



Sample assessment task	
Year level	Pre-primary
Learning area	Technologies
Subject	Design and Technologies: Engineering principles and systems
Title of task	How does it move?
Task details	
Description of task	Students will identify that products move in different ways.
Type of assessment	Formative
Purpose of assessment	To assess students' ability to identify how objects move in a variety of ways; push, pull, bounce, slide, fall, spin and float
Assessment strategy	Drawings, worksheets, observation and recorded responses.
Evidence to be collected	<ul style="list-style-type: none">• Tables• Assessment worksheet
Suggested time	3 x 1 hour lessons
Content description	
Content from the Western Australian Curriculum	<p><i>Knowledge and understanding</i> Engineering principles and systems Ways in which objects move: push, pull, bounce, slide, fall, spin, float</p> <p><i>Processes and production skills</i> Designing Generate and record design ideas through describing, drawing, modelling and/or a sequence of written or spoken steps</p>
Early Years Learning Framework (EYLF)	Outcome 2: Children are connected with and contribute to their world Outcome 4: Children are confident and involved learners Outcome 5: Children are effective communicators
Connected curriculum	Science <i>Physical science</i> The way objects move depends on a variety of factors, including their size and shape
Task preparation	
Prior learning	Students have prior knowledge of how things can float or sink.
Assessment differentiation	Teachers should differentiate their teaching and assessment to meet the specific learning needs of their students, based on their level of readiness to learn and their need to be challenged. Where appropriate, teachers may either scaffold or extend the scope of the assessment tasks.

Assessment task

Assessment conditions	Students will complete this task individually.
Resources	<ul style="list-style-type: none">• Grains/Legumes• Can roll/can't roll worksheet• Push or Pull Table• Farm Machine Pictures• Tractors on a Ramp worksheet

Instructions for teacher

Lesson 1	
Inspire/inform	Students will analyse the 5 grains they each have inside a container. Wheat, oats, lupins, peas and canola are used during this lesson, although they can be substituted with grains and legumes that can be easily accessed at food shops. Allow the students to use their senses to touch the different grains. Talk about how they feel and look similar and different in colour/shape/size.
Show	Sing a song with movement such as <i>Farmer in the Dell</i> . Ask the children to identify the ways that they moved during the song such as running, hopping, jumping, rolling and twisting. Explain that we can also make objects move. Walk around the playground as a class and talk about how objects can move, e.g. bounce, walk, drop, drag, lift, kick, bounce.
Tell	Demonstrate to the student how they can make the grains roll on their white board in front of them. As a whole class, test to see if each grain will roll or will not roll.
Apply	Students are to glue the grains in the correct space on the table.
Reflect	Students to share with the class why did some grains roll and others did not, and state other objects that can and can't roll.

Lesson 2	
Inspire/inform	<i>A Push or a Pull</i> song by Peter Weatherall https://www.youtube.com/watch?v=FOcY37oGhj8
Show	Demonstrate how to use the following games online. Students can use these interactive games to learn about push and pull and different sized forces. http://www.bbc.co.uk/schools/scienceclips/ages/6_7/forces_movement.shtml http://www.bbc.co.uk/schools/scienceclips/ages/5_6/pushes_pulls.shtml
Tell	Size, weight and shape affect an object's motion. Push and pull is a force. Objects move in the direction of the push or pull.
Apply	As a whole class, show the students the toy farm machines pictured. Ask for students to volunteer to show the rest of the class if the farm machine can push or pull, or both. Students then glue the farm machinery pictures into the correct space on the table.
Reflect	Display other farm machines/ pictures and outline how they slide, twist, spin. Show the following video and discuss how the farm machines move. https://m.youtube.com/watch?v=8auGebkYjZY

Lesson 3	
Inspire/inform	Review interactive games: http://www.bbc.co.uk/schools/scienceclips/ages/6_7/forces_movement.shtml http://www.bbc.co.uk/schools/scienceclips/ages/5_6/pushes_pulls.shtml
Show	Present the students with different sized tractors. Investigate with the students how the different sized tractors moves different distances with the same push.
Tell	The students will be explained the requirements of the task. The students will explore how a tractor will move further once at the bottom of the ramp when it is pushed rather than just released. Students to measure and record findings.
Apply	The students will conduct the investigation.
Reflect	Students will indicate their level of understanding by completing the Assessment worksheet. How do farm machines move?

Grains that will roll	Grains that will not roll



Assessment Worksheet- How do farm machines move?



Push	Pull	Push and Pull

Does pushing a tractor make it travel further down a ramp?

With blocks, measure how far the tractor travelled at the bottom of the ramp when released. Colour how many blocks.									
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With blocks, measure how far the tractor travelled at the bottom of the ramp when given a push. Colour how many blocks.									
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When did the tractor travel a greater distance? _____

Why do you think it did?

Sample marking key

How do farm machines move? – Sample Marking Key	
Description	Check
How do farm machines move?	✓
Independently identifies and describes how many objects move.	
Identifies that objects can move differently.	
With assistance, identifies that objects can move differently.	
Description	Check
Does pushing a tractor make it travel further down a ramp?	✓
Independently describes why the tractor travelled further when pushed.	
Identifies that the tractor travelled further when pushed.	
With assistance, identifies that the tractor travelled further when pushed.	