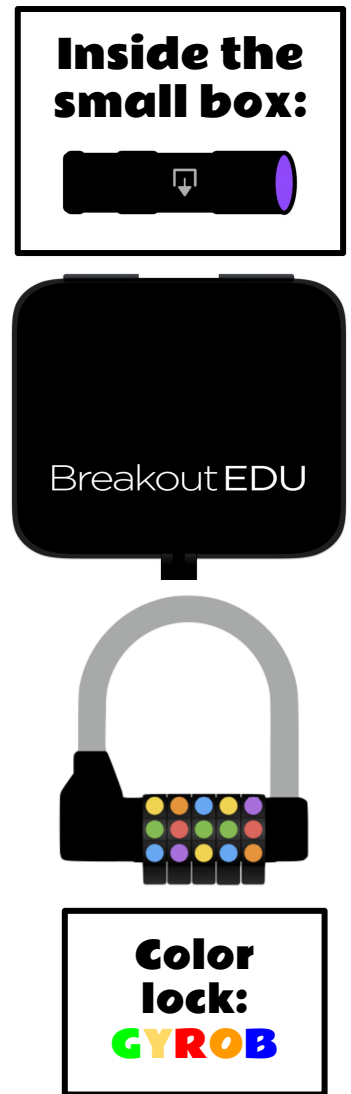
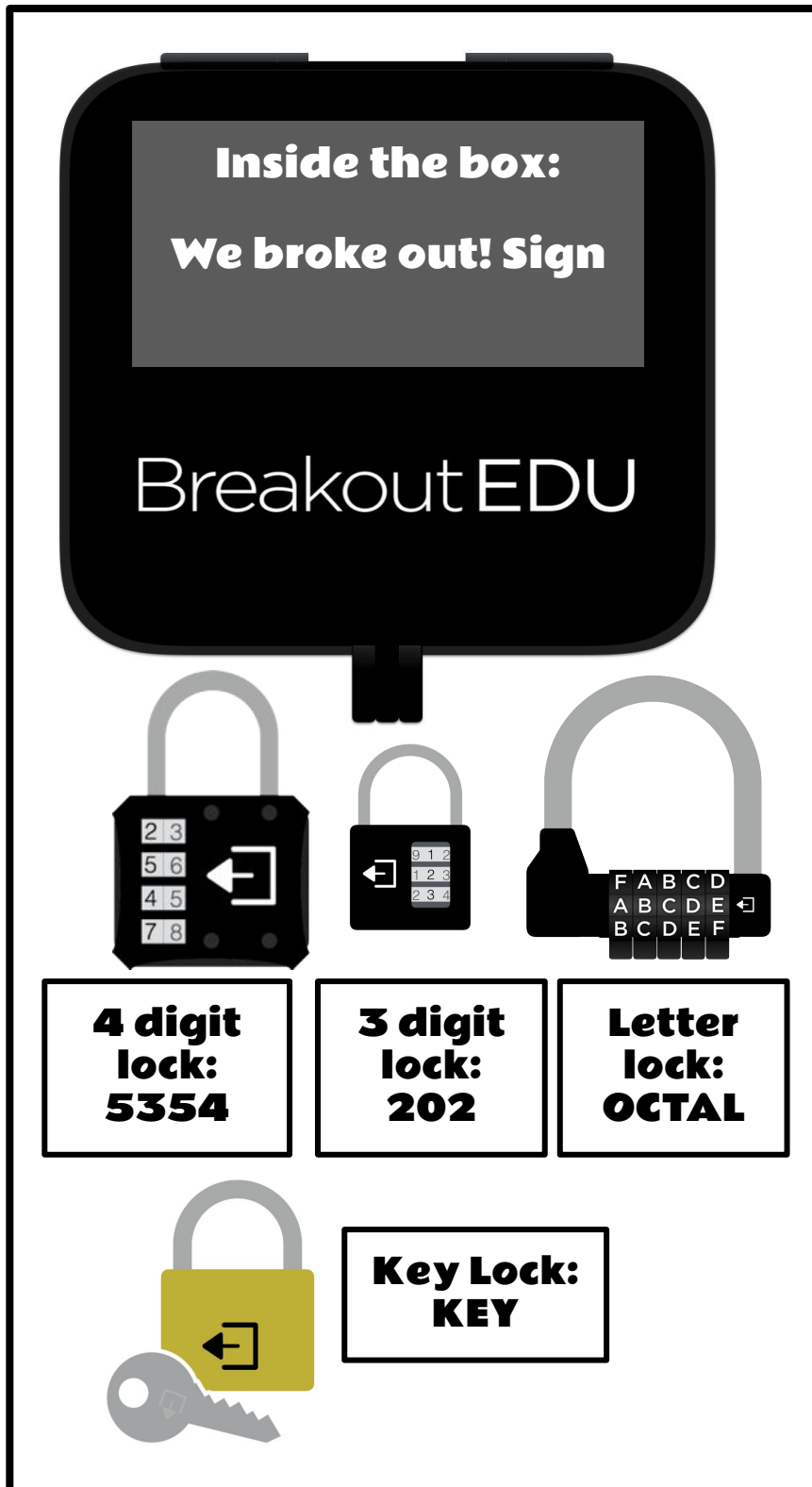


