

KEEPING SAFE AROUND TRUCKS Curriculum resources

2.0 BRINGING IN IDEAS

2.1. What are the hazards that children face when they share the road?

[Bringing in ideas]

[Links to New Zealand Curriculum Learning Area: Health and Physical Education]

Share:

“What children would like drivers to know” in the official New Zealand Road Code.

What children would like drivers to know

- Children are not little adults, so don't expect them to act as adults do.
- Children, especially those under the age of nine, may not have the skills and abilities needed to be safe in traffic. Be very careful when driving near them.
- Young children have narrow vision. This means they may not see vehicles as easily as adults do.
- Children have trouble judging the speed of moving vehicles. They may let a slow vehicle pass and try to cross in front of a fast one.
- Children often don't understand that it takes time for a vehicle to stop.
- Children may have difficulty working out where sounds are coming from.
- Because children are small, they often can't see over bushes and parked vehicles. This also means they can't be seen easily by drivers.
- Children tend to think about one thing at a time and ignore other things happening around them.
- Because children are always on the move, they may have trouble stopping at a kerb and could dart out into traffic.
- Children can freeze when they find themselves in danger, instead of taking quick action as an adult might.

Keep a lookout for children at all times. Take special care when driving during 8–9am and 3–4pm, when children are travelling to and from school.

<https://www.nzta.govt.nz/resources/roadcode/about-other-road-users/sharing-road-with-pedestrians/>

Ask students to work in pairs to:

- Complete a HookED SOLO “See Think Wonder” strip about one bullet point in the list above.
- Share your thinking with other pairs in the class.
- Revise your strips to reflect the feedback from other students.

Use the final version of SOLO strips from each pair to make a wondering wall about the special hazards students face when they share the road network.

Invite students from other classes to visit your wall and add their own wonderings.

www.education.nzta.govt.nz

HookED SOLO “See Think Wonder” strip

What is claimed?	Why do you think this is a hazard?	What does it make you wonder about keeping children safe when they share the road network?
		

NZC Learning Areas Overview

Refer to the resource for Achievement objectives and Learning intentions (L1 to 4)

Health and Physical Education	Personal Health and Physical Development A – A3 Safety management		Healthy Communities and Environments S – D2 Community resources		
Mathematics and Statistics	Geometry and Measurement				
	Measurement	Shape		Position and orientation	
Science	Nature of Science				Physical World
	Understanding about science	Investigating science	Communicating in science	Participating and contributing	Physical inquiry and physics concepts
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2.2. Trucks and truck drivers keep our country going

[Bringing in ideas]

[Links to New Zealand Curriculum Learning Areas: Health and Physical Education, Social Sciences]

Use the information below (text and video) to bring in information about trucks and truck drivers.

Keeping New Zealand going

Truck drivers are an essential part of the transport system. When you drive a truck, you belong and you matter to our community, and you make a difference for all New Zealanders. Trucks help keep our economy functioning. Trucks carry over 90% of New Zealand’s total freight by weight. A similar figure is predicted for 2042, suggesting the importance of trucks will not be changing any time soon. Trucks carry 95% of export fruit, 86% of export wool, 85% of export dairy products, 65% of export logs and 35% of export meat. If you want to help the New Zealand economy by exporting products

overseas, you will probably need trucks to help transport your products to a port.

A reliable and affordable transport system is important to everyone. The transport system helps us to access the goods and services and the physical structures and systems that support the New Zealand economy. Additionally, 1 in 25 New Zealanders works in the transport industry.

For more information, refer to the National Freight Demand Study (Ministry of Transport 2014): <http://www.transport.govt.nz/research/nationalfreightdemandsstudy/>

What is a truck?

