

Name \_\_\_\_\_

# Graph and Analyze Relationships

**I Can** use the strategy *solve a simpler problem* to help solve a problem with patterns.

Florida's B.E.S.T.

- Algebraic Reasoning 5.AR.3.1, 5.AR.3.2
- Mathematical Thinking & Reasoning MTR.1.1, MTR.2.1, MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1, MTR.7.1



## UNLOCK the Problem

On an archaeological dig, Gabriel separates his dig site into sections with areas of 15 square feet each. There are 3 archaeological members digging in every section. What is the area of the dig site if 21 members are digging at one time?

15 sq ft



## Read the Problem

**What do I need to find?**

I need to find the

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_.

**What information do I need to use?**

I can use the area of each section, which is

\_\_\_\_\_, that

there are \_\_\_\_\_ members in each section, and that there are 21 members digging.

**How will I use the information?**

I will use the information to search for patterns to solve

a \_\_\_\_\_ problem.

## Solve the Problem

Add 3.

Add 15.

Sections	1	2	3	4	5	6	7
Number of members	3	6	9	12	15	18	21
Area (in square feet)	15	30	45	60	75	90	

Multiply by \_\_\_\_\_.

Multiply by \_\_\_\_\_.

Possible Rules:

- Multiply the number of sections by \_\_\_\_\_ to find the number of members.
- Multiply the number of members by \_\_\_\_\_ to find the total area. Complete the table.

So, the area of the dig site if 21 members are digging is \_\_\_\_\_ square feet.

**Math Talk**

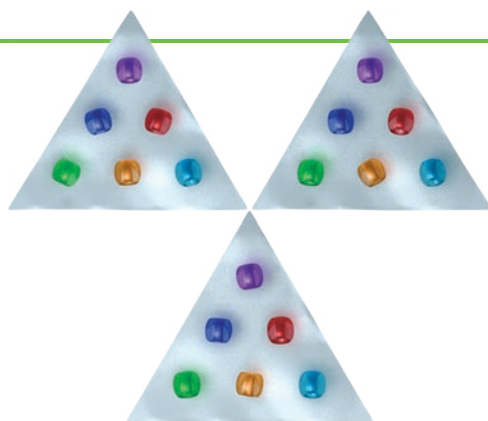
**MTR 4.1** Engage in discussions on mathematical thinking.

Explain how you can use division to find the number of members if you know the dig site area is 135 square feet.

## Try Another Problem

Mercy is making a design with triangles and beads for a costume. In the design, each pattern unit adds 3 triangles and 18 beads. Mercy uses 72 triangles in his design. How many beads does Mercy use?

Use the graphic organizer below to solve the problem.



### Read the Problem

**What do I need to find?**

**What information do I need to use?**

**How will I use the information?**

### Solve the Problem

So, Mercy uses \_\_\_\_\_ beads.

- What rule could you use to find an unknown number of beads if you know the related number of triangles?