Home Connections
Math Activities

Grade 4
Patterning and Algebra

Space Station Challenge
What's My Rule?

Space Station Challenge

The space station is considering expanding. The diagrams attached show the first three phases of construction.

1. Ask your child to draw or create what the space station could look like for phase 4 and phase 5.
2. If the pattern continued, ask your child to find out how many blue small squares are needed for phase 10? What is the pattern rule?

Representing the space station expansion using a model, picture, and numbers help your child to see the relationship between the number of squares and its phase number.
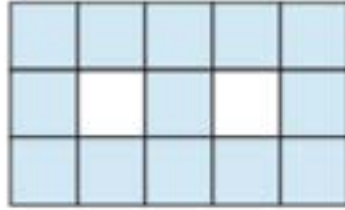
Let's Talk About It

- How did you figure out the pattern rule?
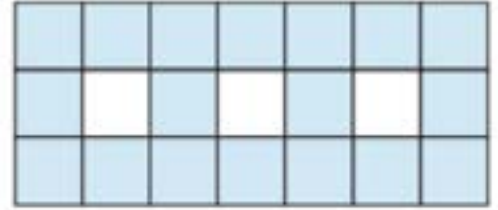- Why is it important to know what the pattern rule is?

Space Station Challenge
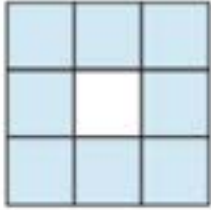
Phase 1   Phase 2   Phase 3

Phase	Pieces
1	8
2	
3	
4	
5	

What's My Rule?

Sid, the cat, is very clever. He has convinced six people living on the same street that he belongs to each of them. As a result, he is able to enjoy six dinners a day. Terms from this pattern are recorded on a chart and the rule to model the relationship is .

$$6 \times \boxed{\star} = \text{🍽}$$

1. Ask your child to explain the chart and the rule.
2. Your child's new task is to create a new rule.
For example, the rule
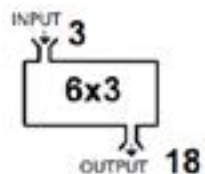
$$3 \times \boxed{\star} = \text{🍽}$$

can represent the number of meals your child eats each day (Breakfast, lunch, and dinner). Or,

$$10 \times \boxed{\star} = \text{🛏}$$

can represent the number of hours your child sleeps each day.
3. Ask your child to complete the attached chart.

The term number is the input.

The value of the term is the output.

INPUT 3

6x3

OUTPUT 18

Let's Talk About It

- What is your rule?
- How do you know that the values in your chart work for your rule?

What's My Rule?

Input	Output
1	6
2	12
3	18
4	24
...	...
10	60

Input	Output
1	
2	
3	
4	
5	
...	...
10	