- 1. Print out pages 3 to 8.**
- 2. Use a blacklight to underline the highlighted binary numbers on slide 7 (see slide 12 for example)**
- 3. Use a blacklight to write the K and Y on the hexagon on slide 6 (see slide 11 for example)**



# **Game Resources to Print**

$$100_{10} = \underline{\hspace{2cm}}_7$$

000  
001  
002  
003  
004  
005  
006  
007  
010  
011  
012  
013  
014  
015  
016  
017  
020  
021  
022  
023  
024  
025  
026  
027  
030

## **Decimal Number System**

Number system with a base value of 10 is termed a Decimal number system. It uses 10 digits i.e. 0-9 for the creation of numbers. Here, each digit in the number is at a specific place with place value a product of different powers of 10. Here, the place value is termed from right to left as first place value called units, second to the left as Tens, so on Hundreds, Thousands, etc. Here, units have the place value as  $10^0$ , tens have the place value as  $10^1$ , hundreds as  $10^2$ , thousands as  $10^3$ , and so on.

## **Binary Number System**

Number System with base value 2 is termed as Binary number system. It uses 2 digits i.e. 0 and 1 for the creation of numbers. The numbers formed using these two digits are termed Binary Numbers. The binary number system is very useful in electronic devices and computer systems because it can be easily performed using just two states ON and OFF i.e. 0 and 1.

Decimal Numbers 0-9 are represented in binary as: 0, 1, 10, 11, 100, 101, 110, 111, 1000, and 1001

For example, 14 can be written as 1110, 19 can be written as 10011, 50 can be written as 110010.

## **Octal Number System**

Octal Number System is one in which the base value is 8. It uses 8 digits i.e. 0-7 for the creation of Octal Numbers. Octal Numbers can be converted to Decimal values by multiplying each digit with the place value and then adding the result. Here the place values are  $8^0$ ,  $8^1$ , and  $8^2$ . Octal Numbers are useful for the representation of UTF8 Numbers.

## **Hexadecimal Number System**

Number System with base value 16 is termed as Hexadecimal Number System. It uses 16 digits for the creation of its numbers. Digits from 0-9 are taken like the digits in the decimal number system but the digits from 10-15 are represented as A-F i.e. 10 is represented as A, 11 as B, 12 as C, 13 as D, 14 as E, and 15 as F. Hexadecimal Numbers are useful for handling memory address locations.





