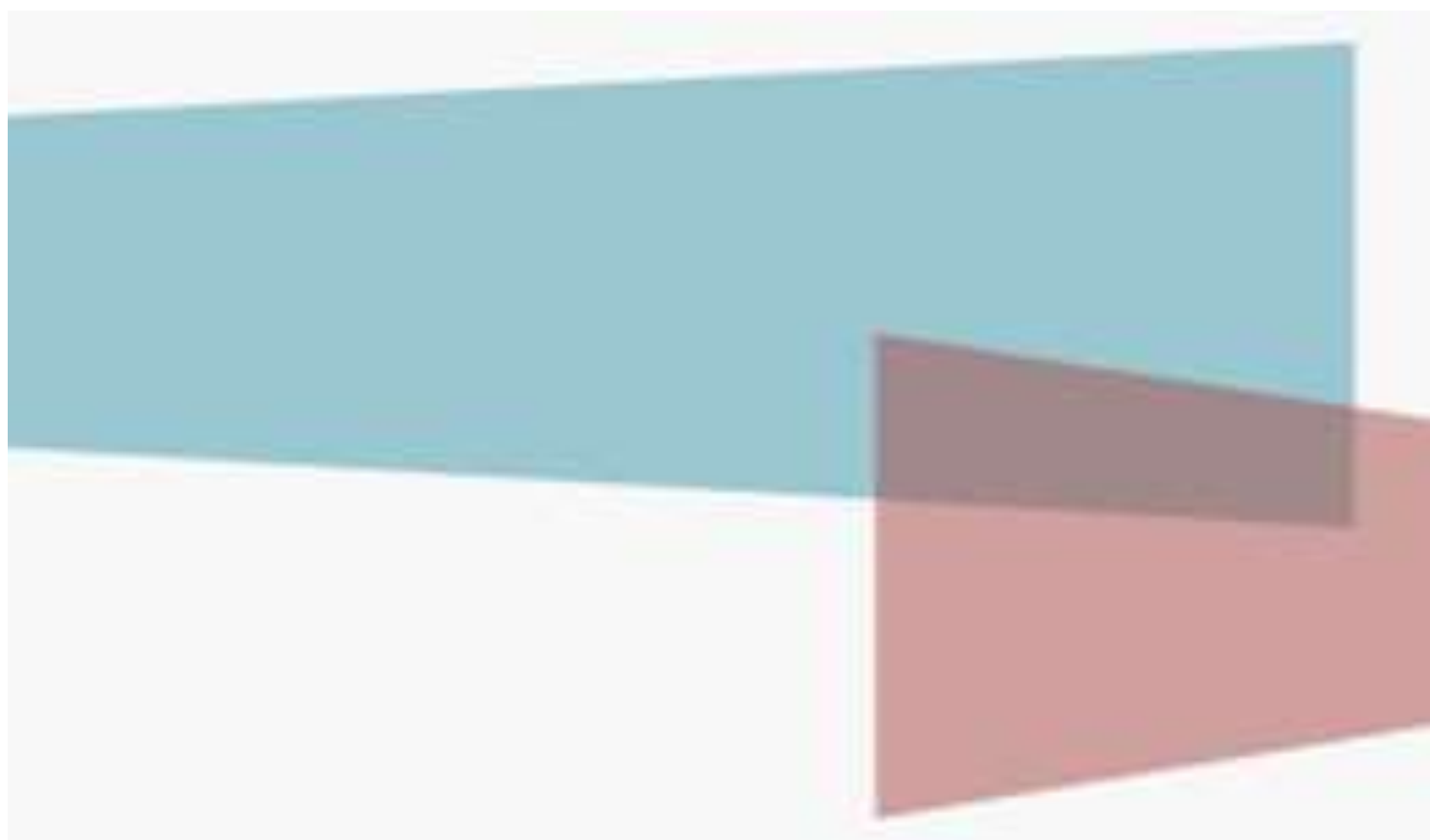


The Mary Brooksbank and George Bass Science Framework

*Planning, programming and assessing Science for
students with disability*



Working Technologically

Working Technologically**Syllabus Outcome**

Uses a simple design process to produce solutions with identified purposes. STe- 5WT

Students explore and define a task by:

Syllabus Indicator 1.1: Identify the purpose and use of existing products, places and spaces.

