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In this adventure, you will run a radio-controlled car at several different weights, recording the time of each run.

|  | Run 1 | Run 2 | Run 3 | Run 4 | Run 5 | Run 6 |
| :---: | :--- | :--- | :--- | :--- | :--- | :--- |
| Vehicle <br> Weight <br> in oz |  |  |  |  |  |  |
| Timer \#1 |  |  |  |  |  |  |
| Timer \#2 |  |  |  |  |  |  |
| Timer \#3 |  |  |  |  |  |  |
| Time <br> Average <br> in sec. |  |  |  |  |  |  |
| Speed $\left(\frac{d}{t}\right)$ <br> (in./sec) |  |  |  |  |  |  |

## Problem 1

- Sketch the plot of time with respect to weight.
- What is represented on the $x$-axis? the $y$-axis?

- Fill in the blank: As weight increased, time $\qquad$ .


## Problem 2

- Sketch the plot of speed with respect to weight.
- What is represented on the $x$-axis? the $y$-axis?

- Fill in the blank: As weight increased, speed $\qquad$ .
- What would happen if you made the car ridiculously heavy?


## Extension

Pick some weight you have not tried and test it to see if it attains the speed you predicted with your model.
Chosen weight $\qquad$
Predicted speed $\qquad$
Actual speed $\qquad$

