

Name(s): \_\_\_\_\_

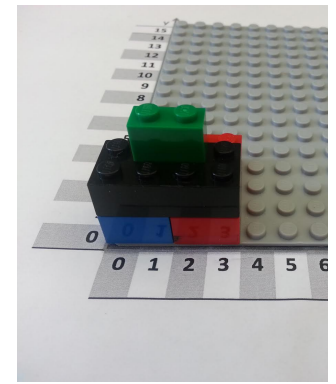
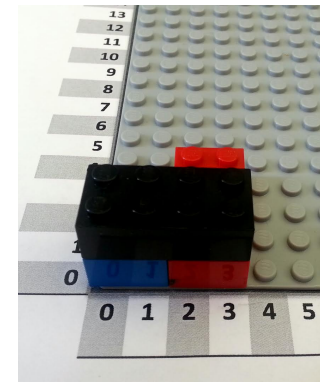
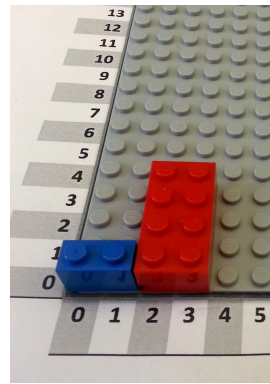
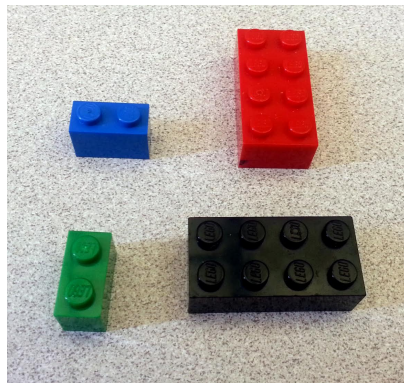
# Encoding LEGO Blocks Additional Practice

You've already tried *encoding* instructions to build a LEGO tower into binary and *decoding* binary instructions to build a LEGO tower.

What are some advantages of encoding the instructions?

What are some disadvantages of encoding the instructions into binary?  
How might you solve some of those problems?

Color	
Red	001
Yellow	010
Black	011



Brick Type	
2 x 4	010100
2 x 3	010011
2 x 2	010010

Orientation	
Horizontal	00
Vertical	01

Number	
1	001
2	010
3	011
4	100
5	101
6	110

Can you make an instruction table for this tower?

Hint: start with a normal instruction table, and *then* encode it into binary afterwards. You might need to add some colors and sizes to the legend on the left!

Block	Color	Size	Orientation	X	Y

Block	Color	Size	Orientation	X	Y

Color	
Red	001
Yellow	010
Black	011
Blue	100
White	101

Brick Type	
2 x 4	010100
2 x 3	010011
2 x 2	010010
1 x 1	001001
1 x 2	001010
1 x 3	001011

Orientation	
Horizontal	00
Vertical	01

Number	
1	001
2	010
3	011
4	100
5	101
6	110

Here's an encoded instruction table for a small LEGO tower. Can you figure out what this tower is supposed to look like?

Hint: first, *decode* the instruction table using the legend on the left, and then follow the instructions to recreate the tower.

Block	Color	Size	Orientation	X	Y
000	100	010100	00	010	001
001	100	010100	00	001	001
010	100	010010	01	101	001
011	011	001001	01	011	010
100	101	001011	00	010	010
101	101	001010	00	011	010

Here's an empty table you can fill with the *decoded* block attributes:

Block	Color	Size	Orientation	X	Y