KS3 Unit 7 Lesson 4 The Language of Computing

Crib Sheet

Slides 1 and 2 introduce the topic and set the objectives for the lesson:

- Consider computing and coding as a language
- Look at how computers process instructions through binary code
- Explore the keyboard
- Crack some codes

Slide 3 offers pupils and opportunity to show prior knowledge. Some pupils will be the expert in the classroom in this area. They can become the teacher in the room. Offer them a one-minute microphone session where they come to the front to teach others what they know/talk about what they have encountered.

Slide 4 and 5 introduces the 0s and 1s of binary code. Pupils may have seen this in maths or computing. Today we will look at words represented as binary. In maths or computing they would have looked at converting binary to denary numbers.

Slide 6 asks pupils to find the e and o from "Hello" written in binary code. E = 01100101. O = 01101111

Slide 7 shows a word game where pupils match the term with the number in digits and words.

Kilo	1,000	One thousand
Mega	1,000,000	One million
Giga	1,000,000,000	One billion
Tera	1,000,000,000,000	One trillion

Slide 8 asks pupils to interpret the information just learnt by pacing the terms in red in the correct gap, reinforcing the learning and making it stick.

- 1000 Bytes =   1 kilobyte
- 1000 Kilobytes =   1 megabyte
- 1000 Megabytes =   1 Gigabyte
- 1000 Gigabytes =   1 Terabyte

Slide 9 brings us back to the idea of converting binary to letters and vice versa. Ask pupils to think about the keyboards they use. Ask the questions in red as partner discussion questions. **Slide 10** provides the answers. How did your pupils do?

Slide 11 offers an opportunity to crack the code using the binary to letters converter ASCII. Pupils can work on their worksheet which provides the codes. Can they crack the two codes on the board? Can they write their name in binary? Can they write a secret message to a friend? (Do keep these messages short as this exercise can take time).

Slide 12 is the plenary slide asking discussion questions. They are required to think about the learning from this lesson and think about the bigger picture by discussing "Why is the language of technology usually English?".