

| TEAM A6 | | | |
|-------------------|---------------|--|--|
| Pupils Belgium | Pupils Sweden | | |
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| | - Jonathan | | |

1. ORIENTATION

1.1. Research questions:

- > What will be the average speed of the mechanically controlled car?
- > Which changing of parameters has the best result (fastest speed)?

1.2. Hypothesis

(here you only have to make a hypothesis about question 2)

Sweden: (no changes made)

Belgium: We think that the car with the bigger balloon will go further and faster.

2. PREPARATION

On the other document (twinspace) you see the sketches and propulsion of the car.

2.1. Parameter that will be changed:

(here you describe what you will change to the car) **Sweden:** (no changes made)

Belgium: We changed the size of the balloon.

2.2. Method:

- 2.2.1. Let your car drive and measure the distance that is possible.
- 2.2.2. Now, for the experiment, choose a distance that is shorter then the maximum distance. Make a sign on the floor on that distance.
- 2.2.3. Let the car drive and measure the time.
- 2.2.4. Calculate the average speed.
- 2.2.5. Repeat this three times.
- 2.2.6. Now, change a parameter and repeat the whole experiment.

3. DATA ANALYSIS and DISCUSSION

3.1. Observations and Measurements:

| | DISTANCE (m) | TIME (s) | AVERAGE SPEED |
|---|--------------|----------|---------------|
| | | | (m/s) |
| | | | |
| 1 | 2.00 | 2.86 | 0.70 |
| 2 | 2.00 | 2.73 | 0.73 |
| 3 | 2.00 | 2.56 | 0.78 |

Changing of a parameter: (describe what you change)

| | DISTANCE (m) | TIME (s) | AVERAGE SPEED |
|---|--------------|----------|---------------|
| | | | (m/s) |
| | | | |
| 1 | 0.18 | 0.75 | 0.24 |
| 2 | 0.18 | 0.96 | 0.19 |
| 3 | 0.18 | 0.83 | 0.25 |

| | DISTANCE (m) | TIME (s) | AVERAGE SPEED |
|---|--------------|----------|---------------|
| | | | (11/0) |
| 1 | 0.30 | 2 | 0.15 |
| 2 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 |

4. REFLECTION

4.1.Conclusion: (here you discuss when the car drives fastest with or without changing)

Belgium: The car with a bigger balloon drives further and faster.

4.2. Comparison of the results of the different countries:

The Belgium car drives faster and further so our car is better.