**14**

01101000	01100101	01101100	01101100	01101111	00101100	00100000
01101001	01100110	00100000	01111001	01101111	01110101	00100000
01100001	01110010	01100101	00100000	01110010	01100101	01100001
01100100	01101001	01101110	01100111	00100000	01110100	01101000
01101001	01110011	00101100	00100000	01110100	01101000	01100101
01101110	00100000	01111001	01101111	01110101	00100000	01110010
01100101	01100001	01101100	01101100	01111001	00100000	01101101
01110101	01110011	01110100	00100000	01110010	01100101	01100001
01101100	01101100	01111001	00100000	01101100	01101111	01110110
01100101	01100101	01101100	01101111	01110101	00100000	01101000
00100000	01100010	01101001	01101110	01100001	01110010	01111001
00100000	01100011	01101111	01100100	01100101	00101110	00100000
01101001	00100000	01101000	01101111	01110000	01100101	00100000
01111001	01101111	01110101	00100000	01100001	01101100	01110011
01101111	01101100	01101001	01101011	01100101	00100000	01101101
01100001	01110100	01101000	00101110	00100000	00110101	00110000
00110010	00110100	00100000	01100001	01101110	01100100	00100000
00110011	00111001	00110110	00100000	01100011	01101111	01101101
01100010	01101001	01101110	01100101	01100100	00100000	01110111
01101001	01101100	01101100	00100000	01100010	01100101	00100000
01100101	01110001	01110101	01100001	01101100	00100000	01110100
01101111	00100000	00110101	00110100	00110010	00110000	00101110
00100000	01100100	01101111	00100000	01111001	01101111	01110101
00100000	01100001	01100111	01110010	01100101	01100101	00100000
01110111	01101001	01110100	01101000	00100000	01110100	01101000
01101001	01110011	00100000	01100011	01101111	01101110	01100011
01101100	01101100	01101100	01101100	01101100	01101100	01101100
01110101	01110011	01101001	01101111	01101110	00111111	00100000
00001010						

The background is a repeating pattern of various padlocks and keys. Some padlocks are black with white text or symbols, while others are grey. Some have numeric dials, some have alphanumeric dials, and some have colorful buttons. Keys are also scattered throughout the pattern.

**WE BROKE OUT!**



**Answer Keys**

**(Do not print)**

$$100_{10} = \frac{202}{7}$$

**K and Y written in black light**

**K 14 Y**

01101000	01100101	01101100	01101100	01101111	00101100	00100000
01101001	01100110	00100000	01111001	01101111	01110101	00100000
01100001	01110010	01100101	00100000	01110010	01100101	01100001
01100100	01101001	01101110	01100111	00100000	01110100	01101000
01101001	01110011	00101100	00100000	01110100	01101000	01100101
01101110	00100000	01111001	01101111	01110101	00100000	01110010
01100101	01100001	01101100	01101100	01111001	00100000	01101101
01110101	01110011	01110100	00100000	01110010	01100101	01100001
01101100	01101100	01111001	00100000	01101100	01101111	01110110
01100101	01100101	01101100	01101100	01111001	00100000	01101101
00100000	01100010	01101001	01101110	01100001	01110010	01111001
00100000	01100011	01101111	01100100	01100101	00101110	00100000
01101001	00100000	01101000	01101111	01110000	01100101	00100000
01111001	01101111	01110101	00100000	01100001	01101100	01110011
01101111	01101101	01101111	01101100	01110000	01101100	01110011
00100000	01101100	01101001	01101011	01100101	00100000	01101101
01100001	01110100	01101000	00101110	00100000	00110101	00110000
00110010	00110100	00100000	01100001	01101110	01100100	00100000
00110011	00111001	00110110	00100000	01100011	01101111	01101101
01100010	01101001	01101110	01100101	01100100	00100000	01110111
01101001	01101100	01101100	00100000	01100010	01100101	00100000
01100101	01110001	01110101	01100001	01101100	00100000	01110100
01101111	00100000	00110101	00110100	00110010	00110000	00101110
00100000	01100100	01101111	00100000	01111001	01101111	01110101
00100000	01100001	01100111	01110010	01100101	01100101	00100000
01110111	01101001	01110100	01101000	00100000	01110100	01101000
01101001	01110011	00100000	01100011	01101111	01101110	01100011
01101100	01101100	01101100	01101100	01101100	01101100	01101100
01110101	01110011	01101001	01101111	01101110	00111111	00100000
00001010						

III	V1	IV	V	II	I
II	V	I	III	IV	V1
IV	I	V1	II	V	III
V1	III	II	IV	I	V
I	IV	V	V1	III	II
V	II	III	I	V1	IV