ANSWER KEY

CODEBOT MISSION 3 LOG - Lesson 2

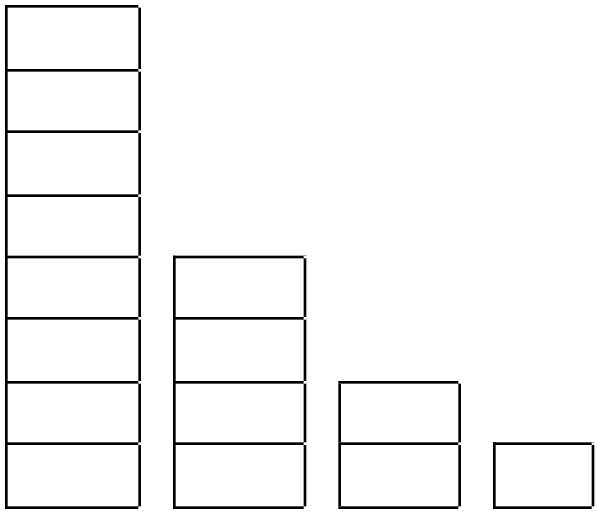
Pre-Mission Warm-Up

How many ways can you represent the value 7?	Answers will vary. Use slide 3 for some examples.
How can a computer represent 7?	Answers will vary, depending on student prior knowledge. They may know that computers use binary. Any answer should be accepted.

Mission 3 Lesson 2 – Bright Byte Lights!

Mission 3 Activity #1

Use the chart below to write numbers in binary and decimal. You can use small objects to fill in the columns. The first number is 6, so get six small objects and place them in the columns. Remember: Each column must be either completely filled in or completely empty! If the column is empty, write a 0. If the column is filled, write a 1.



Change these decimal numbers to binary:	
A. 6	0110
B. 11	1011
C. 12	1100
Change these binary numbers to decimal:	
D. 0011	3
E. 1001	9
F. 1101	13

Mission 3 Activity #2

Use the chart below to write numbers in binary and decimal.

128	64	32	16	8	4	2	1

Binary	Decimal	Decimal	Binary
0001 1011	27	18	0001 0010
0010 0111	39	25	0001 1001
0010 1010	42	34	0010 0010

Mission 3 Activity #3	
Using the Console Panel, type three lines of code using binary to turn on/off the user LEDs. Type each line separately. You can close the console when you are done.	Your lines of code: Answers will vary. Sample answer – a. leds.user(0b11000110) b. leds.user(0b10111101) c. leds.user(0b01110010)
Mission 3 Objective 6 • Start a new file: ***BinaryLEDs***. • Write code to meet the goals. Use CodeTrek as needed.	
Mission 3 Quiz	
How many questions did you answer correctly the first time? Is there anything you need to review?	Answers will vary. Hopefully 5/5 and no questions.
Post-Mission Reflection	
Give an example of something that uses binary numbers in your everyday life.	Many possible answers (anything digital): • Cell phones • Television • Computers • Video games • Musical instruments