Framework Indicators

5WT1.1A: Interacts with familiar products

5WT1.1B: Match to sample products

5WT1.1C: Match to sample products and their uses

Teacher Language**Give an instruction**

SN look at this. It is a (Product).

Which is the same?

SN, this is a (product). We use it for (use).

Which is the same?

Correction/prompt

This is the (product).

Try again.

Students will be able to achieve this indicator with varying levels of support. Fade this support as the student works toward developing independence.

There are a variety of acceptable ways a student can indicate a choice or make a response. These include; head/physical movements (e.g. nodding, pointing and reaching), facial expression, eye gaze, vocalisations and/or verbal responses.

When implementing the following activities and wherever possible, use authentic products, places and spaces together with a visual representation. This could involve taking students into the community if appropriate. The visual representation should be taught in conjunction with the authentic product, place or space to allow students to complete the match to sample activities. If using authentic products, places and spaces is not possible, visual representations should be used.

For these activities it is important to use products the students are familiar with in their everyday life but not necessarily preferred. The aim of using products that are familiar to the students is to develop a schema so in later indicators, students are able to transfer knowledge and demonstrate preferences for products. Products used may include but are not limited to food items, personal care items, pieces of clothing, technology and/or leisure equipment.

Teaching Activities

5WT1.1A: A student interacts with familiar products

Place a product and visual representation in the student's direct view and state 'SN look this is a cup'. It is important to allow the student some time to interact with or use the products. This activity should be repeated a number of times with a variety of familiar products.

5WT1.1B: Match to sample products

For this activity it is important to use visual representations of products that have been used in the previous activity.

Place the visual representation of the product in the student's direct view, point and state 'SN look at this. It is a chair, which is the same?' This activity should be repeated using different products.

5WT1.1C: Match to sample products and their uses

For this activity the product and its use would be presented side by side on the same visual representation. Place the visual representation in the student's direct view, point and state 'SN look this is a chair. We can use it for sitting. Which is the same?' At the same time, the teacher could model the use of the product stating 'SN, look I am sitting on the chair. This activity should be repeated using different products.

Websites that contain resources, games or activities that could be used to support this goal include:

- Veer – Exploring rooms: <http://www.veer.com/ideas/veerdelivers/>
- What's this? Its a Pencil: <https://www.youtube.com/watch?v=mTisVqSrfF0>
- Classroom Objects: <https://www.youtube.com/watch?v=SIQid2J7aE>

Colourful aquarium



Where am I jolly giraffe



Going places Functional skills system



Things that go together



SpeakApp 2 lite



Working Technologically**Syllabus Outcome**

Uses a simple design process to produce solutions with identified purposes. STe- 5WT

Students explore and define a task by:

Syllabus Indicator 1.2: Identify the purpose and use of existing products, places and spaces.

Framework Indicators

5WT1.2A: Interacts with familiar places/spaces

5WT1.2B: Match to sample places/spaces

5WT1.2C: Match to sample places/spaces and their uses

Teacher Language**Give an instruction**

SN, this is the (place/space name).

We are in the (place/space name).

We use it for (purpose).

Find the same?

Correction/prompt

This is the (place/space).

Try again.

Students will be able to achieve this indicator with varying levels of support. Fade this support as the student works toward developing independence.

There are a variety of acceptable ways a student can indicate a choice or make a response. These include; head/physical movements (e.g. nodding, pointing and reaching), facial expression, eye gaze, vocalisations and/or verbal responses.

When implementing the following activities, wherever possible, use authentic products, places and spaces together with a visual representation. This could involve taking students into the community if appropriate. The visual representation should be taught in conjunction with the authentic product, place or space to allow students to complete the match to sample activities. If using authentic products, places and spaces is not possible, visual representations should be used.

