



Updated 2023

Alignment to NZ Curriculum Achievement Objectives

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

Science – Nature of Science – Levels One and Two		
Understanding about science	Levels One and Two <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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. <i>Refer to stopping distance or blind spots.</i>

Science – Physical World – Levels One and Two

Physical inquiry and physics concepts	Levels One and Two <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 to transport 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Build on prior experiences, working together to share and examine their own and others' knowledge. 	LI: Research the trucking experiences of locals in your community. LI: Identify a related safety challenge or opportunity in your local community.

	<ul style="list-style-type: none"> Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations. 	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 <ul style="list-style-type: none"> 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. <p><i>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.</i></p>	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: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> human sight reflection shadows. LI: Explore <ul style="list-style-type: none"> field of view blind spots in trucks. LI: Create a structure using mirrors that will let you see what is behind you.

Mathematics and Statistics – Geometry and Measurement – Level One

Measurement	Level One <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Sort objects by their appearance. 	LI: Sort circular objects and rectangular objects in trucks into two different groups.
Position and orientation	Level One <ul style="list-style-type: none"> 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.

Mathematics and Statistics – Geometry and Measurement – Level Two

Measurement	Level Two <ul style="list-style-type: none"> 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.
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Shape	Level Two <ul style="list-style-type: none"> Sort objects by their spatial features, with justification. Identify and describe the plane shapes found in objects. 	<p>LI: Sort different types of freight transport (trucks) on the basis of their spatial features.</p> <p>LI: Identify the plane shapes found in different truck and trailer units.</p> <p>LI: Identify the plane shapes found in a truck's blind zones.</p> <p>LI: Describe the plane shapes making up different truck and trailer units.</p> <p>LI: Describe the plane shapes making up a truck's blind zones.</p>
Position and orientation	Level Two <ul style="list-style-type: none"> Create and use simple maps to show position and direction. Describe different views and pathways from locations on a map. 	<p>LI: Create a simple map to show the position and direction of a truck that regularly transports goods to or waste from the school.</p> <p>LI: Explain the route taken by the truck to and from the school using the map to support the explanation.</p> <p>LI: Describe different pathways for and perspectives on the passage of waste from the classrooms and playground to the waste collection area.</p>

Mathematics and Statistics – Geometry and Measurement – Level Three

Measurement	Level Three <ul style="list-style-type: none"> 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. 	<p>LI: Measure the length of a parked truck using metric units.</p> <p>LI: Measure the width of a parked truck using metric units.</p> <p>LI: Calculate the area of land taken up by a parked truck by applying multiplication.</p> <p>LI: Measure the height of a parked truck using metric units.</p> <p>LI: Calculate the volume of air taken up by a parked truck by applying multiplication.</p> <p>LI: Measure the length of a shipping container using metric units.</p> <p>LI: Measure the width of a shipping container using metric units.</p> <p>LI: Measure the height of a shipping container using metric units.</p>
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		<p>LI: Identify the number of shipping containers a truck can transport.</p> <p>LI: Calculate the total volume of freight the parked truck can transport by applying multiplication.</p>
Shape	<p>Level Three</p> <ul style="list-style-type: none"> Classify plane shapes and prisms by their spatial features. Represent objects with drawings and models. 	<p>LI: Represent a truck and trailer unit with drawings.</p> <p>LI: Represent a truck and trailer unit with a model.</p>
Position and orientation	<p>Level Three</p> <ul style="list-style-type: none"> Use a co-ordinate system or the language of direction and distance to specify locations and describe paths. 	<p>LI: Use co-ordinates to describe the location of a [waste management collection] site in your school grounds/local community.</p> <p>LI: Use co-ordinates to describe the path taken by [rubbish in a classroom bin] to the local [recycling plant].</p>

Mathematics and Statistics – Geometry and Measurement – Level Four

Measurement	<p>Level Four</p> <ul style="list-style-type: none"> 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. 	<p>LI: Measure the length of a parked truck using appropriate metric units.</p> <p>LI: Measure the width of a parked truck using appropriate metric units.</p> <p>LI: Calculate the perimeter and area of land taken up by a parked truck by using side or edge lengths.</p> <p>LI: Measure the height of a parked truck using appropriate metric units.</p> <p>LI: Calculate the volume of air taken up by a parked truck by using side or edge lengths.</p> <p>LI: Measure the length of a shipping container using appropriate metric units.</p> <p>LI: Measure the width of a shipping container using appropriate metric units.</p> <p>LI: Measure the height of a shipping container using appropriate metric units.</p> <p>LI: Identify the number of shipping containers a truck can transport.</p>
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		LI: Calculate the total volume of freight the parked truck can transport by using side or edge measurements.
Shape	Level Four <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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].

