

Area of Learning: Mathematics		Workplace Mathematics 10	
Big Ideas		Elaborations	
<ul style="list-style-type: none"> • Proportional comparisons can be used to describe and compare measurements. 		<ul style="list-style-type: none"> • Proportional comparisons: <ul style="list-style-type: none"> ○ Geometry and Measurement: Proportional reasoning is used to make sense of multiplicative relationships. 	
<ul style="list-style-type: none"> • Understanding operations helps when working with formulae and unit conversions. 		<ul style="list-style-type: none"> • operations: <ul style="list-style-type: none"> ○ Computational Fluency: Development of computational fluency requires a strong sense of number. 	
<ul style="list-style-type: none"> • Many relationships can be modelled and interpreted using graphs. 		<ul style="list-style-type: none"> • relationships: <ul style="list-style-type: none"> ○ Patterning: Patterns are used to identify regularities and form generalizations. 	
<ul style="list-style-type: none"> • Numeracy can be developed through experiential learning. 			
<ul style="list-style-type: none"> • Analyzing simulations and data allows us to notice trends and relationships. 		<ul style="list-style-type: none"> • data: <ul style="list-style-type: none"> ○ Data and Probability: Stories can be told using mathematical evidence and reasoning. 	
Curricular Competencies	Elaborations	Content	Elaborations
<p><i>Students are expected to do the following:</i></p> <p>Reasoning, analyzing, and modelling</p> <ul style="list-style-type: none"> • Use reasoning and logic to analyze and apply mathematical ideas • Estimate reasonably • Demonstrate fluent and flexible thinking of number • Use technology and other tools to analyze relationships and test conjectures • Model mathematics in contextualized experiences <p>Understanding and solving</p>	<ul style="list-style-type: none"> • reasoning and logic: <ul style="list-style-type: none"> ○ inductive and deductive reasoning ○ predicting, generalizing, drawing conclusions through experiences including puzzles, games, and coding • Estimate: <ul style="list-style-type: none"> ○ being able to defend the reasonableness of an estimate across mathematical contexts • fluent and flexible thinking: <ul style="list-style-type: none"> ○ includes using known 	<p><i>Students are expected to know the following:</i></p> <ul style="list-style-type: none"> • create, interpret, and critique graphs • primary trigonometric ratios • metric and imperial measurement and conversions • solving problems involving surface area and volume • angles • central tendency • experimental probability • financial literacy: gross and net pay 	<ul style="list-style-type: none"> • graphs: <ul style="list-style-type: none"> ○ including a variety of formats, such as line, bar, and circle graphs, as well as histograms, pictographs, and infographics • primary trigonometric ratios: <ul style="list-style-type: none"> ○ single right angle triangles; sine, cosine, and tangent • conversions: <ul style="list-style-type: none"> ○ with a focus on length, mass, capacity, and as a

<ul style="list-style-type: none"> • Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving • Visualize to explore and illustrate mathematical concepts and relationships • Apply flexible strategies to solve problems in both abstract and contextualized situations • Engage in problem-solving experiences that are connected to place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures <p>Communicating and representing</p> <ul style="list-style-type: none"> • Communicate mathematical thinking in many ways • Use mathematical vocabulary and language to contribute to mathematical discussions • Represent mathematical ideas in a variety of ways • Explain and justify mathematical ideas <p>Connecting and reflecting</p> <ul style="list-style-type: none"> • Reflect on mathematical thinking • Use mathematics to support personal choices • Connect mathematical concepts to each other and to other areas and personal interests • Incorporate First Peoples 	<p>facts and benchmarks; partitioning; applying whole number strategies to rational numbers and algebraic expressions</p> <ul style="list-style-type: none"> • Model: <ul style="list-style-type: none"> ○ using concrete materials and dynamic interactive technology ○ representing a situation graphically and/or symbolically • Visualize: <ul style="list-style-type: none"> ○ includes dynamic visualizations such as graphical relationships, simulations • flexible strategies: <ul style="list-style-type: none"> ○ from a repertoire of strategies, choosing an appropriate strategy to solve problems (e.g., guess and check, model, solve a simpler problem, use a chart, use diagrams, role-play) • experiences: <ul style="list-style-type: none"> ○ includes context, strategies and approaches, language across cultures • many ways: <ul style="list-style-type: none"> ○ including oral, written, visual, use of technology • discussions: <ul style="list-style-type: none"> ○ developing a mathematical community 		<p>means to increase computational fluency</p> <ul style="list-style-type: none"> • surface area and volume: <ul style="list-style-type: none"> ○ including prisms, pyramids, cones, spheres, cylinders, formulae manipulation • angles: <ul style="list-style-type: none"> ○ relationships with respect to parallel lines and transversals • central tendency: <ul style="list-style-type: none"> ○ analysis of measures and discussion of outliers • experimental probability: <ul style="list-style-type: none"> ○ simulations through play and creating games, connecting to theoretical probability where possible • financial literacy: <ul style="list-style-type: none"> ○ types of income; income tax and other deductions
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<p>worldviews and perspectives to make connections to mathematical concepts</p>	<p>in the classroom through discourse — partner talks, small-group discussions, teacher-student conferences</p> <ul style="list-style-type: none"> • Represent: <ul style="list-style-type: none"> ○ concretely, pictorially, symbolically, including using models, tables, graphs, words, numbers, symbols • Reflect: <ul style="list-style-type: none"> ○ sharing the mathematical thinking of self and others, including evaluating strategies and solutions, extending, posing new problems and questions • other areas and personal interests: <ul style="list-style-type: none"> ○ to develop a sense of how mathematics helps us understand ourselves and the world around us (e.g., daily activities, local and traditional practices, the environment, popular media and news events, social justice, cross-curricular integration) • Incorporate: <ul style="list-style-type: none"> ○ Collaborate with local First Peoples Elders and knowledge keepers. • make connections: 		
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