**Fairfield Gr 4 U5 L4 T1 Guess My Rule**

The rules for Guess My Rule can be applied to a variety of mathematical situations where you want to encourage students to make observations and generalizations about patterns. It is often done using a T-chart. A few numbers are presented in the T-chart with a relationship between one side and the other. See example. Caution: Many students want to try to see a connection within a column (e.g between “2” & “4” under the “T” column). In some situations this may be true but not in this example. We are looking for a functional relationship. Students offer numbers they think might fit the pattern. If they do not fit the rule, you say; “That number does not fit the rule.” and write their number off to the side. Numbers that do not fit the rule often provide as much information, and sometimes more, about the rule as numbers that do. Caution: Often time the ‘light bulb’ will go off when a student know the number that fits the rule. Be explicit in asking the student for the “Rule” not the number. This may give them pause in which case they can offer a number that fit the rule or not. If students are baffled or are having difficulty finding a number to suggest, provide them with a clue by giving them a number that might be helpful. In the example below you might offer 1:3 “3” being the missing number. For students who struggle it often helps to make it contextual.

Example:

**T W**

10, 13, 6,…

2 6

 4 12

 5

The above example can be applied to the number of tricycles and wheels. (see below). It is then important to ask students to represent the relationship as an expression. Explicitly model their thinking and encourage the class to reflect on its accuracy by discussing whether it is always true. Provide a few other numbers: e.g. 100 tricycles is how many wheels. Or 330 wheels can make how many tricycles.

**Tricylcles Wheels**

10, 13, 6, 30, 100…

2 6

 4 12

 5

 100

 330

 nth

Possible expressions:

3 times the number of tricycles = the number of wheels. OR

3T = W

Or

1/3 the number of wheels = the number of tricycles. OR, the wheels divided by 3 gives you the number of tricycles.

1/3W = T OR

 W ÷ 3 = T

Keep the numeric or algebraic representation grounded in the context of the situation. Challenge students to think about the nth number of tricycles or the nth number of wheels to assist in generalizing patterns. This is important in developing algebraic thinking in students.