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 A  A3 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 D  D2 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 A  A3 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 D  D2 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 A  A3 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 D  D2 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 A  A3 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 D  D2 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. |