For these activities it is important to use places/spaces the students are familiar with in their everyday life but not necessarily preferred. The aim of using places/spaces that are familiar to the students is to develop a schema so in later indicators, students are able to transfer knowledge and demonstrate preferences.

Teaching Activities

5WT1.2A: Interacts with familiar places/spaces

When providing opportunities for students to interact with familiar place/spaces it may be necessary to use the school environment if accessing the community is not appropriate. Places/spaces may include the classroom, the playground, the library, the hall, the office, shopping centre and/or the park.

When students are visiting places/spaces within the school or community the teacher would draw attention to where they were by making observational statements such as 'SN we are in the hall.' At the same time a visual representation of the place/space would be shown to the students. This activity should be repeated a number of times to provide opportunities for students to consolidate their knowledge of places/spaces.

5WT1.2B: Match to sample places/spaces.

For this activity it is important to use visual representations of places/spaces that have been used in the previous activity.

Place the visual representation of the place/space in the student's direct view, point and state 'SN look this is the pool, find the same?' This activity should be repeated using different places/spaces.

5WT1.2C: Match to sample places/spaces and their uses

For this activity the place/space and its use would be presented side by side on the same visual representation. Place the visual representation in the student's direct view, point and state 'SN look this is the beach. We can play in the sand. Where is the same?' This activity should be repeated using different places/spaces.

Websites that contain resources, games or activities that could be used to support this goal include:

- Veer – Exploring rooms: <http://www.veer.com/ideas/veerdelivers/>
- What's this? It's a Pencil: <https://www.youtube.com/watch?v=mTisVqSrfF0>
- Classroom Objects: <https://www.youtube.com/watch?v=SIQid2J7aE>

Colourful aquarium



Where am I jolly giraffe



Going places Functional skills system



Things that go together



SpeakApp 2 lite



2 lite

Working Technologically**Syllabus Outcome**

Uses a simple design process to produce solutions with identified purposes. STe- 5WT

Students explore and define a task by:

Syllabus Indicator 2.1: Describing their likes and dislikes of existing products, places and spaces.

Framework Indicators

5WT2.1A: Interacts with a range of familiar products

5WT2.1B: Indicates likes and dislikes for familiar products

5WT2.1C: Indicates a preference for a familiar product

Teacher Language**Give an instruction**

SN, look this is a (Product).

You like (Product).

You don't like (Product).

SN, which one do you want? Choose.

Correction/prompt

This is a (Product).

Try again.

Students will be able to meet this outcome with varying levels of support. Fade this support as the student works toward developing independence.

There are a variety of acceptable ways a student can indicate a choice or make a response. These include; head/physical movements (e.g. nodding, pointing and reaching), facial expression, eye gaze, vocalisations and/or verbal responses.

For this activity it is important to use products the students are familiar with but not necessarily preferred in their everyday life. The aim of using products that are familiar to the student is to develop a schema so in later indicators, students are able to transfer knowledge and demonstrate preferences for products. Products used may include food items, personal items, pieces of clothing, technology and/or leisure equipment.

Teaching Activities**5WT2.1A: Interacts to a range of familiar products**

Place a product and visual representation in the student's direct view and state 'SN look, this is a chocolate'. This activity should be repeated a number of times using a variety of familiar products. It is important to allow the student some time to interact with or use the products.

5WT2.1B: Indicates likes and dislikes for a familiar product

Real products can be used for this activity. It is advisable to allow the students to have some time with products they like once they have indicated they like it. Therefore careful choice of products used is essential.

Students accessing this framework may very clearly indicate likes and dislikes for familiar products in different ways. These may include obvious enjoyment when exploring products. Likewise students may indicate obvious dislike of products through displaying different behaviours, facial expressions and vocalisations. Teachers should use their professional judgement when interpreting these responses and support them by using appropriate teacher language that would reinforce what the student was indicating about the product.

