**W/C 6 March 2020**

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| **Session E**  **Car on ramp: surface investigation** | Objectives: Understand what makes a test fair and how to measure accurately.  **Sc4 2c** Recognise that when things speed up, slow down or change direction there is a cause.  **Breadth of study: 2a** Use simple scientific language to communicate ideas and describe phenomena.  **1d** Use first-hand and secondary data to carry out a range of scientific investigations, including complete investigations. |
| **Scientific enquiry** | **Sc1 1** Learn that it is important to collect evidence by making observations when trying to answer a question.  **2d** Recognise when a test or comparison is unfair.  **2i** Compare what happened with what they expected would happen and try and explain it, drawing on their knowledge and understanding. |
| **Resources needed** | Ramp, blocks (books?), 1 car (or something that will roll), something to measure with (this could be a ruler, a tape measure or a line of objects that are all the same eg pasta ie: the car rolled 10 pasta pieces) |

**Science**

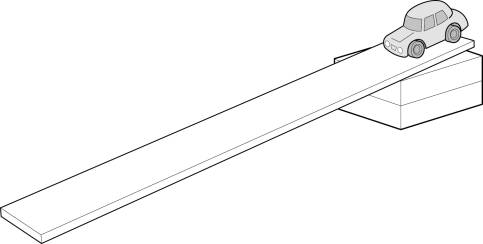


Today we are going to be scientists.

**Investigation 1**

We are going to investigate ramps and toy cars.

Don’t worry if you don’t have a toy car, you could use anything that will roll (eg a tin of beans, a rolling pin or a can of pop)  
We are going to see if the higher the ramp, the further the car will travel. What do you think? Can you make a prediction?  
WHY do you think this?



**Fair test**  
**Can we remember what a fair test is?**

We can only change one variable at a time.  
This is because we will not know which variable has the affect we are investigating!

**So what will we keep the same?** (constants)

The car, the ramp, how we measure the distance

**What will we change?** (variable)

The height of the ramp, use books to make the ramp higher.

**Can you investigate to find out whether the car travels further when the ramp is high or low and record your results in a table?**

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See main activity but use the table to record results.

|  |  |
| --- | --- |
| **Height of ramp** | **Distance rolled measured in …** |
| 1 book |  |
| 2 books |  |
| 3 books |  |
| 4 books |  |
| 5 books |  |



What are your findings? (conclusion) Was your prediction correct?

Next you could investigate a different variable to find out how the surface of the ramp affects the distance the car travels.

You could try using a variety of surfaces e.g. carpet, bubble wrap, wood, fabric, paper, corrugated card.

Don’t forget that now you have a new vaiable (the ramp surface) you will need to keep everything else the same (including the height of the ramp!)