

4. Year 10 Curriculum Plan - TEMPLATE

YEAR 10	HALF TERM 4	SUBJECT Computer Science	LEARNING		
TOPIC	LEARNING OBJECTIVES	KEY VOCABULARY	LEARNING SEQUENCE	LINKED LEARNING	HOME LEARNING
.			In pupil friendly language. Headings in pupils' books should match text here.	Links to: <ul style="list-style-type: none"> Year 6 work (for Year 7 plans) Other topics Other subjects. (concise and most important links only).	
SLR 1.3 – End of topic test	End of topic test		Chance for students to respond to feedback, improve workbooks, correct misunderstandings		None for this lesson
SLR 1.3 – Action	Action / Response lessons		Progress with individual programming challenges		None for this lesson
Dedicated independent programming	Gain experience in practical programming by using our wide variety of programming resources (Programming theory support PowerPoint, Learning tasks objectives 01-11, Problems to support the learning tasks, Programming progress checklist)		Progress with individual programming challenges		None for this lesson
Dedicated independent programming	Gain experience in practical programming by using our wide variety of programming resources (Programming theory support PowerPoint, Learning tasks objectives 01-11, Problems to support the learning tasks, Programming progress checklist)		Progress with individual programming challenges		1.4 Forms of attack



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SLR 1.4 Network security					
SLR 1.4 – Lesson 1, Forms of attack	<ul style="list-style-type: none"> Understand the different forms of attack to computer systems. <p>KEY QUESTION: What are the threats to devices and computers?</p>	<p>Slides 97-109</p> <p>Malware, Social engineering, Phishing, Brute-force attack, Denial of service attack, Data interception and theft, SQL injection, Penetration testing, Anti-malware software, Firewall, User access level, Password, Physical security</p>	<p>SLR 1.4 Workbook</p> <p>Complete slides 2</p> <p>Head up and definitions for slides 3-8</p> <p>Play the system security game for 20 minutes</p>		1.4 Threats posed to networks
SLR 1.4 – Lesson 2, Threats posed to networks (malware)	<ul style="list-style-type: none"> Understand the threat from malware. Understand how to identify and protect against malware. <p>KEY QUESTION: What effect do different malware attacks have on your computer?</p>		<p>SLR 1.4 Workbook</p> <p>Complete slide 3</p> <p>Play the system security game for 20 minutes</p>		None for this lesson
SLR 1.4 – Lesson 3, Threats posed to networks (phishing) 1	<ul style="list-style-type: none"> Understand phishing. Understand how to identify and protect against phishing. <p>KEY QUESTION: How is a phishing attack used?</p>		<p>SLR 1.4 Workbook</p> <p>Complete slide 4</p> <p>Play the system security game for 20 minutes</p>		None for this lesson
SLR 1.4 – Lesson 4, Threats posed to networks (phishing) 2	<ul style="list-style-type: none"> Understand phishing. Understand how to identify and protect against phishing. <p>KEY QUESTION: How is a phishing attack used?</p>		<p>SLR 1.4 Workbook</p> <p>Finish slide 4</p> <p>Play the system security game for 20 minutes</p>		None for this lesson
SLR 1.4 – Lesson 5, Threats posed to networks (brute force attack)	<ul style="list-style-type: none"> Understand brute force attacks. Understand how to identify and protect against brute force attacks. 		<p>SLR 1.4 Workbook</p> <p>Complete slide 5</p> <p>Play the system security game for 20 minutes</p>		None for this lesson

	<p>KEY QUESTION: How does a brute force attack work on passwords?</p>				
SLR 1.4 – Lesson 6, Threats posed to networks (denial of service)	<ul style="list-style-type: none"> Understand denial of service attacks. Understand how to identify and protect against denial of service attacks. <p>KEY QUESTION: What is the effect of a DDOS?</p>		<p>SLR 1.4 Workbook Complete slide 6</p> <p>Discuss the following link: digitalattackmap.com</p> <p>Play the system security game for 20 minutes</p>		None for this lesson
SLR 1.4 – Lesson 7, Threats posed to networks (data interception and theft)	<ul style="list-style-type: none"> Understand data interception and theft as a security threat. Understand how to identify and protect against data interception. <p>KEY QUESTION: What do we mean by “humans are a weak point”?</p>		<p>SLR 1.4 Workbook Complete slide 7</p> <p>Play the system security game for 20 minutes</p>		None for this lesson
SLR 1.4 – Lesson 8, Threats posed to networks (SQL injection)	<ul style="list-style-type: none"> Understand the concept of SQL injection. Understand how to protect against SQL injection. <p>KEY QUESTION: How does a SQL injection hack work?</p>		<p>SLR 1.4 Workbook Complete slide 8</p> <p>Have a go at the SQL injection hack simulation.</p> <p>Try and crack a username and password using SQL injection techniques.</p>		1.4 Identifying and preventing vulnerabilities
SLR 1.4 – Lesson 9, Identifying and preventing vulnerabilities	<ul style="list-style-type: none"> Understand ways in which people are a weak point in secure systems. Known how the following prevention methods help against the various forms of attack: <ul style="list-style-type: none"> Penetration testing Anti-malware software Firewalls User access levels Passwords Encryption Physical security <p>KEY QUESTION:</p>		<p>SLR 1.4 Workbook Complete slides x</p> <p>Play the system security game for 20 minutes</p>		None for this lesson

	How can you protect yourself against hackers?				
SLR 1.4 – Lesson 10, Identifying and preventing vulnerabilities	<ul style="list-style-type: none"> Understand ways in which people are a weak point in secure systems. Know how the following prevention methods help against the various forms of attack: <ul style="list-style-type: none"> Penetration testing Anti-malware software Firewalls User access levels Passwords Encryption Physical security <p>KEY QUESTION: How can you protect yourself against hackers?</p>		SLR 1.4 Workbook Complete slides 12-13 Play the system security game for 20 minutes		Revise what you have learned in this unit