

## Reaction Time

Pedestrians, drivers and bike riders all need to be able to react quickly and stop in an emergency.

Test how quickly you can stop.

Step 1: Go to Physics of Speed website

(<https://www.rsc.wa.gov.au/Your-Safety/Games/Physics-of-speed>)

Step 2: Read through the web page and write down 3 interesting facts that you have learnt about stopping distance & reaction time.

Step 3: Start the interactive demonstration and draw your own table or fill in the table below with your results for the following scenarios.

No.	Vehicle Type	Road Type	Speed	Seconds taken to react	Metres travelled while reacting	Metres travelled while braking	Total braking distance (m)	Did you stop in time?
Example.	Car	City: Dry Road	40km/h	1.2 sec	13m	9m	21m	Yes
1	Car	City: Dry Road	40km/h					
2	Car	City: Dry Road	50km/h					
3	Car	City: Dry Road	60km/h					
4	Car	City: Dry Road	70km/h					
5	Car	City: Dry Road	80km/h					
6	Car	City: Dry Road	90km/h					



Step 4: Predict if your stopping distance will be longer or shorter in the following scenarios as compared to your answers in Step 3. and then see if you are correct. *(Draw your own table or fill in the table below)*

No.	Vehicle Type	Road Type	Speed	Stopping Distance - longer or shorter	Metres travelled while reacting	Metres travelled while braking	Total braking distance (m)	Did you stop in time?
1	Car	City: Wet Road	40km/h					
2	Car	City: Wet Road	50km/h					
3	Car	City: Wet Road	60km/h					
4	Car	City: Wet Road	70km/h					
5	Car	City: Wet Road	80km/h					
6	Car	City: Wet Road	90km/h					

Step 5: Explain why you think your stopping distance changes due to the weather conditions (road wet or dry) or what speed the vehicle was travelling.

### Curriculum Links

**English: Level 5** - Navigate and read imaginative, informative and persuasive texts by interpreting structural features, including tables of content, glossaries, chapters, headings and subheadings and applying appropriate text processing strategies, including monitoring meaning, skimming and scanning (VCELY318)

**Mathematics: Level 5** - Pose questions and collect categorical or numerical data by observation or survey (VCMSP205)

**Mathematics: Level 5** - Describe and interpret different data sets in context (VCMSP207)

**Science: Level 5 & 6** - Compare data with predictions and use as evidence in developing explanations (VCSIS086)

**Science: Level 5 & 6** - Construct and use a range of representations, including tables and graphs, to record, represent and describe observations, patterns or relationships in data (VCSIS085)