GEARING LAB

Using the tribot model, you will test different combinations of gears to find the best options for your Dragster.

Fill in the table below with your combinations and timings.

* Use a Move block at 50% power and run for 5 seconds.
* Run 3 trials at each setting and find the average distance travelled.
* Use the average to find the speed for each combination.

Use the table and your observations to answer the questions below.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Driving Gear  (teeth)  ***A*** | Driven Gear  (teeth)  ***B*** | Gear Ratio  ***A/B*** | Distance Covered (cm)  Trial 1 Trial 2 Trial 3 Ave. | | | | Speed  Distance/time |
| 8 | 24 |  |  |  |  |  |  |
| 8 | 40 |  |  |  |  |  |  |
| 24 | 8 |  |  |  |  |  |  |
| 40 | 8 |  |  |  |  |  |  |
| 24 | 40 |  |  |  |  |  |  |

What gear ratio gave the slowest speed?

What gear ratio gave the fastest speed?

Which gear ratio do you think you will use for the dragster? Why?