

# Functions

DIRECTIONS: Choose activities from the board below that equal 10 points or more.

| 1 Point Projects  | 5 Point Projects   | 3 Point Projects   |
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| <p><b>Foldable</b></p> <p>Create a foldable that teaches others about functions. Your foldable should include the definitions of key vocabulary words such as function, ordered pairs, input, and output as well as two examples and two non-examples of functions.</p>                                 | <p><b>Jet Setter</b></p> <p>Look online and choose 5 countries that you would like to visit. You aren't sure yet what order you are going to visit each country, so you need to create a function table where you convert each currency to the other. Then write and solve 3 word problems involving your table of conversions. (ie. If I have \$5000 US and travel to China, how many Renminbi would I have?)</p>   | <p><b>Function or No Function</b></p> <p>Create your own Function or No Function game. Create 10 problems where players are given a set of five ordered pairs and have to determine if the set is a function or not. After each question, include an explanation as to why it is or isn't a function.</p>  |
| <p><b>Who's Right?</b></p> <p>Given the coordinate points (9,9) and (15,12), Sara claims that the linear equation is <math>y=1/3x-2</math> and Brad says the equation is <math>y=1/3x+6</math>. Construct your own function from these two data points to determine who is correct. Show your work.</p> | <p><b>My First Store</b></p> <p>You need to create a presentation for potential investors for your new store. Decide what kind of store you are opening and 5 different items you plan to sell. Look online for comparable prices for each item and decide on a price you will sell each of your products. Create a table for each item where you show the total cost as the quantity increases. Then develop a visual that you will present to potential investors.</p> | <p><b>Endangered Animals</b></p> <p>Many species of animals are endangered and close to extinction. Find either tables or graphs showing the population decline of 8 different animals that are currently endangered. Based on the data, predict what year the population will become extinct if the trend continues. Create a presentation to show your research.</p> |
| <p><b>Matching</b></p> <p>Create 3 simple scenarios involving time and distance. Write each scenario out and then draw corresponding graphs. Explain why the graph matches the scenario.</p>  | <p><b>Lesson Plan</b></p> <p>Design your own math lesson where you explain the relationship between two quantities using a graph as well as how to sketch the graph that shows the relationship of the function.</p>   | <p><b>Speed Scenarios</b></p> <p>In the Kentucky Derby, a horse stands at the gate (0 mph). As soon as the race begins, the horse accelerates for the next 30 seconds reaching its maximum speed. Then it runs for another 20 seconds before it starts to tire for the next 5 seconds. At which point, the</p>   |

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|  |  | jockey spurs the horse along to reach its maximum speed again. Finally, the race ends and the horse slows down until it comes to a complete stop. Graph the relationship between speed and time. |
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