**Station 1: Time/Speed/Distance**

Directions

Step 1. Use a roll command to program your Sphero will the following variables…

Seconds: 6

Speed: Your Choice

Heading: 0 degrees

Step 2. Place your Sphero on the green START line and run the program.

Step 3. Measure the distance from your robot’s start position to its end position. Record on sticky note.

Step 4. Repeat steps 1-3 so you have run the program 3 separate times. Each time, change your speed variable by at least 20 points. \*If you hit an obstacle during your run, disregard and re-test.

Step 5. Fill out the chart on your record sheet.

Step 6. Write a reflection to explain how time and speed affect distance.

**Station 2: Momentum**

Directions

Step 1: You may use a roll command or the joystick feature for this task.

\*You may need to increase speed, so you may disregard the 127 top speed rule.

Step 2: Place your robot at Start Line A and try to make it up the ramp.

Step 3: In your notes, record SUCCESS or FAILURE for trial 1.

Step 4: Place your robot at Start Line B and try to make it up the ramp.

Step 5: In your notes, record SUCCESS or FAILURE for trial 2.

Step 6: Place your robot at Start Line C and try to make it up the ramp.

Step 7: In your notes, record SUCCESS or FAILURE for trial 3.

Step 8: In your notes, write a paragraph to explain why your robot was successful or not when attempting to travel up the ramp. Use strong science vocabulary.

**Station 3: Geometry**

Directions- For each task, write a program with the specified criteria.

You may use green tape to map out your plan if needed. Protractors and rulers are available as well.

Task 1: Draw a shape with 4 lines, 2 acute angles, and 2 obtuse angels.

In your notes, record the name of that shape.

Task 2: Draw a shape with 3 angles. One angle must be a right angle.

In your notes, record the name of that shape.

Task 3: Draw a shape with 5 lines. You must include 2 right angles.

In your notes, record the name of that shape.

Task 4: Draw a shape with 4 right angles. Use 2 sets of congruent lines.

In your notes, record the name of that shape.

Task 5: Draw a shape with 8 lines. All angles and lines should be congruent.

In your notes, record the name of that shape.

**Station 4: K’Nex Car Frame Maze**

Directions

Step 1: Use the K’Nex pieces to create a car frame for your SPRK. Be sure to leave space inside your car frame, so the SPRK will fit inside and be able to touch the ground.

Step 2: Place your SPRK inside your car frame and run 2 trial programs to see how your car frame works.

Step 3: Make at least two improvements or changes to your car frame.

Step 4: Place your SPRK inside your car frame and run 2 trial programs to see how your car frame works differently.

Step 5: Use the joystick feature to attempt driving your SPRK (in the car frame) through the Maze.