

## Pacing Guide - Mathematics at Work 11

Every September, teachers work hard to create a space that is safe and welcoming for all learners. The first weeks are a time to establish a sense of community, engage learners in rich interactive experiences to promote critical thinking and create opportunities for collaboration and discussion. This is an opportune time to develop a culture and a climate for mathematics learning, conducive to collaboration, risk taking and inquiry.

The following is a pacing guide for Mathematics at Work 10, which provides an overview of the units. It is a reference tool to support teachers with the timing of yearlong learning. Teachers are encouraged to use their professional judgment and consider the needs of their students when planning for instruction. **For the purposes of planning your mathematics lessons, refer to the [Mathematics at Work 11 curriculum document](#) and the [Mathematics at Work 11 Outcomes \(2022\)](#) that provide essential background information and describe learning opportunities and assessment tasks for each of the outcomes in the unit.**

**\*\*NOTE:**

**Approximately 15 hours were removed from this course. This time will allow teachers to be responsive to the needs of students and to spend more time on areas of concern.**

<b>Measurement:</b> Students will be expected to develop spatial sense through direct and indirect measurement.	(20-25 hours)
<b>Geometry:</b> Students will be expected to develop spatial sense.	(20-25 hours)
<b>Number:</b> Students will be expected to develop number sense and critical thinking skills.	(10 -15 hours)
<b>Algebra:</b> Students will be expected to develop algebraic reasoning.	(15-20 hours)
<b>Statistics:</b> Students will be expected to develop statistical reasoning.	(10-15 hours)

## Unit 1: Surface Area and Scale

**\*\*Note:** N01, G03, and G04 (approximately 10 hours) were removed.

**N01:** Students will be expected to analyze puzzles and games that involve numerical reasoning, using problem-solving strategies.

**G03** Students will be expected to model and draw 3-D objects and their views.

**G04** Students will be expected to draw and describe exploded views, component parts and scale diagrams of simple 3-D objects.

Timeline	GCO/SCOs	Topic	Resources
September	<b>Measurement:</b> <b>M01</b> Students will be expected to solve problems that involve SI and imperial units in surface area measurements and verify the solutions.  <b>Algebra:</b> <b>A01</b> Students will be expected to solve problems that require the manipulation and application of formulas related to surface area.  <b>Geometry:</b> <b>G02</b> Students will be expected to solve problems that involve scale.	Develop a culture and climate for mathematics Course outline/formalizing norms etc.	
		Nets and surface area of 3-D objects	<b>Curriculum document:</b> M01 <b>Student Text:</b> Section 1.1
		Estimating surface area	<b>Curriculum document:</b> M01 <b>Student Text:</b> Section 1.2
		Using formulas for surface area of 3-D objects	<b>Curriculum document:</b> M01, A01 <b>Student Text:</b> Section 1.3
		Surface area of cones and spheres	<b>Curriculum document:</b> M01, A01 <b>Student Text:</b> Section 1.4
		Chapter project	<b>Curriculum document:</b> M01 <b>Student Text:</b> p54
		Working With Scale	<b>Curriculum document:</b> G02 <b>Student Text:</b> Section 2.1
		Reinforcement, consolidation and assessment	<b>Student Text:</b> pp 50 – 53
		<b>Approx. 14 hours</b>	

## Unit 2: Volume and Capacity

**\*\*Note:** N01 (approximately 1 hour) was removed.

**N01:** Students will be expected to analyze puzzles and games that involve numerical reasoning, using problem-solving strategies.

Timeline	GCO/SCOs	Topic	Resources
October	<b>Measurement:</b>  <b>M02</b> Students will be expected to solve problems that involve SI and imperial units in volume and capacity measurements.  <b>Algebra:</b>  <b>A01</b> Students will be expected to solve problems that require the manipulation and application of formulas related to volume and capacity.	Volume	<b>Curriculum document:</b> : M02 <b>Student Text:</b> Section 3.1
		Volume and capacity	<b>Curriculum document:</b> : M02 <b>Student Text:</b> Section 3.2
		Using formulas for volume and capacity	<b>Curriculum document:</b> : M02, A01 <b>Student Text:</b> Section 3.3
		Volume and capacity of spheres	<b>Curriculum document:</b> : M02, A01 <b>Student Text:</b> Section 3.4
		Chapter project	<b>Curriculum document:</b> : M02 <b>Student Text:</b> p 148
		Reinforcement, consolidation and assessment	<b>Student Text:</b> pp 96 – 99
		<b>Approx. 15 hours</b>	
		<b>Cumulative Review and Assessment (approx. 4 hours)</b>	

### Unit 3: Statistics

**\*\*Note:** N01 (approximately 1 hour) was removed.

**N01:** Students will be expected to analyze puzzles and games that involve numerical reasoning, using problem-solving strategies.