5WT2.1C: Indicates a preference for a familiar product

Place a product that you know the student likes together with a product you know the student dislikes in the student's view and state 'SN, which one do you want? Choose'. This activity would be repeated a number of times with different products you know the student both likes and dislikes to allow students to demonstrate their preference.

Websites that contain resources, games or activities that could be used to support this goal include:

Where am I jolly giraffe



Going places Functional skills system



Things that go together



Jigsaw puzzles



Working Technologically

Syllabus Outcome

Uses a simple design process to produce solutions with identified purposes. STe- 5WT

Students explore and define a task by:

Syllabus Indicator 2.2: Describing their likes and dislikes of existing products, places and spaces.

Framework Indicators

5WT2.2A: Interacts with a range of familiar places/spaces

5WT2.2B: Indicates likes and dislikes and shows a preference for familiar places/spaces

Teacher Language

Give an instruction

SN, look this is a (places/space).

SN, look this is (place/space), you like (place/space).

SN, look this is (place/space), you don't like (place/space).

SN, what do you want? Choose.

Correction/prompt

This is a (place/space).

Try again.

Students will be able to meet this outcome with varying levels of support. Fade this support as the student works toward developing independence.

There are a variety of acceptable ways a student can indicate a choice or make a response. These include; head/physical movements (e.g. nodding, pointing and reaching), facial expression, eye gaze, vocalisations and/or verbal responses.

Due to limitations of accessing a range of places in the community these teaching activities will provide opportunity for students to respond and indicate preference for spaces in the school environment.

For this activity it is important to use place/spaces the students are familiar with but not necessarily preferred in their everyday life. The aim of using places/spaces that are familiar to the student is to develop a schema so in later indicators, students are able to transfer knowledge and demonstrate preferences.

Teaching Activities

5WT2.2A: interacts with a range of familiar places/spaces

When students are visiting places/spaces within the school the teacher would draw attention to where they were by making observational statements such as 'SN look we are in the hall.' At the same time a visual representation of the place/space would be shown to the students. This activity should be repeated a number of times to provide opportunity for students to consolidate their knowledge of places/spaces they are familiar with.

Places/spaces may include the classroom, the playground, the library, the hall or the office.

5WT2.2B: Indicates likes and dislikes and shows a preference for familiar place/spaces

Students accessing this framework may very clearly indicate likes, dislikes and preferences for familiar place/spaces in different ways. These may include obvious enjoyment of being in a particular place/space such as playgrounds, swimming pools or sensory rooms. Likewise students may indicate obvious dislike of other places/spaces through displaying different behaviours, facial expressions and vocalisations when in these places/spaces. Teachers should use their professional judgement when interpreting these responses and support them by using appropriate teacher language that would reinforce what the student was indicating about the place/space.

Websites that contain resources, games or activities that could be used to support this goal include:

Where am I jolly giraffe



Going places Functional skills system



Things that go together



Jigsaw puzzles



Working Technologically

Syllabus Outcome

Uses a simple design process to produce solutions with identified purposes. STe- 5WT

Students explore and define a task by:

Syllabus Indicator 3: Discussing the purpose and main features of what they need to produce and suggesting materials they could use.

Framework Indicators

5WT3A: Match the main features of a product

5WT3B: Identifying materials to produce a product

Teacher Language

Give an instruction

SN this is a (feature).

It is a part/s of a (product). Where does it go?

SN can you find the (feature)?

SN what (materials) do we need to make a (product?)

Correction/prompt

This is the (feature).

This is the (material).

Try again.

Students will be able to meet this outcome with varying levels of support. Fade this support as the student works toward developing independence.

There are a variety of acceptable ways a student can indicate a choice or make a response. These include; head/physical movements (e.g. nodding, pointing and reaching), facial expression, eye gaze, vocalisations and/or verbal responses.

Teaching Activities

5WT3A: Match the main features of a product

For this activity it is important to use visual representations of products the students are familiar with that have been used in previous activities. For the purpose of this teaching activity the syllabus term “feature” will be substituted for the word “part” in the teacher language.

