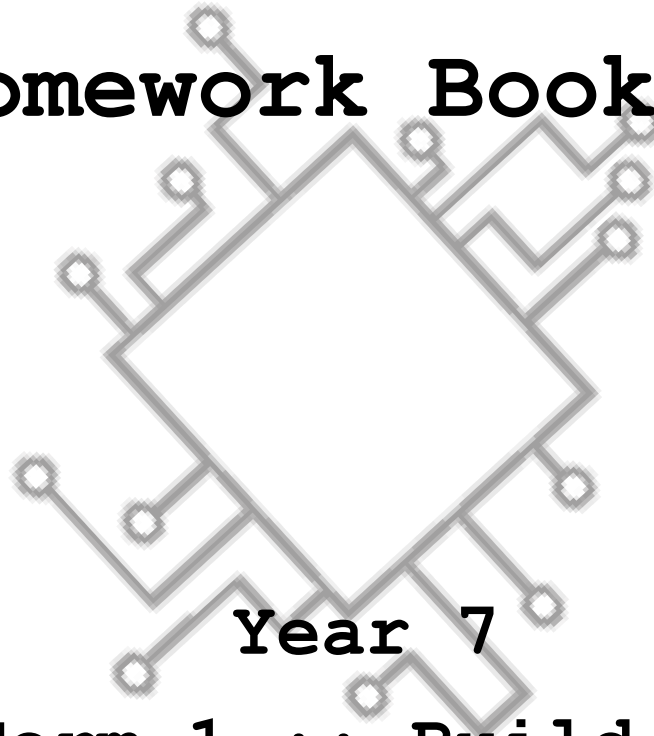


Name : _____



Computer Science Homework Booklet



Year 7

**Term 1 :: Build an
Enigma Machine**

Homework 1 : Eating Pringles	Due Date:	Completed? <input type="checkbox"/>
Homework 2 : Flipped Learning	Due Date:	Completed? <input type="checkbox"/>
Homework 3 : Alan Turing Timeline	Due Date:	Completed? <input type="checkbox"/>
Homework 4 : Key Words	Due Date:	Completed? <input type="checkbox"/>

Homework 1 – Eating Pringles

Eat a tube of Pringles (or other crisps that come in a tube)

Bring the empty tube into school – you will need it for a project lesson in a couple of weeks' time

Homework 2 – Flipped Learning

Use your Knowledge Organiser to complete this homework task

Create a mind map of the different things you will be learning about in this project ...

- Key Terms
- Alan Turing and Bletchley Park
- How the Enigma Machine worked
- Substitution Ciphers

Homework 3 – Alan Turing Timeline

Use the web link <http://itslearning365.com/portalv3/mod/page/view.php?id=1230> to create a timeline of the most important parts of Alan Turing's life

Your timeline needs to be 1 page of A4 and include at least 15 important milestones / dates

You can decide on what important milestones / dates to include

Make sure your timeline includes the dates when different events happened, what happened, images and any other important information

Homework 4 – Key Words

Write a definition for each of these key terms ...

Encryption –

Decryption –

Cipher –

Plaintext –

Ciphertext -

Personal Data –

Sensitive Data –

Private Data -

KNOWLEDGE ORGANISER :: BUILD AN ENIGMA MACHINE

KEY TERMS

PERSONAL DATA is data about yourself that someone can use to identify who you are or contact you. Your name and mobile number are examples of personal data.

PRIVATE DATA is data about you that you don't want everyone to know about. Your hobbies or clubs that you are members of are examples of private data.

SENSITIVE DATA is data about you that only certain people need to be able to see or know about. Your medical history or school grades are examples of sensitive data.

ENCRYPTION is name given to the process of converting data into a secret code that can only be understood if you know the key.

DECRYPTION is the name given to the process of converting encrypted data (called a **Ciphertext**) back into unencrypted text (called **Plaintext**).

A **CIPHER** is an algorithm to encrypt plaintext so it can be kept secret. Data can be encrypted and decrypted using cyphers.



THE ENIGMA MACHINE



How did the Enigma Machine work? -

<http://itslearning365.com/portalv3/mod/page/view.php?id=1228>

Alan Turing worked at Bletchley Park during World War II. There he cracked the **German Enigma Code** with his own machine which he called **The Bombe**.

PLAINTEXT AND CIPHERTEXT

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