Timeline	GCO/SCOs	Topic	Resources
November	<b>Statistics:</b>  <b>S01</b> Students will be expected to solve problems that involve creating and interpreting graphs, including bar graphs, histograms, line graphs, and circle graphs.	Choosing a Graph	<b>Curriculum document:</b> S01 <b>Student Text:</b> Section 4.1
		Interpolating and Extrapolating Values	<b>Curriculum document:</b> S01 <b>Student Text:</b> Section 4.2
		Graphical Representations	<b>Curriculum document:</b> S01 <b>Student Text:</b> Section 4.3
		Chapter Project	<b>Curriculum document:</b> S01 <b>Student Text:</b> p 200
		Reinforcement, consolidation and assessment	<b>Student Text:</b> pp 196 - 199
		<b>Approx. 12 hours</b>	

## Unit 4: Banking and Budgeting

**\*\*Note:** N01 (approximately 1 hour) was removed.

**N01:** Students will be expected to analyze puzzles and games that involve numerical reasoning, using problem-solving strategies.

Timeline	GCO/SCOs	Topic	Resources
November	<b>Number:</b> <b>N02</b> Students will be expected to solve problems that involve personal budgets. <b>N03</b> Students will be expected to demonstrate an understanding of compound interest. <b>N04</b> Students will be expected to demonstrate an understanding of financial institution services used to access and manage finances. <b>N05</b> Students will be expected to demonstrate an understanding of credit options, including credit cards and loans.	Accounts	<b>Curriculum document:</b> : RF01 <b>Student Text:</b> Section 5.1
		Budgets	<b>Curriculum document:</b> : RF01 <b>Student Text:</b> Section 5.2
		Simple and compound interest	<b>Curriculum document:</b> : RF01 <b>Student Text:</b> Section 5.3
		Investing and borrowing	<b>Curriculum document:</b> : RF01 <b>Student Text:</b> Section 5.4
		Chapter project	<b>Curriculum document:</b> : RF01 <b>Student Text:</b> p 256
		Reinforcement, consolidation and assessment	<b>Student Text:</b> pp p252 - 255
	<b>Algebra:</b> <b>A01</b> Students will be expected to solve problems that require the manipulation and application of formulas related to simple interest finance charges.	<b>Approx. 15 hours</b>	

## Unit 5: Slope

**\*\*Note:** N01 (approximately 1 hour) was removed.

**N01:** Students will be expected to analyze puzzles and games that involve numerical reasoning, using problem-solving strategies.

Timeline	GCO/SCOs	Topic	Resources
December	<b>Algebra:</b> <b>A01</b> Students will be expected to solve problems that require the manipulation and application of formulas related to slope and rate of change.  <b>A02</b> Students will be expected to demonstrate an understanding of slope <ul style="list-style-type: none"> <li>as rise over run</li> <li>as rate of change</li> <li>by solving problems</li> </ul> <b>A03</b> Students will be expected to solve problems by applying proportional reasoning and unit analysis.	What is slope?	<b>Curriculum document:</b> A01, A02 <b>Student Text:</b> Sections 6.1
		Relationship between slope and angle of elevation	<b>Curriculum document:</b> A01, A02 <b>Student Text:</b> Section 6.2
		Slope as rate of change	<b>Curriculum document:</b> A01, A02, A03 <b>Student Text:</b> Section 6.3
		Chapter project	<b>Curriculum document:</b> A02, A03 <b>Student Text:</b> p 302
		Reinforcement, consolidation and assessment	<b>Student Text:</b> pp 298 - 300
		<b>Approx. 13 hours</b>	

## Unit 6: Right Angles and Trigonometry

**\*\*Note:** N01 (approximately 1 hour) was removed.

**N01:** Students will be expected to analyze puzzles and games that involve numerical reasoning, using problem-solving strategies.

Timeline	GCO/SCOs	Topic	Resources
January	<b>Geometry:</b> <b>G01</b> Students will be expected to solve problems that involve two and three right triangles.	Right triangles	<b>Curriculum document:</b> G01 <b>Student Text:</b> Sections 7.1
		Angles of elevation and depression	<b>Curriculum document:</b> G01 <b>Student Text:</b> Section 7.2
		Multiple right triangles	<b>Curriculum document:</b> G01 <b>Student Text:</b> Section 7.3
		Chapter project	<b>Curriculum document:</b> G01 <b>Student Text:</b> p 358
		Reinforcement, consolidation and assessment	<b>Student Text:</b> pp 354-357
		<b><i>Approx. 13 hours</i></b>	