For this activity teachers could have two images of the same car. One image is complete and the other image is cut into the parts of the car (eg doors, windows, wheels). Place both the whole car and the parts of the car in front of the student. Teacher would support this activity with teacher language such as

'SN look. This is the car door.

It's part of the car.

Where does it go?'

Can you find the window?

It's part of the car.

Where does it go?

5WT3B: Identify materials to produce a product

The purpose of this activity is to provide students with opportunities to identify materials used to produce a product. The syllabus term "materials" will be substituted for the word "things" in the teacher language.

Teachers could provide a number of different learning activities to support students achieve this indicator. Students could be involved in making a sandwich and choosing the "materials" needed to make the sandwich eg bread, butter, different fillings or spreads. This activity could be done by either making a real sandwich, using visuals to construct it or participating in an interactive whiteboard activity. This activity would be supported by teacher language such as

'SN what things do we need to make a sandwich?'

'SN this is a sandwich. It is made using bread '

'SN can you find the cheese? You can use it to make a sandwich'

'SN can you find something used to make a sandwich'

'SN can you find the tomato. You can use it to make a sandwich?'

Websites that contain resources, games or activities that could be used to support this goal include:

Little Truck Builder Factory- Play and build Vehicles and trucks



Breakfast



Working Technologically**Syllabus Outcome**

Uses a simple design process to produce solutions with identified purposes. STe- 5WT

Students develop ideas and produce solutions by:

Syllabus Indicator 4: Using play and imagination to explore possibilities of products, places and spaces.

Framework Indicators

5WT4A: Using play and imagination to explore possibilities of products, places and spaces

Teacher Language

Give an instruction

No specific teacher language

Students will be able to meet this outcome with varying levels of support. Fade this support as the student works toward developing independence.

Teaching Activities**5WT4A: Using play and imagination to explore possibilities of products, places and spaces (Syllabus Indicator)**

Most students will be able to achieve this indicator independently. Using play and imagination for students without a disability is exploring products, places and spaces the way they are intended and with their intended purpose.

For students with a disability play and imagination can look very different and may not follow traditional possibilities of products, places and spaces. However, it should be noted that while students with disabilities may not be engaging in conventional play their actions with products and within places and spaces are serving a purpose to them.

For students with high support needs or physical disabilities varying levels of support will be needed to assist them to engage with products, places and spaces through play. The aim of the teachers support is to encourage the students to explore the possibilities of products, places and spaces as independently as possible.

Teachers should use their professional judgement when observing and assessing students using play and imagination and support their exploration of products/places/spaces by using appropriate teacher language.

- If a student is using dress ups and dressing themselves in different pieces of clothing it may be assumed that they are using their imagination through play to explore a product.
- If a student is in a sandpit and is digging holes, filling containers etc it again maybe assumed that they are using their imagination through play to explore a space/place.

Websites that contain resources, games or activities that could be used to support this goal include:

- Discovery Kids – Room Maker: <http://discoverykids.com/games/room-maker/>
- BBC – Properties of products: http://www.bbc.co.uk/schools/scienceclips/ages/5_6/sorting_using_materials.shtml

Air hockey Gold



Sock puppets



Cake doodle



In in travelling jolly giraffe



Photo booth



Working Technologically**Syllabus Outcome**

Uses a simple design process to produce solutions with identified purposes. STe- 5WT

Students develop ideas and produce solutions by:

Syllabus Indicator 5: Following a series of steps to draw or model ideas or construct solutions.

Framework Indicators

5WT5A: Draws on a surface

5WT5B: Interacts with a product

5WT5C: Models ideas and constructs solutions around a product through trial and error

Teacher Language

Give an instruction

SN, draw a (product).

SN, the car is moving smoothly.

SN, the car doesn't move the same.

SN, how can we get the car to move

smoothly again? Let's put the wheels back on.

Look, we fixed it, the car is moving smoothly again.

