



Everyone can be a Master Builder! You just have to practice “seeing” the pairs of factors that make up a number.

Have you ever followed the instructions and built a LEGO?

Those instructions show how brick by brick, you can build a larger product.

Factors are like bricks. Together they make up a number. So remember, Factories Make Products.

Let’s practice some multiplication. Every number has factors and multiples.

1. List 5 multiples of 6

6, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

2. What do you notice about multiples? Explain in your own words.

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

**Factor Factories: Find the Factors of Numbers**

**Math 4**

3. Now Show a Factor Factory for 6. List the FACTORS of 6.

6	
1	
2	
3	
4	
5	
6	

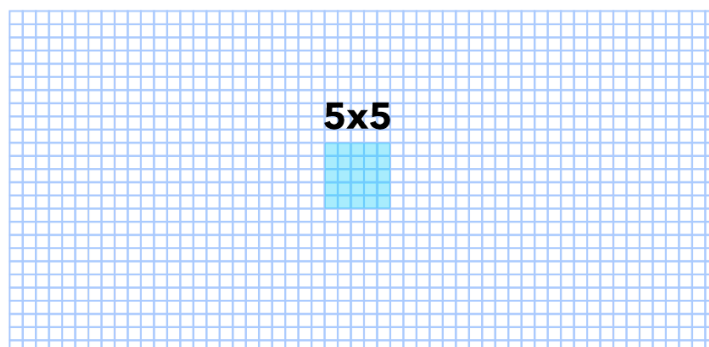
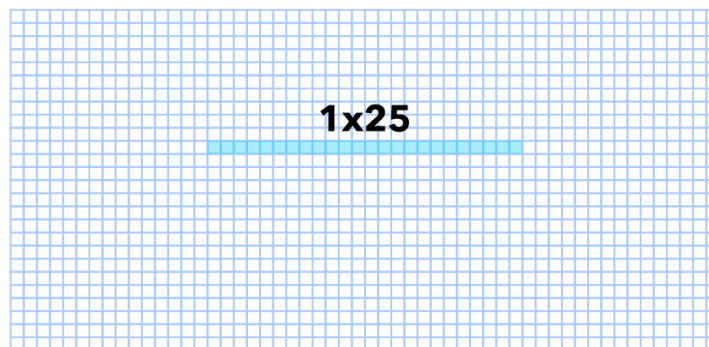
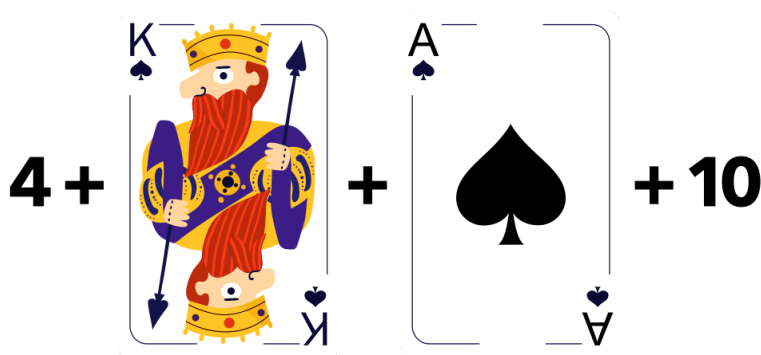
<u>6</u>	
1	
2	
3	
4	
5	
6	

4. Use dots and draw arrays for the factor pairs of 6.

**Instructions for Stations:****Station 1 :** Materials needed: Playing Cards and graph paper

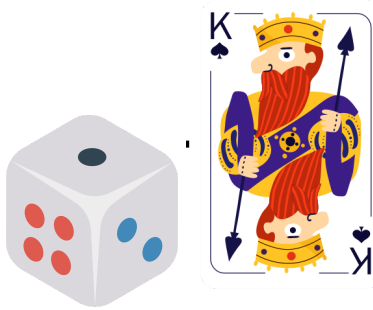
- Draw 4 cards.
- Add the face value of the cards together. (Face cards are all equal to 10)
- Write down that number. (The sum of your cards)
- Find ALL factors of that product by using a factor factory.
- Use graph paper to show arrays that can be made for the number.

Example: You draw a 4, a King, a 10 and an Ace. That's  $4 + 10 + 10 + 1 = 25$



# Factor Factories: Find the Factors of Numbers

## Math 4



**Station 2:** Materials needed: Dice and playing cards

- Roll one dice and draw a card.
- Find the product.
- Use coins or tokens to show arrays for that number.
- Find ALL of the factors of that number in a Factor Factory.

Example: you roll a 2 and draw a 10.



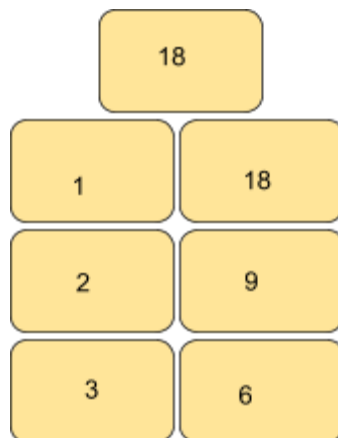
# Factor Factories: Find the Factors of Numbers

## Math 4



**Station 3:** Materials needed: Hundreds chart, coin

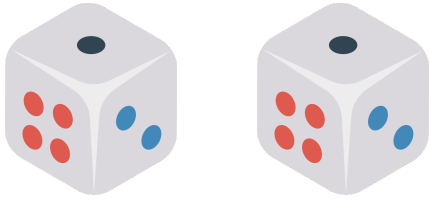
- Flip a coin onto a Hundreds Chart.
- If it lands on heads, multiply by 2, if it lands on tails multiply by 3.
- Write down the product on one index card.
- On each index card write one factor.
- Lay the cards out in Factory Form to show the factors of your number.
- Play again. Can you reuse any factor cards?



Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

## Factor Factories: Find the Factors of Numbers

**Math 4**



### Station 4: Materials needed: Dice and Legos/blocks

- Roll 2 dice - if you roll a 1, roll again.
- Find the product.
- Build arrays with lego blocks or blocks. Each brick can be 1. For example: 8 could be built with 8 blocks, but 2 rows of 4 or 4 rows of 2 or 1 row of 8 etc...
- List your factors.



Math 4

The worksheet contains six houses, each with a chimney and a body. The first house is pre-filled with the 6 times table, with rows 4 and 5 crossed out. The other five houses are empty for practice.

House	Chimney	Body (Row 1)	Body (Row 2)	Body (Row 3)	Body (Row 4)	Body (Row 5)	Body (Row 6)
1	6	1 x 6	2 x 3	3 x 2	<del>4 x</del>	<del>5 x</del>	6 x 1
2		x	x	x	x	x	x
3		x	x	x	x	x	x
4		x	x	x	x	x	x
5		x	x	x	x	x	x
6		x	x	x	x	x	x

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

**Factor Factories: Find the Factors of Numbers**

**Math 4**

**Reflection Questions**

1. What was the number that gave you the MOST FACTORS? Record it below and write its factors.
  
  
  
  
  
  
  
  
  
  
2. Did your largest number give you the most factors? Why or why not?
  
  
  
  
  
  
  
  
  
  
3. What factor do you know every number has?
  
  
  
  
  
  
  
  
  
  
4. What is another factor that all even numbers have?
  
  
  
  
  
  
  
  
  
  
5. How did the arrays help show the factors? Explain.
  
  
  
  
  
  
  
  
  
  
6. Can you find ALL of the factors of 30? List them.
  
  
  
  
  
  
  
  
  
  
7. Can you find ALL of the multiples of 30?