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6-7 TECHNOLOGY ACTIVITIES

Technology activities in *MathLinks* enhance the meaning of the content being studied and increase student engagement. *MathLinks* technology activities typically require software and hardware that is readily available in schools.

Sometimes worksheets are provided to connect technology activities with *MathLinks* lessons. All links are checked periodically, and we apologize in advance if third-party websites are taken down or links do not work.

Name of Activity	Technology	Description	Links
Robots: What a Point in a Scatter Plot Means	Desmos	Though the term "scatter plot" does not appear until grade 8 statistics, this activity allows for graphing and interpreting ordered pairs and points in a fun context, and is helpful for basic Quadrant I graphing. Use prior to lesson 7.1.	https://teacher.desmos.com/activitybuilder/custom/5d6481f509c70b736bd7dd64?collections=featured-collections%2C5da898696bbf930b15993ff0 See 6-7 Essential Skills Battling Ships for more practice.
Battle Boats "primary grades" version	Desmos	Students play a coordinate plane game based on the old "Battleship" game. Be sure to use this primary grade version, as it is an exploration in Quadrant I only. Use prior to lesson 7.1.	https://teacher.desmos.com/activitybuilder/custom/58f53fc09c2d690fce53563a See 6-7 Essential Skills Battling Ships for more practice.
Visual Patterns	Public domain website	This site offers a huge number of varied patterns that can be used to create more problems like those in lesson 1. Use anytime.	www.visualpatterns.org
Graphing Calculator Exploration: Points and Lines	Desmos calculator	Students explore the Desmos calculator by inputting ordered pairs of points into tables, writing input-output equations to describe the relationships, and checking that the points all lie along a straight line by inputting the equation. Use with lesson 7.1 or 7.2.	www.desmos.com Use Worksheet: Graphing Calculator Exploration: Points and Lines
Function Machine	Public domain website	Students, or the computer, generate input values, watch what the machine outputs, and find the input-output rule. Use with lesson 7.1 or 7.2.	https://www.mathplayground.com/functionmachine.html Use Worksheet: Function Machine

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6-7 TECHNOLOGY ACTIVITIES
GRAPHING CALCULATOR EXPLORATION: POINTS AND LINES

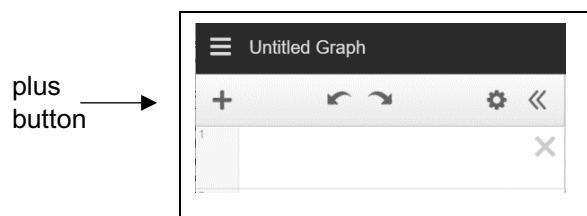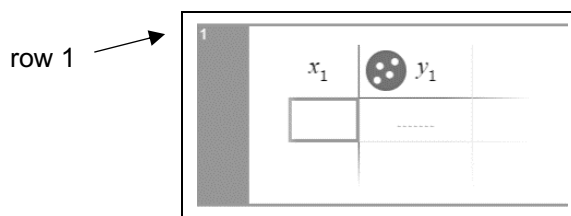Go to desmos.com and click on "Graphing Calculator."

Figure 1

Figure 2

1. Click the "plus" button (see figure 1) and then click on "table" in the drop-down menu to get a table in row 1 (see figure 2).

2. Input the x-values 1, 2, 3, and 4 in the table, each number in its own row. Use the "down arrow" button to go down the y-column.

3. Input corresponding y-values in the table in order: 5 ,10, 15, 20, each in its own row.

4. Do you see the four points automatically graphed? If not, then click on the "minus" button at the top right of the coordinate plane to zoom out.

5. Click the plus button again and then click on "expression." Enter an expression that will complete an equation in the form "$y =$ _____" that you think represents the correct input-output-rule for the values in the table. In other words, only write the expression that should go in the blank above.

    Your equation: ___$y = 5x$___   Describe the Desmos calculator result:
    It graphs a line that goes through the given points.

6. Do the same steps as above for the following x- and y-values: input values from the table **and** an expression into Desmos, and then below write the equation and describe the result.
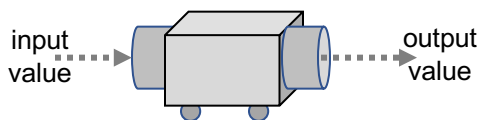
A		B		C	
Input (x)	**Output (y)**	**Input (x)**	**Output (y)**	**Input (x)**	**Output (y)**
2	14	1	1.5	1	9
4	28	2	3	3	11
6	42	3	4.5	5	13
8	56	4	6	7	15

Equation: __$y = 7x$____   Equation: __$y = 1.5x$____   Equation: __$y = x + 8$____

Description: Description: Description:
a line through these points a line through these points a line through these points

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6-7 TECHNOLOGY ACTIVITIES
FUNCTION MACHINE

input value → [machine] → output value

Find an appropriate input-output "function machine" rule for each table. In other words, state what could be done to each set of inputs that results in the corresponding outputs.

Table 1	
input	**output**
3	18
5	30
7	42
9	54
Rule: times 6	

Table 2	
input	**output**
10	2
20	4
30	6
40	8
Rule: divide by 5	

Table 3	
input	**output**
4	15
9	20
13	24
18	29
Rule: plus 11	

Table 4	
input	**output**
18	11
25	18
39	32
44	37
Rule: minus 7	

Table 5	
input	**output**
1	2.5
5.5	7
7.1	8.6
11.6	13.1
Rule: plus 1.5	

Table 6	
input	**output**
4	6
8	12
12	18
24	36
Rule: times 1.5	

Table 7	
input	**output**
$\frac{1}{2}$	$\frac{3}{4}$
$1\frac{1}{2}$	$1\frac{3}{4}$
$2\frac{3}{4}$	3
$\frac{1}{8}$	$\frac{3}{8}$
Rule: plus $\frac{1}{4}$	

Table 8	
input	**output**
$\frac{1}{8}$	$\frac{1}{32}$
$\frac{1}{2}$	$\frac{1}{8}$
$\frac{2}{3}$	$\frac{2}{12}$
$\frac{3}{4}$	$\frac{3}{16}$
Rule: times $\frac{1}{4}$	

Table 9	
input	**output**
1	$\frac{1}{2}$
$3\frac{1}{2}$	3
$5\frac{1}{4}$	$4\frac{3}{4}$
$10\frac{3}{8}$	$9\frac{7}{8}$
Rule: minus $\frac{1}{2}$	