

# What's My Rule?

## Purpose

Students will create and extend number patterns after determining what the pattern should be.

## Materials

*For the teacher:* overhead projector, overhead transparency with chart printed onto it (see format below)

*For each student:* counters, copy of Black Line Master (BLM) *What's My Rule?*

## Activity

### A. Introduction

1. Explain to students that you will make a chart on the overhead projector that contains information about groups of students. Put the number of students in the column on the left. Put the number of feet in the column on the right (see example below).
2. Place the numbers from 1 to 10 in the left column. Fill in the numbers in the right column using answers provided by the students.

Number of Students	Number of Feet
1	2
2	4
3	
4	
5	
6	
7	
8	
9	
10	

3. When the right hand column is filled up to the number of feet for eight students, ask students if they can see a pattern in the column on the right. (Students may suggest that the numbers increase by two or that this is a list of even numbers.)

*(continued)*



### MEETING INDIVIDUAL NEEDS

For students who are having difficulty finding the pattern, identify an area on the floor where they will sit. Have the first student sit and say the number of feet in the area. Have another student sit in the area and say the number of feet. Increase the number of students, one at a time, until there are eight students in the area. Ask the students if they need to continue counting or if they can predict values without seeing the actual students and feet.



### INCORPORATING TECHNOLOGY

Have students use a calculator to make a pattern by adding the same number each time (e.g., start with 5, then +4, +4, +4, +4, etc.). Record the pattern.

### Standards Links 1.1.4, 1.2.1

**Activity (continued)**

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4. Complete the table.
5. Ask students the following questions: “Can you predict the number of feet for 15 students?” (Let students model the problem with counters or with their own groupings of students.) “Can you predict the number that belongs in the LEFT column of the table if the number on the right is 28? In other words, how many students have 28 feet?”

**B. Student Activity**


1. Give students the BLM *What’s My Rule?*
2. Have them complete the pattern for each table.
3. Discuss student results.


**Questions for Review**

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**Basic Concepts and Processes**

Show students a series of numbered cards forming a pattern (e.g., 3, 5, 7, 9, \_\_\_\_, \_\_\_\_, \_\_\_\_). Ask the following questions:

 Following this number pattern, what three numbers come after nine?

 How did you decide what number would come next?

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Name: \_\_\_\_\_

# What's My Rule?

Complete the right hand column in each table.

**1.**

Number of Students	Number of Toes
1	
2	
3	
4	
5	
6	
7	
8	

Pattern is \_\_\_\_\_

**2.**

Number of Students	Number of Arms and Legs
1	
2	
3	
4	
5	
6	
7	
8	

Pattern is \_\_\_\_\_

**3.**

Number of Students	Number of Heads
1	
2	
3	
4	
5	
6	
7	
8	

Pattern is \_\_\_\_\_

**4.**

Number of Students	Number of Fingers (not Thumbs)
1	
2	
3	
4	
5	
6	
7	
8	

Pattern is \_\_\_\_\_

# What's My Rule

## Teacher Directions

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Have students use counters to complete the right column of each table and describe the pattern in the numbers.

## Answer Key

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1.

Number of Students	Number of Toes
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80

Pattern is add 10

2.

Number of Students	Number of Arms and Legs
1	4
2	8
3	12
4	16
5	20
6	24
7	28
8	32

Pattern is add 4

3.

Number of Students	Number of Heads
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Pattern is add 1

4.

Number of Students	Number of Fingers (not Thumbs)
1	8
2	16
3	24
4	32
5	40
6	48
7	56
8	64

Pattern is add 8