Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_

Describing Functions

Learning Goals

* Describe a function rule using words.
* Compare the verbal description of a function to its algebraic form.
* Write function rules in algebraic form.

1. **EXPLORE –** Open the Function Builder simulation and explore. What do you notice?

|  |
| --- |
|  |

**2. BUILD –** Go to the Numbers screen and build 3 multistep functions. Describe your function.

\*Use a variety of operations\*

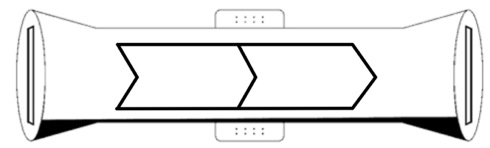
|  |  |
| --- | --- |
| Function | Describe how the function rule changes the INPUTS. |
|  |  |
|  |  |
|  |  |

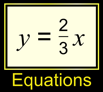
**3. SHARE –** Compare your functions with a partner. Record one of your partner’s functions below and describe how the function rule changes the INPUTS.

\*Choose a function that is different from the ones that you created\*

|  |  |
| --- | --- |
| Function | Describe how the function rule changes the INPUTS. |
|  |  |

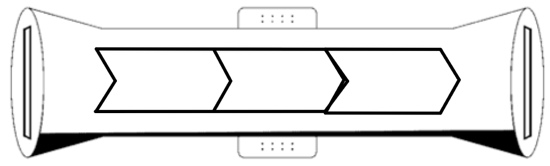
\*Challenge – Can you build a function that always has the same output?

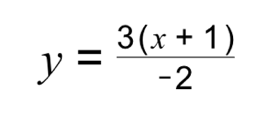


**4. BUILD –** Go to the Equations screen. Build functions using three different operations.

\***DO NOT** click simplify for the equation\*

|  |  |  |
| --- | --- | --- |
| Function | Equation | Explain how the equation relates to each operation in the function. |
|  |  |  |
|  |  |  |
|  |  |  |

1. **DISCUSS –** With your partner, discuss how you think the function below changes the INPUTS. Fill in the function rule with the correct operations.



1. **CHALLENGE –** On the Equations screen, create a three-step function using a variety of operations. Click the hide button. Can your partner guess your function rule?
2. **WRITE –** Go back to the functions that you built in #2. Write an equation to model those functions.