Students will be able to meet this outcome with varying levels of support. Fade this support as the student works toward developing independence.

Teaching Activities

5WT5A: Draws on a surface

Students are given the opportunity to draw or make marks on a surface using a variety of tools including pencils, paint, and shaving cream. There is no structure to this activity and any marks that a student makes are acceptable. Teacher may encourage students to participate by stating:

'SN, draw a Robot'

'SN, what are you drawing?'

5WT5B: Interacts with a product

This activity is designed to provide students with opportunities to explore and play with a product. This product chosen for this activity is a toy car. Students are encouraged to use or play with the car in any way that they choose. It should be noted that the product chosen should be used consistently in the following indicator.

5WT5C: Models ideas and constructs solutions around a product through trial and error

*The activity below will need to be filmed as it links the teaching activities for indicator **5WT9A**.*

This activity would involve the teacher showing students a fully functional product and then manipulating it so that it no longer works. For this activity the product is a toy car. The teacher would demonstrate that the toy car moves smoothly on four wheels and state 'SN, the car is moving'. Students would then be encouraged to move the car themselves. Two wheels would then be removed and the teacher would demonstrate that the car no longer moves in the same way stating, 'SN, the car doesn't move the same'. The teacher could also encourage students to move the car again with the wheels removed. The teacher would then state, 'SN, how can we get the car to move smoothly again? Let's put the wheels back on'. Modelling placing the wheels back onto the car or prompting the student to do so would then be necessary. The teacher would demonstrate or encourage students to move the car again. The teacher would state 'Look, we fixed it. The car is moving smoothly again'.

Websites that contain resources, games or activities that could be used to support this goal include:

- Cause and Effect Painting: <http://www.jacksonpollock.org/>
- NickJr – Free Draw: <http://www.nickjr.com/nick-jr-originals/games/nick-jr-free-draw/>
- ABCYa – Build a car: http://www.abcya.com/create_and_build_car.htm

Drawing for color pen, doodle, graffiti



ABA problem solving- what does not belong?



Puzzles



Working Technologically**Syllabus Outcome**

Uses a simple design process to produce solutions with identified purposes. STe- 5WT

Students develop ideas and produce solutions by:

Syllabus Indicator 6: Safely using common classroom equipment, resources and techniques to shape and join familiar materials.

Framework Indicators

5WT6A: Safely using common classroom equipment, resources and techniques to shape and join familiar materials

Teacher Language**Give an instruction**

SN, we are using scissors safely to cut the paper.

SN, we are using glue safely to stick the paper together.

Students will be able to meet this outcome with varying levels of support. Fade this support as the student works toward developing independence.

Teaching Activities**5WT6A: Safely using common classroom equipment, resources and techniques to shape and join familiar materials (Syllabus Indicator)**

Students accessing this framework can achieve this indicator as it is written. However, various levels of support may be required to assist students to access classroom equipment safely. The teacher would make observational statements to reinforce what the student was doing as well as emphasising using equipment safely.

When using scissors teacher states 'SN, we are using scissors safely to cut the paper'.

When using glue teacher states 'SN, we are using glue safely to stick the paper together'.

Students may be able to achieve this indicator when using play dough, blocks and construction like materials where they are shaping and joining.

Working Technologically**Syllabus Outcome**

Uses a simple design process to produce solutions with identified purposes. STe- 5WT

Students evaluate by:

Syllabus Indicator 7: Recounting the steps taken to reach a final solution.

Framework Indicators

5WT7A: Recounting the steps taken to reach a final solution

Teacher Language

Give an instruction

No specific teacher language

Students will be able to meet this outcome with varying levels of support. Fade this support as the student works toward developing independence.

Teaching Activities**5WT7A: Recounting the steps taken to reach a final solution (Syllabus Indicator)**

Students accessing this framework can achieve this indicator as it is written. This may be done by providing students with a visual sequence board to demonstrate their understanding of steps followed to reach a solution. This may include sequencing steps taken during cooking activities, a simple science experiment, personal hygiene routine or construction activities.

