

Curriculum Clarity Template

Gaining clarity of the curriculum intent for a unit of study



(a guide with prompts and examples can be found here: <https://school-inclusion.com/inclusion-in-action/teaching-and-learning/>)

Trigonometry – Year 10 Math

1. Achievement Standard

By the end of Year 10, students recognise the connection between simple and compound interest. They solve problems involving linear equations and inequalities. They make the connections between algebraic and graphical representations of relations. Students solve surface area and volume problems relating to composite solids. They recognise the relationships between parallel and perpendicular lines. Students apply deductive reasoning to proofs and numerical exercises involving plane shapes. They compare data sets by referring to the shapes of the various data displays. They describe bivariate data where the independent variable is time. Students describe statistical relationships between two continuous variables. They evaluate statistical reports. Students expand binomial expressions and factorise monic quadratic expressions. They find unknown values after substitution into formulas. They perform the four operations with simple algebraic fractions. Students solve simple quadratic equations and pairs of simultaneous equations. They use triangle and angle properties to prove congruence and similarity. Students use trigonometry to calculate unknown angles in right-angled triangles. Students list outcomes for multi-step chance experiments and assign probabilities for these experiments. They calculate quartiles and inter-quartile ranges.

2. Assessable Content Descriptions

Measurement and Geometry

Pythagoras and trigonometry

Solve right-angled triangle problems including those involving direction and angles of elevation and depression.

3. Identify the key components of curriculum, cognition, context and complexity

Achievement Standard and Content Descriptions:

- Trigonometry (ratios and formulas)
- Calculate unknown angles
- Solve right angle triangle problems (involving direction, angles of elevation and depression)



Year Level Description:

Find unknown lengths and angles by applying trigonometry



Elaborations:

- Applying trigonometry to problems in surveying and design



Literacy:

Word Knowledge

- Understand learning area vocabulary

Comprehending texts through listening, reading and viewing

- Comprehend texts
- Navigate, read and view learning area texts
- Interpret and analyse learning area texts

Visual Knowledge

- Understand how visual elements create meaning

Numeracy:

Spatial reasoning

- Visualise 2D and 3D shapes and objects

Critical and Creative Thinking:

Organize and process information

- Critically analyse independently sourced information to determine bias and reliability

Transfer knowledge into new concepts

- Identify, plan and justify transference of knowledge to new contexts

Apply logic and reasoning

- Analyse reasoning used in finding and applying solutions, and in choice of resources



4. Consolidate this information into a Learning Objective and Success Criteria for the unit of study

Students are learning to use trigonometry to calculate unknown angles in right-angled triangles

They will be successful when they can:

- Find unknown angles using trigonometry ratios
- Calculate angles of elevation and depression
- Calculate unknown lengths
- Solve numerical problems
- Find an unknown amount

In addition, teachers may wish to articulate what students need to know, be able to do and think about in order to be successful in the assessment task and associated achievement standard.

This process draws alignment between the achievement standard, curriculum elements and the context of achievement to explicitly identifying the aspects required for success. It demonstrates the connection between curriculum input and output expectations.

The following Unit Analysis table for this unit of study has been extended to reflect the provision of substantial (alternate access point) and extensive (individual learning goals) curriculum adjustments to meet the needs of identified students in the class. The concepts and content from Year 10 math have been aligned with that of Year 5 math and with individual learning goals derived from Level 1 of the general capabilities. This process maintains age-equivalent learning experiences and context, and instead provides adjustment to the complexity of that knowledge and skill by drawing on the demands of the Year 5 equivalent, and associated individualised goals from the literacy and numeracy general capabilities.

Unit Analysis Table

Unit Analysis			Curriculum Adjustments	
Know	Do	Think	Substantial (Year 5 Access Point)	Extensive (Individual Learning Goals)
Trigonometry ratios – Sine, Cosine, Tangent	Find unknown angles using trigonometry ratios	What trigonometry ratio do I need to apply to find the unknown angle?	Identify and explain strategies for finding unknown angle quantities in triangles Use addition and subtraction to find unknown angle quantities	Respond to questions about angles Sequence angles from smallest to largest
Angles of elevation and depression	Calculate angles of elevation and depression	Which angle is showing elevation? Which is showing depression?	Measure and construct angles of elevation and depression using a protractor	Sort and match objects according to their features
Read and interpret diagrams (triangles) - Hypotenuse - Opposite - Adjacent	Calculate unknown lengths	What side of the triangle is the hypotenuse, opposite and adjacent? What lengths are known and unknown?	Calculate length, perimeter, and area	Comment on triangles and ask questions about their properties Use informal language and/or actions to describe characteristics of length

5. Consider the literacy demands and proactively plan how these will be taught and adjusted:

Literacy Demand	Support/Adjustment
Read and comprehend questions	Reader Text to speech Clarify understanding Comprehension scaffolds Visuals Prompts and guides
Tier 2 vocabulary	Explicitly teach and review key words Provide visual prompts and student friendly definitions
Write answers	Modelled responses Sentence starters Scribe Speech to text Voice/video record verbal responses
Interpret diagrams and numerical representations	Concrete representations Multimodal models Interactive representations Demonstrations Check for understanding

Note: the general capabilities literacy continuum can be utilised to inform supports and adjustments to the literacy demands

6. Consider the summative assessment conventions (technique, type of text, mode and conditions) and the provision of access adjustments:

The current summative assessment for this example unit of study is an exam which is to be completed on paper in one sitting. The curriculum and associated achievement standard do not dictate the ways in which students are required to demonstrate their learning. Assessment conditions are therefore school based decisions and can be redesigned to allow them to be more accessible and equitable.

Things to consider:

- Ensure instructional language is clear
- Provide extra time and/or chunk into sections across days
- Consider the text size and font
- Consider clarity and size of graphics
- Format layout so that graphics and their associated questions are on the same page
- Adjust the complexity of the oral and written instructional language
- Provide the identified supports and adjustments for literacy demands
- Consider if alternate ways of capturing what students know and can do would be more effective/appropriate (universal design)
- Consider if choice in how a student demonstrates their learning can be incorporated
- Consider multimodal representation and demonstration

7. Consider any additional adjustments for individual students:

The student accessing substantial curriculum adjustments will require an assessment task that reflects the knowledge and skills identified at the Year 5 access point. This will require the question complexity of the summative assessment and the associated marking guide to be adjusted.

The student accessing individual learning goals may need to demonstrate their learning in an individualised way – such as collecting evidence throughout the unit of study. The evidence collected may include photographs, videos, observations, and annotated work samples. This student may also require personalised literacy and communication adjustments which would need to be considered for the summative assessment, and in the teaching and learning process.

It is recommended that multidisciplinary collaboration occurs in relation to curriculum instruction for both students.

A webinar unpacking this unit of study was delivered as part of the Inclusive School Communities Project facilitated by JFA Purple Orange in South Australia. A recording of the webinar can be found here:

<https://inclusiveschoolcommunities.org.au/resources/webinars/curriculum-adjustments-practical>