Name: _____

Determining Variables

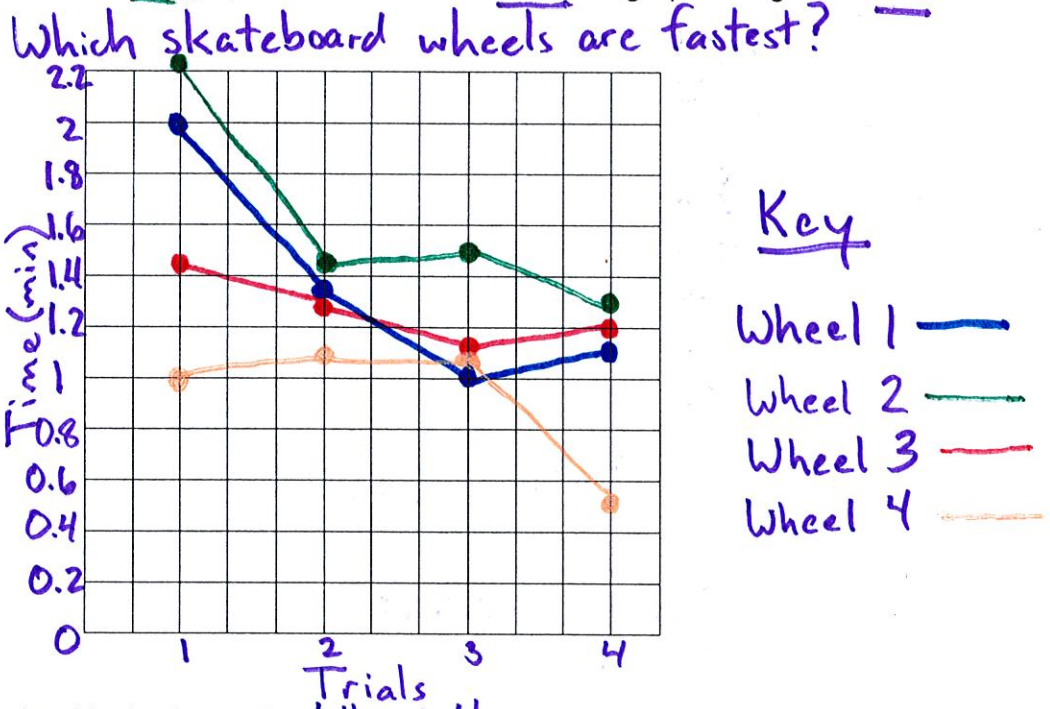
1. Michael and Nick wanted to test out skateboards to see which went the fastest. They decided on four different brands of skateboard wheels and decided to have Nick ride down a hill that is 500 meters long. Nick was to ride down the hill four times on each type of wheel and Michael was to time him. The following are their results. Please look at the data and then answer the following questions.

	Wheel 1	Wheel 2	Wheel 3	Wheel 4
Trial 1	2 min	2.3 min	1.45 min	1 min
Trial 2	1.36 min	1.45 min	1.3 min	1.12 min
Trial 3	1.0 min	1.5 min	1.16 min	1.1 min
Trial 4	1.10 min	1.3 min	1.2 min	.58 min
Average	1.4 min.	1.7 min.	1.3 min.	1.0 min.

a. What is the independent variable? Different types of wheels.

b. What is the dependent variable? Time (minutes)

c. Please create a line graph for each wheel. Label the graph and give it a title.



d. Which wheel is the fastest? Wheel 4.

e. What are the materials you would need? Skateboard, 4 different types of wheels, 500m long hill, time, 2 people, data table.

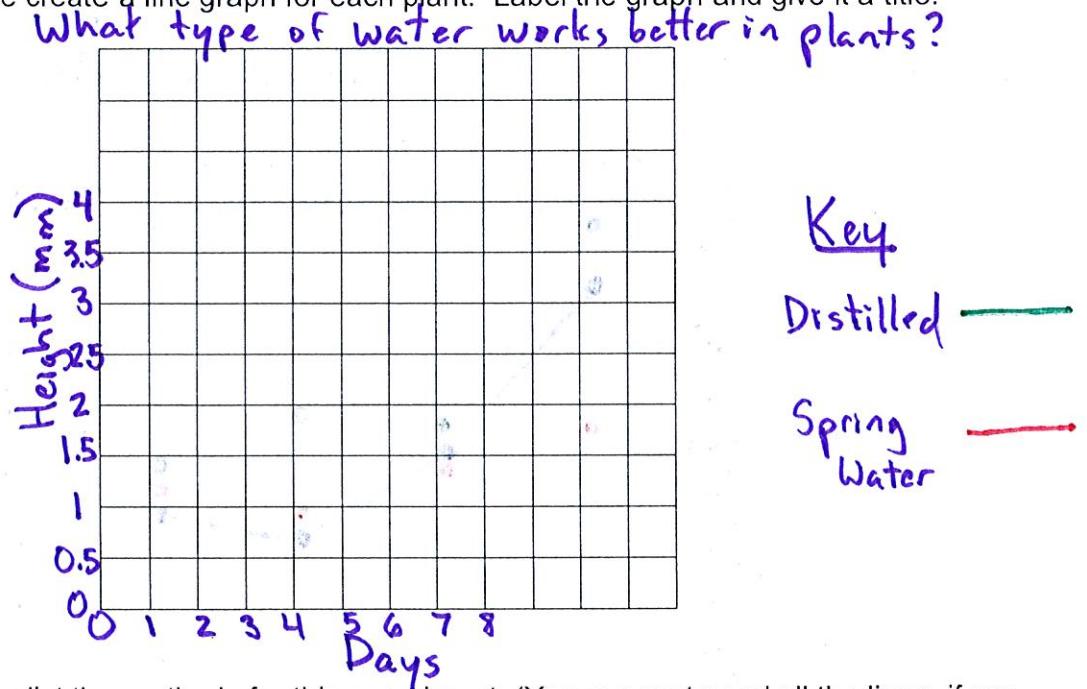
2. Shay and Whittney want to know what type of water works better in plants, spring water or distilled water. They decide to grow pea plants and add 10 ml of each type of water to two different plants three times a day. They measured how tall the plants were each day. The plants are placed by the window for sunlight. The following are their results. Please take a look at the data and answer the questions.

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
Distilled Water Plant	1 mm	1.5 mm	1.5 mm	2 mm	2.3 mm	2.5 mm	2.7 mm	3 mm
Spring Water Plant	.5 mm	1 mm	1.5 mm	2 mm	2.5 mm	3 mm	3.5 mm	4 mm

a. What is the independent variable? Type of water.

b. What is the dependent variable? Height of plants.

c. Please create a line graph for each plant. Label the graph and give it a title.



d. Please list the methods for this experiment. (You may not need all the lines, if you need more than write below the lines).

i. Gather materials
ii. Plant.
iii. Put plants in sun.
iv. Water plants 3 times per day.
v. Measure and record data.
vi. Repeat steps 3-5 seven more times.