Keeping safe around trucks

Updated 2023

Alignment to NZ Curriculum Achievement Objectives

Science – Mathematics And Statistics – Social Studies – Health And Physical Education

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| **Science – Nature of Science – Levels One and Two** |  |
| **Understanding about science** | **Levels One and Two*** Appreciate that scientists ask questions about our world that lead to investigations and that open-mindedness is important because there may be more than one explanation.
 | **LI: Observe** and/or **measure** a truck (e.g. length (m), height (m), mass (kg)).**LI: Describe** a truck. **LI: Compare and contrast** a truck with another vehicle or a pedestrian.**LI: Make** inferences about a truck.**LI: Wonder** about a truck (ask questions). |
| **Investigating in science** | **Levels One and Two*** Extend their experiences and personal explanations of the natural world through exploration, play, asking questions, and discussing simple models.

 | **LI: Explore** how trucks move.**LI: Ask questions** about how trucks move.**LI: Explore** what truck drivers can see from the cab.**LI: Ask questions** about what truck drivers can see from the cab.**LI: Discuss** trucks – how they move and what they can see. |
| **Communicating in science** | **Levels One and Two*** Build their language and develop their understandings of the many ways the natural world can be represented.
 | **LI: Build** a glossary of truck words.**LI: Represent** a truck using different models.  |
| **Participating and contributing** | **Levels One and Two*** Explore and act on issues and questions that link their science learning to their daily living.
 | **LI: Make** a message about keeping safe around trucks.*Refer to stopping distance or blind spots.* |

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| **Science – Physical World – Levels One and Two** |
| **Physical inquiry and physics concepts** | **Levels One and Two*** Explore everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat.
* Seek and describe simple patterns in physical phenomena.
 | **LI: Describe** how trucks move (stationary, constant speed, accelerate, decelerate).**LI: Explain** how trucks move (push and pull forces)**.****LI: Explain why** trucks cannot stop quickly.**LI: Describe** how light helps truckers see. **LI: Explain** how trucks can block light so it does not get to truckers’ eyes. **LI: Explain why** truckers have blind spots. |

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| **Science – Nature of Science – Level Three and Four** |  |
| **Understanding about science** | **Levels Three and Four*** Appreciate that science is a way of explaining the world and that science knowledge changes over time.
* Identify ways in which scientists work together and provide evidence to support their ideas.
 | **LI: Identify** the energy supply used in different methods of transporting large and heavy goods over land. **LI: Sequence** changes in the energy supply used totransport large and heavy goods over land.**LI: Explain** **why** the choice of energy supply has changed over time. **LI: Explain how** teams of scientists work together when designing a new truck.  |
| **Investigating in science** | **Levels Three and Four*** Begin to use a range of scientific symbols, conventions, and vocabulary.
* Engage with a range of science texts and begin to question the purposes for which these texts are constructed.
 | **LI: Work together to plan and create** a vehicle to carry a heavy load from point A to point B.[Construction materials, load and route supplied] |
| **Communicating in science** | **Levels Three and Four*** Use their growing science knowledge when considering issues of concern to them.
* Explore various aspects of an issue and make decisions about possible actions.
 | **LI: Build** a visual glossary of science words used to describe movement and energy and the science of transport. |
| **Participating and contributing** | **Levels Three and Four*** Build on prior experiences, working together to share and examine their own and others’ knowledge.
* Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations.
 | **LI: Research** the trucking experiences of locals in your community. **LI: Identify** a related safety challenge or opportunity in your local community.**LI: Make decisions** about possible actions to address the safety challenge or opportunity. |

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| **Science – Physical World – Levels Three and Four** |
| **Physical inquiry and physics concepts** | **Levels Three and Four*** Explore, describe, and represent patterns and trends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat.

*For example, identify and describe the effect of forces (contact and non-contact) on the motion of objects; identify and describe everyday examples of sources of energy, forms of energy, and energy transformations.* | **LI: Define** force.**LI: Define** weight force (force due to gravitational pulls of earth – Newtons).**LI: Define** mass (amount of stuff in something – kg).**LI: Define** motion.**LI: Define** air turbulence.**LI: Define** suction.**LI: Describe** states of motion of a truck.**LI: Describe** forces acting on a truck. **LI: Compare and contrast** forces acting on a truck with forces acting on a smaller vehicle.**LI: Explain** the effect of an unbalanced force on the motion of a truck (change in motion, change in shape and change in direction).**LI: Create** a model that mimics one or more forces acting on a truck. |
|  | **LI: Identify** light sources (emitters) and light reflectors.**LI: Describe** the eye and how it works.**LI: Describe** the properties of light: * light travels at very high speeds
* light travels in straight lines.

