Sphero Challenge 3

Long Jump

Your Task:

Sphero is headed to the Olympics in the long jump competition! Help him win by figuring out the winning combination of speed and distance!

What You Need:

- Sphero Bolt robot
- Chromebook or iPad with Sphero EDU installed
- ruler/Meter stick
- building materials to make a ramp
- painters tape or masking tape
- blank paper

Directions:

1. Build a ramp using the available materials.
2. Place it on the floor, and mark where it goes with painters or masking tape.
3. Decide on a starting point for Sphero and mark that as well.
4. Open the Sphero EDU app and select programs from the bottom of the page. **Do NOT sign into the app.**
5. Hit the Plus sign in the bottom right hand corner, name your program and select Blocks as the type of program you will be creating.
6. Program Sphero to go up the ramp and then stop on collision (which is when Sphero lands).
7. Experiment with different speeds, starting points and ramp heights. Which combination has him traveling the farthest or fastest? Are there combinations that prevent Sphero from completing his task? Record your experiments in a table.
8. Reflect on your learning using one of the reflection options.

Sphero Challenge 3

Extension 1: Target- mark a target on the floor with your tape. Can you find a ramp height and speed that allows Sphero to land exactly on his target.

Extension 2: Impact- run your code to have Sphero make his jump. Access the data from the last program (the jump) and record the impact (deceleration). What can you do to increase the impact? Decrease it? What is the lowest impact (softest landing) in which Sphero can still climb the ramp?