Working Technologically	Syllabus Outcome
Uses a simple design process to produce solutions with identified purposes. STe- 5WT	

Students evaluate by:

Syllabus Indicator 8: Discussing their likes and dislikes in relation to what they have produced.

Framework Indicators	Teacher Language
5WT8A: Indicates likes and dislikes in relation to what they have produced	Give an instruction <i>No specific teacher language</i>

Students will be able to meet this outcome with varying levels of support. Fade this support as the student works toward developing independence.

There are a variety of acceptable ways a student can indicate likes or dislikes. These may include; head/physical movements (e.g. nodding, pointing and reaching for indicating like or pushing away and throwing for dislike), facial expression, tracking, vocalisations and/or verbal responses.

Teaching Activities

5WT8A: Indicates likes and dislikes in relation to what they have produced

In this activity teachers need to use their professional judgement and knowledge of their students in order to ensure that products produce by students are ones that give students opportunities to indicate likes and dislikes. For example cooking and eating a pizza, making and playing with play dough or other sensory materials.

In the instance of producing sensory materials such as slime, students would have the opportunity to indicate likes and dislikes throughout the process of producing the product as well as when the product is completed. Whilst making slime students may show that they like/dislike the bubbles that occur when hot water is added to lux flakes. Similarly they may also indicate a like/dislike for the smell at the time.

Once the slime is made and students have had opportunities to interact and engage with the product, teachers should use their professional judgement to interpret student responses around like and dislike. Observational teacher language would be used to reinforce what the student was indicating about the product they have produced.

‘SN, you like the feel of the slime.’

Websites that contain resources, games or activities that could be used to support this goal include:

Build-it-up



Build a farm- MokoFarm Lite



Working Technologically	Syllabus Outcome
Uses a simple design process to produce solutions with identified purposes. STe- 5WT	

Students evaluate by:

Syllabus Indicator 9: Reflecting on what they did and the usefulness of the final solution.

Framework Indicators	Teacher Language
5WT9A: Observes a video of the process to reach a final solution	Give an instruction <i>No specific teacher language</i>
5WT9B: Discriminates between parts needed to reach a final solution	

Students will be able to meet this outcome with varying levels of support. Fade this support as the student works toward developing independence.

There are a variety of acceptable ways a student can indicate likes or dislikes. These may include; head/physical movements (e.g. nodding, pointing and reaching for indicating like or pushing away and throwing for dislike), facial expression, tracking, vocalisations and/or verbal responses.

Teaching Activities

*To optimise student engagement and facilitate success in achieving this indicator teachers would need to use the product, a toy car, and the video footage taken when completing **Working Technologically: Indicator 5WT5C**.*

5WT9A: Observes a video of the process to reach a final solution

Students would watch a video of themselves engaging in the process of constructing a final solution, in this instance putting wheels on a toy car to make it move smoothly as done in indicator **5WT5C**. Teachers would support this with observational language whilst watching the video.

‘SN look. We are taking the wheels off’

‘The car won’t move properly’

‘We’re putting the wheels back on.’

‘The car moves properly again’

5WT9B: Discriminates between parts needed to reach a final solution

Students would be provided with opportunities to choose between a number of parts that could be used to reach a final solution. In this activity a toy car and wheels as used in indicator **5WT5C**. A number of parts would be presented to the student to make the car

useful again. As well as the wheels, a number of other parts that are unrelated to a car would also be introduced. This could include such things as a set of keys, a knife or a pencil. Students are required to choose the correct parts to make the car move smoothly again. The teacher would state 'SN what do we need to make the car move again. Choose.'

For students functioning at a higher level but still under ES1 the components may have similar characteristics such as shape. For example they may all be round and include items such as a coin, a button and a wheel.

Websites that contain resources, games or activities that could be used to support this goal include:

- Mr Potato Head: <https://www.youtube.com/watch?v=39sMOCWUzoA>
- Mr Potato Head: <https://vimeo.com/76109137>

Things that go together

