Name:_____

Beaded Factors Activity Sheet   Date:_____
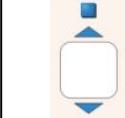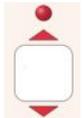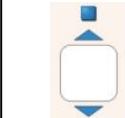

Part A: EXPLORE [Explore]

1) Use the Explore part of the sim. Create two bead patterns of your choice and fill in the table as shown by the example.

A Red Beads	B Blue Beads	C Pattern (Sketch or describe)	D Number of times pattern repeats
EX: 9	EX: 12	●●●■■■■ 3 red, 4 blue	3 times

2) How are the patterns (Column C) related to the numbers of red and blue beads in Columns A and B?
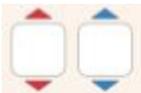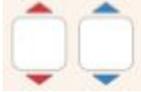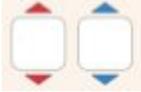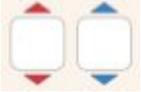

3) Use the sim to complete the table below. There are many correct answers for each row!

Repeats	My pattern	My partner's pattern	Challenge: A third pattern!
Patterns that repeat 3 times	Pattern:	Pattern:	Pattern:
Patterns that repeat 2 times	Pattern:	Pattern:	Pattern:
Patterns that repeat 5 times	Pattern:	Pattern:	Pattern:
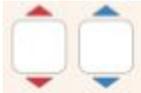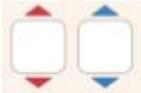
4) How is the number of repeats related to the total number of red beads and number of blue beads?

Discuss your answers for #2 and #4 with your partner before you move on.

PART B: PREDICT

5) Switch to the PREDICT part of the sim. For each row in the table, first make a prediction, then use the sim to check your prediction. You may leave the ACTUAL part blank if your prediction is correct.

	PREDICT	ACTUAL
3 **9**	Pattern: _____ _____ 　　　　# red　　　# blue Repeats _____ times.	Pattern: _____ _____ 　　　　# red　　　# blue Repeats _____ times.
4 **9**	Pattern: _____ _____ 　　　　# red　　　# blue Repeats _____ times.	Pattern: _____ _____ 　　　　# red　　　# blue Repeats _____ times.
4 **10**	Pattern: _____ _____ 　　　　# red　　　# blue Repeats _____ times.	Pattern: _____ _____ 　　　　# red　　　# blue Repeats _____ times.
8 **20**	Pattern: _____ _____ 　　　　# red　　　# blue Repeats _____ times.	Pattern: _____ _____ 　　　　# red　　　# blue Repeats _____ times.
6 **9**	Pattern: _____ _____ 　　　　# red　　　# blue Repeats _____ times.	Pattern: _____ _____ 　　　　# red　　　# blue Repeats _____ times.

6) Fill in the numbers of red and blue beads to make the patterns with the given number of repeats. Try first without the sim and then use the sim to check your work.

Pattern: ●■■ Repeats 2 times			Pattern: ●■■■ Repeats 4 times	
Pattern: ●●●■■■■ Repeats 3 times			Pattern: ●■ Repeats 4 times	

Discuss your answers for #5 and #6 with your partner before you move on.

7) Challenge! A nifty trick …
Compute the following product for each pattern in #6 above.
(# times pattern repeats)(# red beads in one round of pattern)(# blue beads in one round of pattern)

How is this product related to your answers in #6? Why does this work?