

# Safer speeds

## Understanding limits and their effects in everyday contexts

Year 5 - 8

### What teachers need to know

#### Lesson duration

45 – 60 minutes.

#### Learning intentions

- Identify why we use different speeds in different contexts.
- Understand that speed has an impact on stopping distance.
- Understand that slower speeds are safer for everyone.

#### Resources

- Student recording sheet
- Measuring tapes
- Chalk/cones

#### Space requirements

- Outdoor court space
- Wet weather option of a large indoor space

#### New Zealand Curriculum links

This lesson plan was developed with the new Tāhūrangi New Zealand Curriculum in mind, offering rich cross-curricular learning opportunities. It supports key learning outcomes across the Mathematics, English, and Science strands.

Students engage in mathematical thinking by measuring distances and interpreting data related to speed and stopping distances. Through English, they develop persuasive writing and oral communication skills as they reflect on their findings and advocate for safer speed limits. This integrated approach deepens understanding and encourages critical thinking about real-world issues that affect students' communities.

#### Extension exercises

Find maths and English extension exercises for this lesson on our website: [ccc.govt.nz/resources-for-teachers](http://ccc.govt.nz/resources-for-teachers)

## Learning experience

This lesson is broken into three sections – an introduction, an activity, and reflection.

### Introduction to speed limits

Access prior knowledge by discussing speed limits and their effects for different road users. Discuss with students:

- Who are road users?
  - Everyone is a road user, regardless of the mode. If you are using the road, you are a road user.
- Do people deserve to get to where they want to go safely?

Explain to students “A way to make sure people can get to where they are going safely is to tackle unsafe speeds. This activity is connected to manaakitanga, where we show respect to people in our community and ourselves.”

Ask students

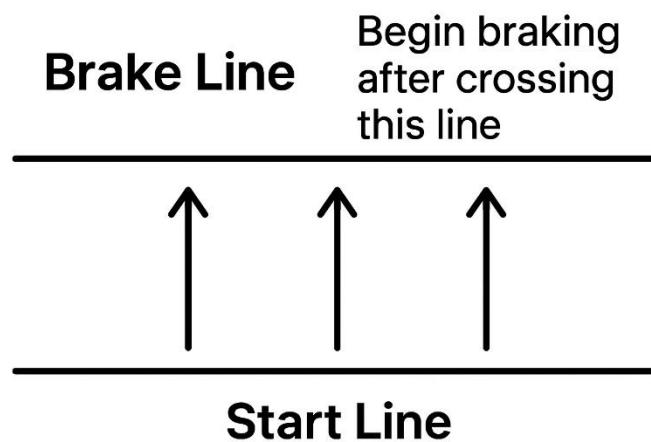
- What speed limits have they seen?
- Why do we have different speed limits?
  - 100km – Roads where there is less stopping and starting and where there aren’t many pedestrians.
  - 80km – Used on rural roads. There tends to be less stopping and starting but there may be more people/stock moving about.
  - 50km - Used on busy streets in towns. The speed is lower because there are more road users.
  - 30km - Used around schools and on local residential streets where there are more road users and more pedestrians.

### Safer speeds investigation

The following activity examines whether travelling at different speeds makes a difference to how quickly we can stop.

Activity

- Draw two lines around five metres apart, as shown in the graphic below.
- Students in groups of three, with a recording sheet each and a tape measure to share.
- Students take turns being the ‘driver’, the ‘measurer’ and the ‘recorder’.
  - The ‘driver’ runs towards the brake line. They should maintain a steady speed and only begin braking after crossing the line. Once they come to a complete stop, they should bring their back foot up beside their front foot. (It’s normal to take a few steps to slow down before fully stopping as this helps prevent falling.)
  - The ‘measurer’ measures the distance between the brake line and the heels of the ‘driver’ where they have come to a complete stop. In demonstration show students how to use the measuring tape.
  - The ‘recorder’ writes the distance and speed of slow, medium or fast on the recording sheet.
  - Repeat this process. Have each student do three trials as the ‘driver’ to compare their personal slow, medium and fast speeds to see whether their stopping distances change.



## Investigation discussion

Have students finish their worksheets and come together as a class. Get them to reflect on the activity and discuss what they notice from their investigations

Discuss the following questions

- What did you find when you ran faster?
  - Stopping distance increased
- Does this relate to other ways you travel like scootering or cycling?
  - Yes, if you are moving faster, it is harder to stop for pedestrians or cars coming out of driveways
- How does this relate to cars on the road?
  - The faster a car goes the longer it takes to stop.
- Think about a safe speed for around a school, why would this speed be good for around a school? Why is this speed good for the driver?
  - Lower speed limits around schools reduce the risk and severity of accidents involving children, who can be unpredictable near roads.
  - Slower speeds give drivers more time to react and create a safer environment for walking and biking.
  - Slower speeds help build a culture of caution and care in school zones, which benefits the whole community.

On the back of the worksheet students can write a paragraph in their group of three to explain the investigation and write a persuasive message about lower speed limits around schools. When they've done that, ask some of the groups to share their ideas with the class, to encourage discussion and critical thinking.