| The creation of a mechanically controlled car |
| :--- | :--- |
| Here we go! |
| Test your car |


| TEAM B3 |  |
| :--- | :--- |
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## 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: With the block (weight) the car goes 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: The extra block weight.

### 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 <br> $(\mathrm{m} / \mathrm{s})$ |
| :--- | :--- | :--- | :--- |
| 1 | 0.96 | 2.53 | 0.38 |
| 2 | 0.96 | 2.66 | 0.36 |
| 3 | 0.96 | 1.76 | 0.55 |

Changing of a parameter: (describe what you change)

|  | DISTANCE (m) | TIME (s) | AVERAGE SPEED <br> $(\mathrm{m} / \mathrm{s})$ |
| :--- | :--- | :--- | :--- |
| 1 | 0.70 | 2.12 | 0.33 |
| 2 | 0.70 | 2.08 | 0.33 |
| 3 | 0.70 | 2.15 | 0.33 |


|  | DISTANCE (m) | TIME (s) | AVERAGE SPEED <br> $(\mathrm{m} / \mathrm{s})$ |
| :--- | :--- | :--- | :--- |
| 1 | 0 | 0 | 0 |
| 2 | 0.25 | 1 | 0.25 |
| 3 | 0.41 | 2 | 0.205 |

## 4. REFLECTION

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

Belgium: With the weight it doesn't goes as far as without a weight.
4.2. Comparison of the results of the different countries: The Belgium car goes faster and further than the Swedish car.

