TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 6

Hands-on-Activity

Six Weeks 3
Lesson 2

Teacher Notes for Student Activity 3

MATERIALS: Per Group of 4: 1 set of Equation cards; 1 set of Table cards; 1 set of Situation cards

PROCEDURE:

- Distribute materials to pairs of students.
- Students complete Student Activity 3 in groups of 4. Number the students 1, 2, 3, and 4. Students 1 and 2 will work together and students 3 and 4 will work together. Place the set of equations face down on the desk top. Each pair of students takes a set of solution sets.

Before students begin working, ask the following questions:

- How can you model using a table?
- How do they match a table with a situation?
- How do you determine what variable is the independent variable?
- How do you determine what variable is the dependent variable?

During Student Activity 3, roam the room and listen for the following:

- Do the students understand how to determine if the equation is of the form $y = ax$ or $y = x + a$?
- Do the students understand how to determine the dependent variable using a table?

During Student Activity 3, roam the room and look for the following:

- Are the students setting up common ratios or common differences for the table values?
- Do the students translate a situation into an equation?

Answers to these questions can be used to support decisions related to further whole class instruction or group and individual student instruction during tutorial settings.

Student Activity 3

MATERIALS: Per Group of 4: 1 set of equation cards; 1 set of table cards; 1 set of situation cards.

PROBLEMS:
- How can you determine the equation that represents the data in a table of values?

PROCEDURE:
- You will work in groups of 4 for Student Activity 3. Your teacher will number you 1, 2, 3, or 4. 1 and 2 will work together and 3 and 4 will work together.

- The set of equations are to be placed face down on the desk top. The set of tables and the set of situations are left face up on the table.

Part 1:

Round 1: Students 1 and 2 randomly select an equation card. They turn the card over. They will look for the situation card that matches the equation. Students 3 and 4 will look for the table of values that matches the equation card. When both cards have been selected, they show the other pair their card. Together the 4 students decide if all three cards represent each other. If they don't agree, they discuss until they come to an agreement. Place the three cards to the side away from the other cards. Fill in the chart below for the equation number selected.

Round 2: Students 3 and 4 randomly select an equation card. They turn the card over. They will look for the situation card that matches the equation. Students 1 and 2 will look for the table of values that matches the equation card. When both cards have been selected, they show the other pair their card. Together the 4 students decide if all three cards represent each other. If they don't agree, they discuss until they come to an agreement. Place the three cards to the side away from the other cards. Fill in the chart below for the equation number selected.

Round 3: Repeat the steps in Round 1.

Round 4: Repeat the steps in Round 2.

Round 5: Repeat the steps in Round 1.

Round 6: Repeat the steps in Round 2.

Equation/Situation/ Table Chart

Equation Card #	Independent Variable	Dependent Variable	Situation Card #	Table Card #
1				
2				
3				
4				
5				
6				

Part 2:

1. Which table cards had a common ratio?

   Which table cards had a common difference?

2. Which type card did you prefer to use to match the equation? Why?

3. Were there any equations that all 4 of you had to discuss because you didn't agree with the choice of matching cards?

   If so, was the discussion able to convince all 4 of you of the correct choice?

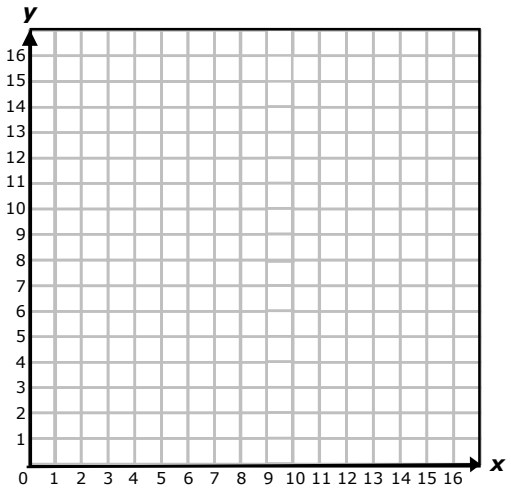
4. Write the equation from Equation card #1. _____

   How did you decide which quantity was the dependent quantity?

5. List another set of values that would belong to Table #2.

   List another set of values that would belong to Table #4.

6. Draw a graph for the equation on Equation card #3. Plot the points from the table and any other appropriate ones you want.



Situation Cards

1 Janis is three years younger than her brother Billy.	2 Each carton of eggs contains twelve eggs.
3 The length is 4 feet longer than the width of a rectangle.	4 Don has one-half as much money as his sister.
5 A bag contains 3 times as many white marbles as black marbles.	6 A larger number is 12 more than a smaller number.

Equation Cards

1 $y = x + 12$	2 $y = 3x$
3 $y = x + 4$	4 $y = x - 3$
5 $y = \frac{1}{2}x$	6 $y = 12x$

Table Cards

1

x	2	4	5
y	24	48	60

2

x	2	4	5
y	6	8	9

3

x	4	10	18
y	2	5	9

4

x	4	10	18
y	16	22	30

5

x	2	4	5
y	6	12	15

6

x	4	10	18
y	1	7	15