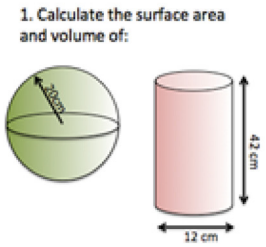
ELEMENT 4.2

Domain 4 - Personalise and Connect Mathematics Learning

Element 4.2 - Connect learning to learners' lives and aspirations

The following suggestions for practice are extracts from the 'Transforming Tasks' module on the Leading Learning resource:

Strategy	**Tell to Ask**
Technique	**Student voice:** Ask students to decide how they might do this best.

Level	Before	After
Primary	1. Before 2. Symmetry worksheet: 3. Draw two items of clothing, one symmetrical and one asymmetrical. 4. Describe two objects from the natural environment, one symmetrical and one asymmetrical. 5. State two modes or transport, one symmetrical and one asymmetrical etc.	The teacher poses a selection of questions, such as these: • Clothing. Symmetrical or not? • Nature. Symmetrical or not? • Modes of Transport. Symmetrical or not? • Symmetry- Necessary/ unnecessary/ useful or not? (Don't limit your thinking to line symmetry. You could consider rotational symmetry etc) 1. Choose one of the questions above, or suggest a questions that you think will enable you to show your understanding of symmetry. 2. How will you find out? 3. How will you show your ideas. 4. How will you work: individually, with a partner, or in a small group?
Secondary	Assessment Surface Area Test 	How could you demonstrate the depth of your understanding about calculating surface area? Enabling prompts: • Think of a context that you would like to apply this learning in. • Think of all of the skills that you'd like to be able to demonstrate. (Teacher can support the development of this list) • Think about the resources that you could use. • Do you want to develop your collaboration skills through working on a joint project or do you want to work independently? • Share your ideas with the whole group, in case someone else likes your idea too. • Remember that connections to other maths topics or other learning areas can be made. (Negotiate)

How do you think the technique Student voice might support *Element 4.2 - Connect learning to learners' lives and aspirations?*

There are many ways to articulate this relationship. One response to this question has been provided on the next page.

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The following suggestions for practice are extracts from the 'Transforming Tasks' module on the Leading Learning resource:

How does the technique Student voice support *Element 4.2 - Connect learning to learners' lives and aspirations?*

Empowering student voice in learning supports students to learn to make choices that will enable them to:

- do their best
- develop as a learner
- bring their interests or aspirations to the choices they make etc.

Students, who haven't been used to having a voice in their learning won't, necessarily, know how to respond when they are given the opportunity to have genuine input into their learning. They may need support and time to learn to identify what their aspirations are, to expand their interests etc.

Benefits of embedding 'student voice' in learning become obvious through considering the pattern of behavior following the opportunity for students to have a voice in their learning. Typically:

- students appreciate an opportunity to have choice in learning and therefore readily engage in the creation of a question or way of working.
- through designing their question or approach to learning the student has invested personally in their learning
- when students are personally invested in their learning they are more likely to stick with challenges and be resilient when problems arise.

A critical element of empowering student voice in learning, involves the teacher providing enough time/support/provocation to enable the students to establish a question that is of genuine interest to them and is appropriately challenging.

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The following suggestions for practice are extracts from the 'Transforming Tasks' module on the Leading Learning resource:

Strategy From Procedural to Problem Based

Technique **Students identify the problem to solve:** Give additional information that is not required to do the task.

Level	Before	After
Primary	This giant model koala is so big that it has a shop built inside of it. How many times taller is the koala than the little girl? 	Look at this photograph. What questions do you have? Sort your questions into mathematical and non-mathematical questions. Which mathematical question would you like to solve? 
Secondary	My four-wheel drive car is 240 cms wide. My city car is 165 cms wide. Express the ratio of the width of the four-wheel drive to the city car 	Look at this photograph. What questions come to mind? Sort your questions into mathematical and non- mathematical questions. Which mathematical question would you like to solve? 

How do you think the technique Students identify the problem to solve might support *Element 4.2 - Connect learning to learners' lives and aspirations?*

There are many ways to articulate this relationship. One response to this question has been provided on the next page.

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The following suggestions for practice are extracts from the 'Transforming Tasks' module on the Leading Learning resource:

How does the technique Students identify the problem to solve support *Element 4.2 - Connect learning to learners' lives and aspirations?*

Using stimuli of local, national or international issues that relate to students' interests and supporting them to formulate their own questions can facilitate personal connections to their maths' learning. Alternatively, stimulating curiosity with a photograph, short film or a story can engage students in asking questions for which mathematics can be applied to provides a solution or solutions. A large supply of images and films for use with mathematics topics can be found at: http://blog.mrmeyer.com. Look for 101 questions for still images and Three-Act Math for video stimulus.