SPRK

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Ocean Research Sensor
Worksheet

Interpret the results.

1.   How would you describe Sphero's movement?

2.   What percentage of collisions were:

a) Low impact?   Value range:

b) Moderate impact?   Value range:

c) High impact?   Value range:

3.   What are some of the advantages and disadvantages of using a robot like Sphero, for this kind of research? Which variable will you be adjusting?

Advantages	Disadvantages

4. How could the design of the sensor be improved to be more effective for research on the ocean floor?

Step 5: Modify the program.

1. The researchers on your team have asked for a modification to the program to focus their findings on forces that move Sphero with a **moderate** level of force (e.g., stronger currents or tides, but not direct collisions with other objects on the ocean floor).

2. Working with a partner, think about the request and brainstorm useful ways in which Sphero could signal to the researchers that a **moderate impact** has been detected. List them below.

List your ideas here.
(Try to think of at least 3 different signal solutions.)

3. Select one signal solution to develop and test.
Which one have you selected and why? How will this be helpful to the researchers?

4. Write the lines of code you are planning to achieve this signal solution.

5. Create the code and write it here. Write any notes about your program and how it works in the space beside it.

6. Engineers often share their ideas among team members to ensure that their final solution is as effective as possible. Share your code with another pair of students and encourage them to share their code with you.

Revisit your solution. Could it be improved by incorporating some of their ideas?