Social Studies – Level One

<ul style="list-style-type: none"> Understand that people have different roles and responsibilities as part of their participation in groups. 	<p>LI: Describe a role of a truck driver (e.g. school waste management).</p> <p>LI: Describe a responsibility of a truck driver (e.g. school waste management).</p> <p>LI: Sequence the actions of a truck driver across a day (e.g. steps involved in school waste management).</p> <p>LI: Compare and contrast the role of a truck driver with the role of a taxi driver.</p> <p>LI: Make a generalisation about roles and responsibilities of the members of a group.</p>
<ul style="list-style-type: none"> Understand how the past is important to people. 	<p>LI: Describe how people transported goods to market in the past.</p> <p>LI: Describe how people transport goods to market in the present.</p> <p>LI: Compare and contrast the ways of transporting goods to markets in the past and the present.</p> <p>LI: Explain how past methods of transport are still important to people today.</p>

Social Studies – Level Two

<ul style="list-style-type: none"> Understand that people have social, cultural, and economic roles, rights, and responsibilities. 	<p>LI: Describe the roles of a truck driver.</p> <p>LI: Describe the rights of a truck driver.</p> <p>LI: Describe the responsibilities of a truck driver.</p> <p>LI: Compare and contrast the roles, rights and responsibilities of truck drivers.</p> <p>LI: Make a generalisation about the importance of the roles, rights and responsibilities of truck drivers.</p>
<ul style="list-style-type: none"> Understand how time and change affect people's lives 	<p>LI: Describe the challenges people faced in transporting goods to market in the past.</p> <p>LI: Describe the challenges people face in transporting goods to market in the present.</p> <p>LI: Compare and contrast the challenges of transporting goods to markets in the past and the present.</p> <p>LI: Explain how time and change (in practice) have affected the lives of the people charged with transporting goods to market.</p>

Social Studies – Level Three

<ul style="list-style-type: none"> Understand how people make decisions about access to and use of resources. 	<p>LI: Describe one or more resources used in your local community.</p> <p>LI: Explain how people can access the resource/s.</p> <p>LI: Describe the decisions people make when deciding how to access and use the resource/s.</p> <p>LI: Compare and contrast accessing the resource/s by truck with another method/s of accessing the resources.</p> <p>LI: Make a generalisation about the appropriateness of the decision about the method of access.</p>
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Social Studies – Level Four

<ul style="list-style-type: none"> Understand how exploration and innovation create opportunities and challenges for people, places, and environments. 	<p>LI: Describe an innovation in the trucking industry.</p> <p>LI: Explain how the innovation in the trucking industry has created opportunities and challenges for people.</p> <p>LI: Explain how the innovation in the trucking industry has created opportunities and challenges for places in your local community.</p> <p>LI: Explain how the innovation in the trucking industry has created opportunities and challenges for the environment.</p> <p>LI: Make a generalisation about the overall value of the innovation in the trucking industry for people, places and the environment.</p>
<ul style="list-style-type: none"> Understand how producers and consumers exercise their rights and meet their responsibilities. 	<p>LI: Define a producer.</p> <p>LI: Define a consumer.</p> <p>LI: Define rights.</p> <p>LI: Define responsibilities.</p> <p>LI: Describe a producer's rights and responsibilities.</p> <p>LI: Describe a consumer's rights and responsibilities.</p> <p>LI: Explain how the transport industry (trucks) can help the producer meet their rights and/or responsibilities.</p> <p>LI: Explain how the transport industry (trucks) can help the consumer meet their rights and/or responsibilities.</p> <p>LI: Make a generalisation about the role of the transport industry (trucks) in helping the producer and consumer meet their rights and/or responsibilities.</p>
<ul style="list-style-type: none"> Understand how formal and informal groups make decisions that impact on communities. 	<p>LI: Describe a community.</p> <p>LI: Describe an informal group that makes decisions about the transport system (in the context of trucks) in the community.</p> <p>LI: Describe a formal group that makes decisions about the transport system (in the context of trucks) in the community.</p> <p>LI: Describe a decision the formal group made about the transport system (in the context of trucks) in the community.</p> <p>LI: Describe a decision the informal group made about the transport system (in the context of trucks) in the community.</p> <p>LI: Explain the impact of a decision the formal group made about the transport system (in the context of trucks) in the community.</p> <p>LI: Explain the impact of a decision the informal group made about the transport system (in the context of trucks) in the community.</p> <p>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.</p>

Health and Physical Education – Level One

Personal Health and Physical Development A A3 Safety management	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.

Health and Physical Education – Level Two

Personal Health and Physical Development A A3 Safety management	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.

Health and Physical Education – Level Three

Personal Health and Physical Development A A3 Safety management	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.

Health and Physical Education – Level Four

<p>Personal Health and Physical Development A</p> <p>A3 Safety management</p>	<ul style="list-style-type: none"> Access and use information to make and action safe choices in a range of contexts. 	<p>LI: Research information on making safe choices around trucks.</p> <p>LI: Make and action safe choices around trucks.</p>
<p>Healthy Communities and Environments D</p> <p>D2 Community resources</p>	<ul style="list-style-type: none"> 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. 	<p>LI: Evaluate the effectiveness of a range of community resources designed to keep people safe around trucks.</p>