**LI: Explore** light reflection using different surfaces including mirrors – flat, concave and convex.**LI: Describe** what happens to a beam of light when it is reflected from a surface.**LI: Draw** labelled diagrams to explain:* human sight
* reflection
* shadows.

**LI: Explore*** field of view
* blind spots in trucks.

**LI: Create** a structure using mirrors that will let you see what is behind you. |

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| **Mathematics and Statistics – Geometry and Measurement – Level One** |
| **Measurement** | **Level One*** Order and compare objects or events by length, area, volume and capacity, weight (mass), turn (angle), temperature, and time by direct comparison and/or counting whole numbers of units.
 | **LI: Order** vehicles/trucks by length.**LI: Order** vehicles/trucks by weight.**LI: Order** vehicles/trucks by number of wheels. |
| **Shape** | **Level One*** Sort objects by their appearance.
 | **LI: Sort** circular objects and rectangular objects in trucks into two different groups. |
| **Position and orientation** | **Level One*** Give and follow instructions for movement that involve distances, directions, and half or quarter turns.
* Describe their position relative to a person or object.
 | **LI: Play “**truck and trailer” in a wide open space. Working in pairs, follow instructions for movement – distance, directions, half and quarter turns.**LI: Describe** your position relative to a “truck and trailer unit” or a truck depot. |

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| **Mathematics and Statistics – Geometry and Measurement – Level Two**  |
| **Measurement** | **Level Two*** Create and use appropriate units and devices to measure length, area, volume and capacity, weight (mass), turn (angle), temperature, and time.
* Partition and/or combine like measures and communicate them, using numbers and units.
 | **LI: Measure** the length of a parked truck.**LI: Measure** the width of a parked truck.**LI: Calculate** the area of land taken up by a parked truck.**LI: Measure** the height of a parked truck.**LI: Calculate** the volume of air taken up by a parked truck**LI: Measure** the length of a shipping container.**LI: Measure** the width of a shipping container.**LI: Measure** the height of a shipping container.**LI: Identify** the number of shipping containers a truck can transport.**LI: Calculate** the total volume of freight the parked truck can transport.  |
| **Shape** | **Level Two*** Sort objects by their spatial features, with justification.
* Identify and describe the plane shapes found in objects.
 | **LI: Sort** different types of freight transport (trucks) on the basis of their spatial features.**LI: Identify** the plane shapes found in different truck and trailer units.**LI: Identify** the plane shapes found in a truck’s blind zones.**LI: Describe** the plane shapes making up different truck and trailer units.**LI: Describe** the plane shapes making up a truck’s blind zones. |
| **Position and orientation** | **Level Two*** Create and use simple maps to show position and direction.
* Describe different views and pathways from locations on a map.
 | **LI: Create** a simple map to show the position and direction of a truck that regularly transports goods to or waste from the school. **LI: Explain** the route taken by the truck to and from the school using the map to support the explanation. **LI: Describe** different pathways for and perspectives on the passage of waste from the classrooms and playground to the waste collection area.  |

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| **Mathematics and Statistics – Geometry and Measurement – Level Three** |
| **Measurement** | **Level Three*** Use linear scales and whole numbers of metric units for length, area, volume and capacity, weight (mass), angle, temperature, and time.
* Find areas of rectangles and volumes of cuboids by applying multiplication.
 | **LI: Measure** the length of a parked truck using metric units.**LI: Measure** the width of a parked truck using metric units.**LI: Calculate** the area of land taken up by a parked truck by applying multiplication.**LI: Measure** the height of a parked truck using metric units.**LI: Calculate** the volume of air taken up by a parked truck by applying multiplication.**LI: Measure** the length of a shipping container using metric units.**LI: Measure** the width of a shipping container using metric units.**LI: Measure** the height of a shipping container using metric units.**LI: Identify** the number of shipping containers a truck can transport.**LI: Calculate** the total volume of freight the parked truck can transport by applying multiplication.  |
| **Shape** | **Level Three*** Classify plane shapes and prisms by their spatial features.
* Represent objects with drawings and models.
 | **LI: Represent** a truck and trailer unit with drawings.**LI: Represent** a truck and trailer unit with a model. |
| **Position and orientation** | **Level Three*** Use a co-ordinate system or the language of direction and distance to specify locations and describe paths.
 | LI: Use co-ordinates to **describe** the location of a [waste management collection] site in your school grounds/local community.LI: Use co-ordinates to **describe** the path taken by [rubbish in a classroom bin] to the local [recycling plant]. |

