



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.

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

**Math 4**

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

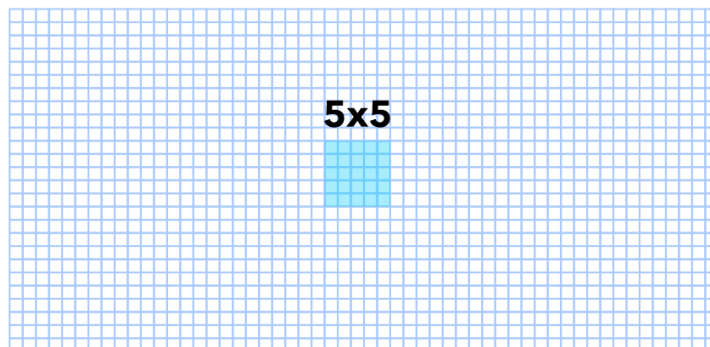
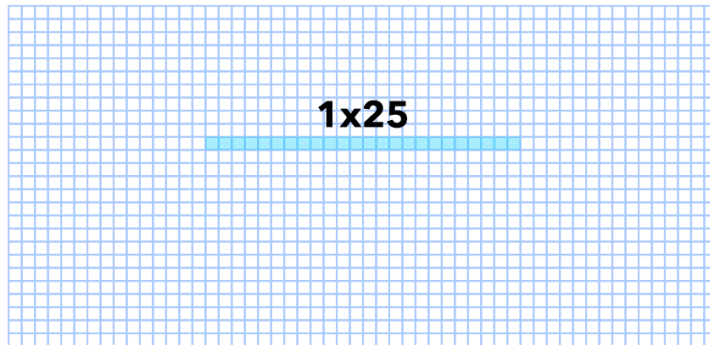
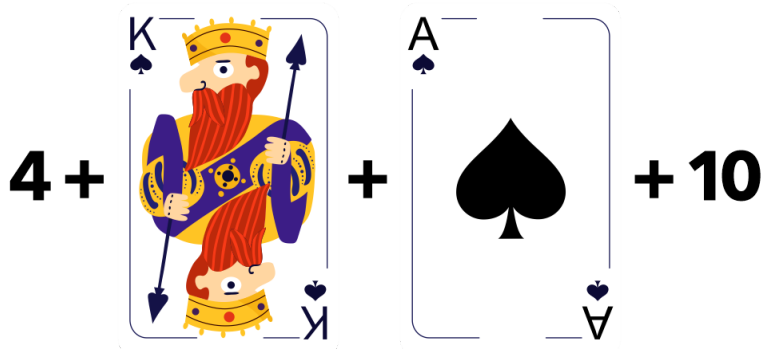
6	
1	
2	
3	
4	
5	
6	

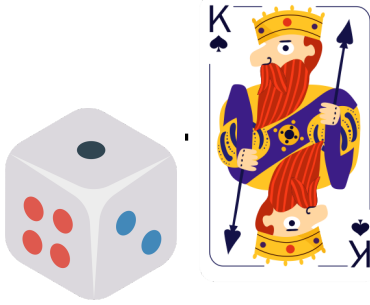
<u>6</u>	
1	
2	
3	
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6	

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  $4 + 10 + 10 + 1 = 25$ 



**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.



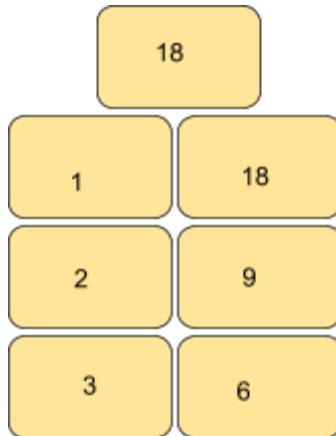
**Factor Factories: Find the Factors of Numbers**

**Math 4**



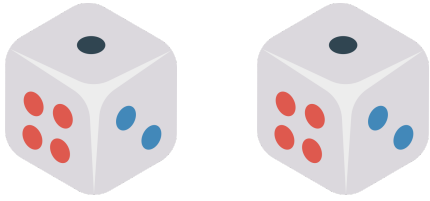
**Station 3:** Materials needed: Hundred chart, coin

- 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?



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

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**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.



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

**Math 4**

Here are some Factories to show your work.

The image shows six factory-shaped diagrams arranged in two rows of three. Each factory consists of a triangular roof and a rectangular body.

- Factory 1 (top left):** The roof contains the number 6. The body contains a list of multiplication facts:
  - 1 x 6
  - 2 x 3
  - 3 x 2
  - ~~4 x~~
  - ~~5 x~~
  - 6 x 1
- Factory 2 (top middle):** The roof contains an empty square box. The body contains six 'x' marks arranged vertically.
- Factory 3 (top right):** The roof contains an empty square box. The body contains six 'x' marks arranged vertically.
- Factory 4 (bottom left):** The roof contains an empty square box. The body contains six 'x' marks arranged vertically.
- Factory 5 (bottom middle):** The roof contains an empty square box. The body contains six 'x' marks arranged vertically.
- Factory 6 (bottom right):** The roof contains an empty square box. The body contains six 'x' marks arranged vertically.