Trucks are big, heavy road vehicles, many of which tow trailers or semi-trailers. In New Zealand, our trucks can weigh more than 60 tonnes (eight times as heavy as an African elephant¹) and be up to 25 metres long (one quarter the length of a rugby playing field). The different types of heavy motor vehicles are described on the NZ Transport Agency website:

<https://www.nzta.govt.nz/vehicles/vehicle-types/>

Refer to the truck pictures on the NZ Trucking Association website: tipper truck, heavy haulage truck, container truck, flat deck truck, line-haul truck, logging truck, livestock truck, fuel tanker, recovery truck, crane truck, army truck and refrigerator truck <https://www.nztruckingassn.co.nz/education-resources.html>

What do trucks do?

Trucks transport (carry) goods and materials from one place to another. In New Zealand, these goods and materials include logs, livestock, crops, milk, petroleum and fuel, as well as perishable, refrigerated, life-saving and life-endangering items. Trucks carry the food we eat, the materials we use for shelter, the fuel we need to power our vehicles and heat our homes and the waste we create. They collect, transport and distribute the goods and materials we import and export at our sea ports, airports and container terminals.

Where do trucks go?

Trucks travel on all New Zealand roads, private and public. Most trucks in New Zealand travel short distances, less than 100 kilometres at a time.

What do trucks provide?

Trucks provide an increasingly “just in time - any place – any time” service across New Zealand’s 11,000 kilometres of state highways and 83,000 kilometres of local roads. The shift to “just in time” services reduces wasteful overstocking in local warehouses. However, having “just in time” services also means that when truck deliveries are disrupted, local communities are quickly cut off from the

¹ For conversions, go to <http://www.bluebulbprojects.com/measureofthings/default.php>

goods they need to eat, to shop, to play, to get to work and to access medical care. When earthquakes, slips, snow, extreme weather or other disruptions stop the trucks from getting through, everyone is affected.

Who drives the trucks?

Truck drivers have to drive in ways that keep themselves and others safe on the roads and also get the job done. Driving a large, heavy truck is skilled and specialised work. It is challenging to drive a truck on New Zealand highways, urban roads and rural roads while other vehicles, cyclists and pedestrians are using these same roads.

A trucker's job matters. A truck driver must keep to timetables so that supply chains are not interrupted and it is especially important to deliver certain goods on time. Truck drivers are often individuals content with their own company – individuals who like to be their own boss. They meet other truck drivers (co-workers) briefly and often only by chance – at a truck stop or when passing an oncoming truck on the road. Worker surveys show the independence is what attracts many truck drivers to the job. They like the promise of driving through new territory as “explorers of the highway” and resolving unexpected challenges each day. Truck drivers have to carefully monitor their levels of driver fatigue and physical health when they take on the responsibilities of driving a big, heavy and powerful truck on the road network. Driving a truck has spawned a whole genre of truck movies and reality TV series, where some truck drivers have become media celebrities.

Truck drivers need special qualifications to drive these heavy vehicles. Only the very safest and most skilled drivers ever qualify to drive the biggest rigs with the heaviest loads. In New Zealand, you have to be determined and work hard to get a Class 5 driving licence for driving the big rigs. It can take three years for drivers to work through the qualification process for a Class 5 driving licence. Truck driving is a rewarding career. However, New Zealand currently has a shortage of qualified big rig drivers. Trucking firms are struggling to find drivers and are looking for qualified drivers from overseas.

For further details on careers in trucking, refer to: <http://www.rtfnz.co.nz/new-zealand-road-transport/careers-in-trucking/>

How can we keep trucks and truck drivers safe?

Technology is improving the safety and efficiency of transport systems across the world. For example, vehicles have devices that monitor safe driving distances, detect hazards, warn drivers when they drift out of their lane, control safe braking, monitor blind spots, minimise roll when cornering, help you park and detect driver fatigue. Self-drive vehicles, trucks and

cars are already in use or being trialled at different locations.