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| **Mathematics and Statistics – Geometry and Measurement – Level Four** |
| **Measurement** | **Level Four*** Use appropriate scales, devices, and metric units for length, area, volume and capacity, weight (mass), temperature, angle, and time.
* Convert between metric units, using whole numbers and commonly used decimals.
* Use side or edge lengths to find the perimeters and areas of rectangles, parallelograms, and triangles and the volumes of cuboids.
* Interpret and use scales, timetables, and charts.
 | **LI: Measure** the length of a parked truck using appropriate metric units.**LI: Measure** the width of a parked truck using appropriate metric units.**LI: Calculate** the perimeter and area of land taken up by a parked truck by using side or edge lengths.**LI: Measure** the height of a parked truck using appropriate metric units.**LI: Calculate** the volume of air taken up by a parked truck by using side or edge lengths.**LI: Measure** the length of a shipping container using appropriate metric units.**LI: Measure** the width of a shipping container using appropriate metric units.**LI: Measure** the height of a shipping container using appropriate metric units.**LI: Identify** the number of shipping containers a truck can transport.**LI: Calculate** the total volume of freight the parked truck can transport by using side or edge measurements. |
| **Shape** | **Level Four*** Identify classes of two- and three-dimensional shapes by their geometric properties.
* Relate three-dimensional models to two-dimensional representations, and vice versa.
 | **LI: Relate** three-dimensional models of truck and trailer units to two-dimensional representations, and vice versa. |
| **Orientation** | **Level Four*** Communicate and interpret locations and directions, using compass directions, distances, and grid references.
 | **LI:** Use compass directions, distances, and grid references to **describe** the location of a [waste management collection] site in your school grounds or local community.**LI:** Use compass directions, distances, and grid references to **describe** the path taken by [rubbish in a classroom bin] to the local [recycling plant]. |

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| **Social Studies – Level One** |
| * Understand that people have different roles and responsibilities as part of their participation in groups.
 | **LI: Describe a** role of a truck driver (e.g. school waste management).**LI: Describe a** responsibility of a truck driver (e.g. school waste management).**LI: Sequence** the actions of a truck driver across a day (e.g. steps involved in school waste management).**LI: Compare and contrast** the role of a truck driver with the role of a taxi driver.**LI: Make a generalisation** about roles and responsibilities of the members of a group. |
| * Understand how the past is important to people.
 | **LI: Describe** how people transported goods to market in the past.**LI: Describe** how people transport goods to market in the present.**LI: Compare and contrast** the ways of transporting goods to markets in the past and the present. **LI:** **Explain** how past methods of transport are still important to people today.  |

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| **Social Studies – Level Two** |
| * Understand that people have social, cultural, and economic roles, rights, and responsibilities.
 | **LI:** **Describe** the roles of a truck driver.**LI:** **Describe** the rights of a truck driver.**LI:** **Describe** the responsibilities of a truck driver.**LI: Compare and contrast** the roles, rights and responsibilities of truck drivers. **LI: Make a generalisation** about the importance of the roles, rights and responsibilities of truck drivers. |
| * Understand how time and change affect people’s lives
 | **LI: Describe** the challenges people faced in transporting goods to market in the past.**LI: Describe** the challenges people face in transporting goods to market in the present.**LI: Compare and contrast** the challenges of transporting goods to markets in the past and the present. **LI:** **Explain** how time and change (in practice) have affected the lives of the people charged with transporting goods to market.  |

