complete aspects of it during the activity on slide 8.

2. **Slide 7:** Video on cyber security [www.youtube.com/watch?v=sdpxddDzXfE](http://www.youtube.com/watch?v=sdpxddDzXfE)
3. **Slide 8:** Link to a game about cyber security following on from the video. [www.pbs.org/wgbh/nova/labs/lab/cyber/](http://www.pbs.org/wgbh/nova/labs/lab/cyber/)

**Assessment opportunity:** Differentiated levels to work through in the interactive game. Gives an example of defending a company against cyber criminals and attacks. Students can log in to this site, so it is possible for them to work further on it at home/ outside of the lesson if so desired.

## 3.6 Fundamentals of cyber security

4. **Slide 9:** Information on penetration testing.

5. **Slide 10: Cyber security threats** [worksheet](#)

Depending on class ability and teacher preference, students can record findings from the game – as stated above, it could be introduced at slide 6, or they could research and complete independently.

**Alternative:** the worksheet could be completed as a homework task to consolidate the learning.

### Plenary (5 minutes)

1. **Slide 11: Activity - 3,2,1**

This can be done in groups or individually:

Identify:

**3** categories of cyber security threats

**2** examples of cyber security threats

**1** reason for penetration testing.

# Lesson

3.6 Fundamentals of cyber security

3.6.1 Cyber security threats  
Lesson

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**Starter activity**

**In pairs...**

- Using the cards, arrange the words into a definition of 'cyber security'.
- You have three minutes to complete the task, but you must not speak to your partner!

**TIME UP**

**Start**

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**Starter activity: Answer**

**Cyber security is:**

Protecting networks, computers, programs and data from attack, damage or unauthorised access through the use of technologies, processes and practices.

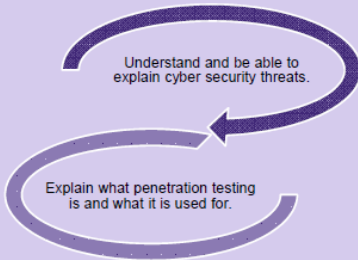
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**Discussion**

- Did you guess correctly?
- What threats would organisations have to protect themselves from?
- Can you think of examples of cyber security threats?
- In what ways could cyber security threats be eliminated or reduced?

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**Objectives**



Understand and be able to explain cyber security threats.

Explain what penetration testing is and what it is used for.

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**Cyber security threats**

social engineering techniques Click box to watch video	malicious code Click box to watch video
weak and default passwords	misconfigured access rights
removable media	unpatched and/or outdated software

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## 3.6 Fundamentals of cyber security

### Penetration testing

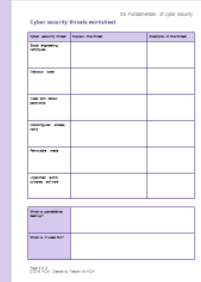
A company will identify weaknesses in their computer systems by attempting to hack into it as if they were a real cyber criminal. This can also include checking for threats from use inside of the company.

It allows a company to prevent loss and identify potential exploitation before it happens for real.

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### Activity

Complete the cyber security threats worksheet.



The worksheet is titled 'Cyber security threats worksheet' and is designed for a 45-minute activity. It features a table with three columns: 'Cyber security threat', 'Cyber incident', and 'Cyber criminal'. The table has several rows for students to fill in. Below the table, there are sections for 'Cyber security threats' and 'Cyber incidents' with space for notes. The worksheet is sourced from TESOL.com.

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### Plenary

3,2,1

Identify:

- 3 categories of cyber security threats
- 2 examples of cyber security threats
- 1 reason for penetration testing.

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**Starter activity cards**

<b>Protecting</b>	<b>networks,</b>	<b>computers,</b>	<b>programs</b>
<b>and</b>	<b>data</b>	<b>from</b>	<b>attack,</b>
<b>damage</b>	<b>or</b>	<b>unauthorised access</b>	<b>through</b>
<b>the</b>	<b>use</b>	<b>of</b>	<b>technologies</b>
<b>processes</b>	<b>and</b>	<b>practices.</b>	

## Cyber security threats worksheet

Cyber security threat	Explain the threat	Example of the threat
Social engineering techniques		
Malicious code		
Weak and default passwords		
Misconfigured access rights		
Removable media		
Unpatched and/or outdated software		

<b>What is penetration testing?</b>	
<b>What is it used for?</b>	