Recently companies in New Zealand have started to introduce performance monitoring technology into their trucking fleets to increase safety and driving efficiency. By using the “any time, any place” surveillance technology, companies can access details of an individual’s driving location and driving behaviour. They can share and aggregate these details and then use them to create new metrics to evaluate job performance; when aggregated, the details can also be used to check on drivers’ accounts of local traffic and weather conditions. However, the technology can also reduce truck drivers’ sense of independence when driving, flipping the locus of control over their work practices.² The job has become less independent because the driver is no longer the sole record keeper for the journey. The cab is now a shared space. Refer to:

<http://www.tandfonline.com/doi/abs/10.1080/01972243.2015.998105>

For example, Fonterra’s fleet of 500 plus tankers, one of the largest transport fleets on New Zealand roads, uses surveillance software to improve safety and performance. The software keeps a daily record of total driving hours, any fast cornering, heavy braking and any travel at speeds above 90 kilometres per hour. The record is reviewed daily and is used to create metrics for driver assessment (Barry McColl, Fonterra General Manager of Transport and Logistics - cited in *Sunday Star Times*, 1 January 2017, News A5).

Videos

Developing Auckland's Container Terminal: <https://youtu.be/x5EGJT-feUU>

Best Container Terminal Design in Action: <https://youtu.be/2t2cqiQI0BE>

Big Rigs on Messenger: <https://youtu.be/PvaCBfG2otM>

East Coast Forest Industry Gisborne: <https://youtu.be/tHWwtcvQDwA>

Murphy Bert’s Argosy: <https://youtu.be/WIDNw5yT9KY>

Trucks NZ, Christchurch: <https://youtu.be/Nko28FlhXc0>

The Fonterra Story: https://youtu.be/9_k3OERgDvs

Fonterra: Tanker Driver Careers: <https://youtu.be/jFZOrV7bYH4>

Fonterra Driver Fatigue Programme: <https://youtu.be/5DoeHIQXQ7o>

24 Hours of Fonterra Tankers: <https://youtu.be/rf5Bdh55VVQ>

² Karen E.C. Levy. 2015. The Contexts of Control: Information, Power, and Truck-Driving Work. *The Information Society* Vol. 31, Issue 2.

Fonterra Tankers 10min Mockumentary: <https://youtu.be/mFGClSHLkco>

Use the text and videos on the cards above and any other relevant resources to find the best answers to the following tasks.

1. **Define** a truck.

– **What is a truck?** Use text or annotated 2-D drawings and 3-D models to show what a truck is.

2. **Describe** a truck driver's job.

– **What does a truck driver do?** Describe the roles and responsibilities of a truck driver's job.

– **How is this similar or different to the roles and responsibilities of being a pedestrian on the road network?** Compare a truck driver's job with the role of being a pedestrian.

3. **Explain why** truck driving is important.

– **Why is truck driving an important job?**

4. **Explain why** it takes a long time to get a heavy truck driving licence.

– **Why does it take so long to get a heavy truck driving licence?**

5. **Reflect on** the use of monitoring technology in the trucking industry.

– **Create a persuasive argument for or against using monitoring technology in the trucking industry.**

Use a HookED SOLO Argument Writing Plan to plan your argument.

6. **Create a glossary** of new vocabulary and science terms that will help students describe trucks and explain how they use the road network for safer journeys.

HookED SOLO Argument Writing Plan

Thesis/Introduction:

I think that / In my opinion / Although not everybody would agree I want to argue that ...

I have several reasons for arguing for this point of view.

Provide a reason:
My first reason is

Explain why this is a reason for the claim:
... because

Provide evidence to back up your reason

Provide a reason:
A further reason is ...

Explain why this is a reason for the claim:
... because


Provide evidence to back up your reason

Provide a reason:
Furthermore ...

Explain why this is a reason for the claim:
... because

Provide evidence to back up your reason

Conclusion/Summary:
Therefore, although some people might argue that ... I think I have shown that ...