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| **Social Studies – Level Three** |
| * Understand how people make decisions about access to and use of resources.
 | **LI: Describe** one or more resources used in your local community.**LI: Explain** how people can access the resource/s.**LI: Describe** the decisions people make when deciding how to access and use the resource/s. **LI: Compare and contrast** accessing the resource/s by truck with another method/s of accessing the resources.**LI: Make a generalisation** about the appropriateness of the decision about the method of access.  |

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| **Social Studies – Level Four** |
| * Understand how exploration and innovation create opportunities and challenges for people, places, and environments.
 | **LI: Describe** an innovation in the trucking industry.**LI: Explain how** the innovation in the trucking industry has created opportunities and challenges for people. **LI: Explain how** the innovation in the trucking industry has created opportunities and challenges for places in your local community.**LI: Explain how** the innovation in the trucking industry has created opportunities and challenges for the environment. **LI: Make a generalisation** about the overall value of the innovation in the trucking industry for people, places and the environment.  |
| * Understand how producers and consumers exercise their rights and meet their responsibilities.
 | **LI: Define** a producer.**LI: Define** a consumer. **LI: Define** rights.**LI: Define** responsibilities.**LI: Describe** a producer’s rights and responsibilities.**LI: Describe** a consumer’s rights and responsibilities.**LI: Explain how** the transport industry (trucks) can help the producer meet their rights and/or responsibilities.**LI: Explain how** the transport industry (trucks) can help the consumer meet their rights and/or responsibilities.**LI: Make a generalisation** about the role of the transport industry (trucks) in helping the producer and consumer meet their rights and/or responsibilities. |
| * Understand how formal and informal groups make decisions that impact on communities.
 | **LI: Describe** a community.**LI: Describe** an informal group that makes decisions about the transport system (in the context of trucks) in the community.**LI: Describe** a formal group that makes decisions about the transport system (in the context of trucks) in the community.**LI: Describe** a decision the formal group made about the transport system (in the context of trucks) in the community.**LI: Describe** a decision the informal group made about the transport system (in the context of trucks) in the community.**LI: Explain the impact of** a decision the formal group made about the transport system (in the context of trucks) in the community.**LI: Explain the impact of** a decision the informal group made about the transport system (in the context of trucks) in the community.**LI: Make a generalisation about the impact of** decisions informal or formal groups made about the transport system (in the context of trucks) in the community. |

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| **Health and Physical Education – Level One** |
| Personal Health and Physical Development AA3 Safety management | * Describe and use safe practices in a range of contexts and identify people who can help.
 | **LI: Describe** a safe practice when sharing the road network with trucks. **LI: Demonstrate** a safe practice when sharing the road network with trucks.  |
| Healthy Communities and Environments DD2 Community resources | * Identify and discuss obvious hazards in their home, school, and local environment and adopt simple safety practices.
 | **LI: Identify** obvious hazards in sharing the road network with trucks. |

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| **Health and Physical Education – Level Two** |
| Personal Health and Physical Development AA3 Safety management | * Identify risk and use safe practices in a range of contexts.
 | **LI: Identify** risks when sharing the road network with trucks. **LI: Demonstrate** safe practice when sharing the road network with trucks. |
| Healthy Communities and Environments DD2 Community resources | * Identify and use local community resources and explain how these contribute to a healthy community.
 | **LI: Identify** community resources designed to keep people safe around trucks. **LI: Explain how** these community resources keep people safe around trucks.  |

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| **Health and Physical Education – Level Three** |
| Personal Health and Physical Development AA3 Safety management | * Identify risks and their causes and describe safe practices to manage these.
 | **LI: Identify the causes** of risks associated with sharing the road network with trucks.**LI: Describe** safe practices to manage the risks associated with sharing the road network with trucks. |
| Healthy Communities and Environments DD2 Community resources | * Participate in communal events and describe how such events enhance the well-being of the community.
 | **LI: Participate** in a community event designed to keep people safe around trucks. |

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| **Health and Physical Education – Level Four** |
| Personal Health and Physical Development AA3 Safety management | * Access and use information to make and action safe choices in a range of contexts.
 | **LI: Research** information on making safe choices around trucks.**LI: Make and action** safe choices around trucks. |
| Healthy Communities and Environments DD2 Community resources | * Investigate and/or access a range of community resources that support well-being and evaluate the contribution made by each to the well-being of community members.
 | **LI: Evaluate** the effectiveness of a range of community resources designed to keep people safe around trucks.  |