

Jobs Building in the Community – Building and Construction

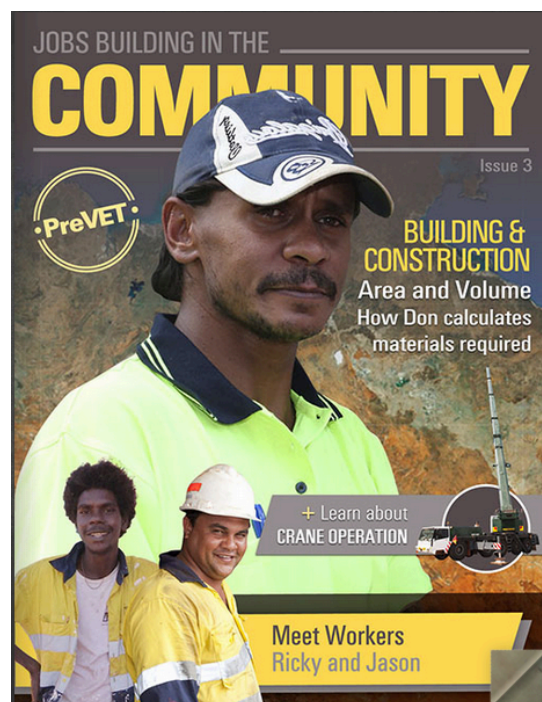
This module gives students examples of how they can have a job building the community.

Magazine with activities

Jason, Ricky and Don work in the construction industries in Darwin, Galiwin'ku and Gunbalanya.

Students will learn:

- the type of work in the Building and Construction industry
- how to read load charts and lift studies to operate a crane safely
- calculating surface area to find out the amount of paint or tiles required
- calculating volume and converting units to order concrete for an entry way.



Curriculum Links

PreVET reinforces and authentically contextualises curriculum learning. For detailed mapping, see [4c-curriculum-mapping.xlsx](#)

Australian Curriculum Prior Learning

- English: Productive mode – Students develop and explain a point of view about a text, selecting information, ideas and images from a range of resources.
- Mathematics: Students use appropriate units of measurement for length, area, volume, capacity and mass and calculate perimeter and area.
- Science: Students represent and predict the effects of unbalanced forces, including Earth's gravity, on motion.

T-9 Net Diagnostic Continua




- Reading: Breaking the written code, Using text.
- Numeracy: Operating & Calculating, Shapes & Measurement, Understanding Numbers & How They Work, Chance & Data.

Australian Core Skills Framework


- Reading, Oral Communication Levels 2-3
- Numeracy Levels 2-4

Overview of 4C Building and Construction – Activities

See [m4c-transcript-answers.pdf](https://www.4c.org.uk/m4c-transcript-answers.pdf) for Activity Answers, [m4c-quiz-answers.pdf](https://www.4c.org.uk/m4c-quiz-answers.pdf) for Quiz Answers.

		Overview	Key Vocabulary	Teaching ideas	Related Games	Quiz Questions
A1 Crane Operation		Using knowledge of weights, radius, load chart and lift studies to safely operate a crane. Key points: - Finding total load weights - Reading lift studies and load charts to determine correct boom radius and length.	Counter weight Tonnes Radius Fly Jib Hook Load Lift Boom Extend	This topic has a strong focus on mathematics and there is a lot of room to extend or simplify the activities depending on the level of the class. It would be a good idea for the teacher to review all the games/activities as there may be activities that the students could complete <u>before</u> they view the magazine. This would give students a foundation for some of the mathematical concepts found in the magazine. Additional activity – Name the features of circles and calculate circumferences of circles.	4C.S3.A2 Lifting Weights 4C.S3.A3 Balance The Cups – Scootle 4C.S3.A4 - Steady Ships - Scootle	1, 2, 3, 4
A2 Painting and Tiling		Calculating the amount of paint and tiles required for a job. Key points: - Calculating surface area of walls and floors - Calculating amounts of paint and tiles required - Converting squared measurements from cm ² to m ² .	Surface area Square metres Accuracy Inaccuracies Base coat Measure	<u>Lifting Weights</u> Include the Cartesian plane by plotting weight vs time. <u>Steady Ships</u> Discuss the force of gravity and what the centre of gravity means leading into the activity. Set up an experiment in class to show the concept. <u>Paint Job Game – Extensions</u> Use larger or decimal/fraction numbers, and/or include surface area. <u>Measurement Vocabulary</u> – Add questions of conversions.	4C.S3.G1 Paint Job Game 4C.S3.A5 DIY Calculator 4C.S3.A6 - Finding the Area – Scootle 4C.S3.A8 Measurement Vocabulary	5, 6, 7, 8
A3 Building an Entry Ramp		Finding the volume of concrete required to build an entry ramp. Key Points: - Finding the volume of two sections of a concrete entry way - Converting volume in cm ³ to m ³ to order concrete	Volume Form work Slab Mobility Prism Capacities Cubic Concrete Ramp	<u>Everyday Spaces</u> Try using composite shapes. Find surface area and volumes. <u>Cubirocks</u> Extend to another activity to develop formulae.	4C.S3.A1 Everyday Spaces 4C.S3.A7 Cubirocks - Scootle	9, 10

Overview of 4C Building and Construction – Activities

Lesson – Dream Room		<p>Students apply their understanding of surface area to undertake a pretend redevelopment of the classroom. They determine the measurements of walls (for paint or wallpaper), floors (for carpet or tiles) the ceiling (for ceiling paint), doors (for paint) and windows (for curtains or blinds).</p>	<p>Surface area Decorate Design Cost Budget Ceiling</p>	<p>Students can work together to redesign the classroom. This could be extended to look at seating plans and ideas to use the space in different ways e.g. lounge area, group work area, quiet area.</p> <p>Extend to an individual project redesigning a bedroom, house or living area for themselves. This will include lots of questions around the number of people in the house, the types of rooms they need and inside or outside space.</p>	<p>4C.S3.G1 Paint Job Game 4C.S3.A5 DIY Calculator 4C.S3.A6 - Finding the Area – Scootle 4C.S3.A8 Measurement Vocabulary</p>	
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