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2.3. How can we keep safe around trucks? – Making the TruckED Video Talks Series

[Bringing in ideas]

[Links to New Zealand Curriculum Learning Areas: English – Creating Meaning, Health and Physical Education, Science – Physical World, Mathematics and Statistics]

Ask students to work in groups to:

- Choose **one** thing that truck drivers would really like students to know about keeping safe around trucks from the “Truck Drivers Would Like ...” Resource below.
- Investigate this fact using the HookED SOLO “See Think Wonder” strip.
- Mock up a set of a trucker’s cab, using found materials in the classroom.
- Write a script for a 90-second video of a “mockumentary interview” with a “trucker” designed to capture one idea the trucker wishes they could share with students across New Zealand. Draft your question ideas using the HookED SOLO “See Think Wonder” strip (refer to 2.1. above). Be sure to ask the “truck driver” why this idea is important and what it makes them wonder.
- Allocate roles and create the individual group TruckED Video Talks.

Share the series of TruckED Video Talks with an audience.

“Truck Drivers Would Like ...” Resource

Truck drivers would like all students (walking, cycling or on scooters) to know that:

Trucks are big (tall and long) and heavy. When we share the roads with big and heavy vehicles like trucks, we need extra strategies to keep ourselves safe.

- **Trucks cannot stop quickly because they are very big and heavy.**
Tips for keeping safe: Trucks can take up to 50m to stop in a city area and 200m or more in a rural area. Never chase after or run to get in front of a moving truck. Don't step out (or pull out on your cycle or scooter) in front of a truck. Take extra care at pedestrian crossings and intersections. At an intersection or pedestrian crossing, the space between you and an oncoming truck may look larger than it really is. Refer to: Talking Trucks by NZ Trucking Association <https://youtu.be/EqoF2jPICKs>
- **Trucks have large blind zones because they are big (tall and long).**
Tips for keeping safe: Truck drivers often cannot see pedestrians, cyclists or other vehicles on either side, directly in front of or behind the cab. A truck's blind zone on the left of the cab may run the length of the trailer and extend out three lanes. You can disappear from view when you walk or cycle close to a truck. Truck drivers use mirrors to see pedestrians, cyclists or other vehicles. If you are in a blind zone, they might not see you. Don't stand, play, ride your bike or skateboard behind, beside or in front of a truck. Never linger around a truck. Remember if you cannot see the driver in the mirrors, the driver cannot see you. Refer to: Share the road safely with big trucks by NZ Trucking Association <https://youtu.be/6FpaCTzN-KY>
- **Trucks take up more space when turning because they are big (tall and long).**
Tips for keeping safe: When a truck starts its turn, it may have to pull into another lane to do so. Give turning trucks lots of space to manoeuvre. When a truck driver indicates a turn: Keep away from the truck – stand back and be aware of all parts of the truck and trailer unit and where they might go. It's safer not to undertake or overtake a turning truck until the truck has completed its turn.

- Truck drivers cannot always see marked cycle lanes because trucks are big (tall and long).**
Tips for keeping safe: A marked cycle lane is not safe if the driver can't see you. A cycle lane can be a blind zone. If you and the truck are both turning left, don't take a risk, sit back a bit and let the truck go first. Refer to: Sharing the road safely with big trucks and cyclists – Cyclists Blind Zones by NZ Trucking Association https://youtu.be/bjlll_Ep6KE
- Trucks can create unexpected air turbulence because they are big and heavy.**
Tips for keeping safe: Trucks are big and create a lot of air turbulence around them. This air turbulence can affect students who are walking or cycling when the truck passes. It might cause you to lose your balance and wobble, trip or fall in the path of the truck or another vehicle. Refer to: Air Turbulence around Trucks by NZ Trucking Association <https://youtu.be/dXv9bd78YYQ>
- Trucks can create unexpected splash or spray because they are big and heavy.**
Tips for keeping safe: Watch out for splash and spray when you are being passed by or following a truck on a wet road. Splash and spray can make it difficult for you to see and the surprise may make you lose your balance and stumble into the road.

Keep a safe distance from trucks at all times. Do not play on or around trucks. Make sure you are visible around trucks.

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Reflection on Bringing in Ideas Sessions

What do you know you don't know about keeping safe around trucks?

What have you learnt that is new to you about keeping safe around trucks?

What do you wonder about keeping safe around trucks?

Use the student responses to make decisions about follow-up work.