



Student Evidence of Learning Portfolios in a Virtual Learning Environment

**Extra Resources
Materials**





The primary purpose of assessment and evaluation is to improve student learning.





Key Ideas to Remember for Portfolios

- Evidence should reflect learning over time, not just a one off of only the best work
- Encourage documentation of making mistakes and reflecting upon on them to show growth to develop mastery
- Students can continue to include documentation of all learning until the grade/course is completed
- Encourage student to document conversations, observations, and products
- Provide feedback to students along the way (add comments in the slide deck)
 - This reminds me of the _____ problem we solved the other day
 - Take a look at _____ 's strategy/work/anchor chart
 - This would be a key idea to include in your meaningful notes!



Master Portfolio Templates

“I can...”s Grade 9-12

Portfolio Templates and “ I can...” statements for grades can be found linked in the title above

Please feel free to use them with your students and to adjust them to meet your needs.



“I can ...” statements

Grade 8 Curriculum ... "I can..." statements					
Number Sense and Numeration	Measurement	Geometry and Spatial Sense	Patterns and Algebra	Data Management and Probability	
Quantile Relationships	Attributes, Units and Measurement Scales	Geometric Properties	Patterns and Relationships	Collection and Organization of Data	
Operational Sense	Measurement Relationships	Geometric Relationships	Variables, Expressions and Equations	Data Relationships	
Proportional Relationships		Location and Movement		Probability	
Evidence of Learning					
Expectation	I can...	Proble Development (not problem solving) 12	Connections (step) 13	Connections (link) 14	Stand Alone 15
Number Sense and Numeration A1 represent, compare and order equivalent representations of numbers, including those involving positive exponents A2 solve problems involving whole numbers, decimal numbers, fractions and integers, using a variety of computational strategies A3 solve problems by using proportional reasoning in a variety of meaningful contexts					
Quality Relationships By the end of Grade 8:					
A1	I can express repeated multiplication using exponential notation	$2 \times 2 \times 2 = 2^3$	$3 \times 3 \times 3 \times 3 = 3^4$	5×5^2	$2 \times 2 \times 2 \times 4 \times 4 = 2^7 \times 4^2$

"I can ..." statements are the curriculum expectations **deconstructed** into the **knowledge** and **skills** embedded within the curriculum.

We have created these for you already for [Grade 7](#) and [Grade 8](#) with the NEW elementary curriculum and all [Secondary Math Courses](#).



Secondary “I can ...” Statements

Grade 9		
<u>Gr 9 -Applied</u>		<u>Gr 9 -Academic</u>
Grade 10		
<u>Gr 10 -Applied</u>		<u>Gr 10 -Academic</u>
Grade 11		
<u>MBF3C</u>		<u>MCF3M</u>
<u>MCR3U</u>		<u>MEL3E</u>
Grade 12		
<u>MCV4U</u>	MHF4U	<u>MDM4U</u>
<u>MAP4C</u>	<u>MCT4C</u>	MEL4E

How do I use evidence portfolios for Assessment FOR learning?

- When providing feedback to students you can easily observe where they are and where they are going.
- Encouraging further conversations with students to *“Tell me more about...”*
- Identifying their strengths and stuck points
- This can help to drive your instruction, by supporting small group instruction or concepts that you may need to re-address
- Students are able to demonstrate their learning over time.



	Where the learner is going	Where the learner is now	What the learner needs to get there
Teacher	Identifying and clarifying learning goals and success criteria	Engineering effective classroom discussions and other learning tasks that elicit information about student learning	<ul style="list-style-type: none"> • Providing descriptive feedback that moves learners forward (i.e., outlining what was done well, what needs improvement, and how to improve) • Engaging students as learning resources for one another • Empowering students to become owners of their own learning
Peer	Understanding and sharing learning goals and success criteria	Engaging in peer assessment and feedback	
Learner	Understanding learning goals and success criteria	Engaging in self-assessment and goal setting	

Source: Adapted from Black & Wiliam, p. 8.



HOW TO GATHER EVIDENCE

You would will notice that the tracking tool has 4 sections, because we know, not all tasks or questions have the same level of complexity. Consideration is given to being able to demonstrate the knows and do (or knowledges and skills) with varying degrees of difficulty and/or complexity.

Beginning	Developing	Refining	Mastery
Scaffolding to be successful	Basic version of knowledge or skill being asked	Curriculum expectation example	Combination of skills and concepts required to solve the questions (<i>not to exceed grade expectations</i>)

Example - Grade 8

"I can..."	Beginning	Developing	Refining	Mastery
<i>I can use unit rates to make comparisons</i>	<p>100 cars pass by in 2 hours.</p> <p>How many in 4 hours ? How many go by in 1 hour ?</p>	<p>Compare the strawberry punch in each pair of pitchers. Which has the stronger strawberry taste? Explain</p> 	<p>Which is the better deal ?</p> <p>500ml of juice for \$2.29 or 750ml of juice for \$3.59 ?</p>	<p>A portable music player with 4GB of memory stores 1000 songs. A music player with 60GB of memory stores about 15000 songs. Is the number of songs proportional to the amount of money ? Explain your reasoning.</p>

Check your Understanding Sample



Date: _____

Name: _____

Geometry – Triangles Check Up

Measurement 2.2 Determine the Area of 2-dimensional shapes + Knowledge

Standard

A regular hexagon has an apothem of 11.25cm and a side length of 13 cm. What is its area?

Advanced

Regular octagon has a height 22.50cm and a side length of 13cm. What is its area?

Expert

A 16-gon has a side length of 13cm and an area of 1170cm^2 . What is the length of this shapes apothem?

Measurement 2.1 Solve Problems that Require Conversion Involving Metric Units of Distance and Area + Knowledge

For your responses in the first question, what is the shapes area in....

Standard: Millimeters Square

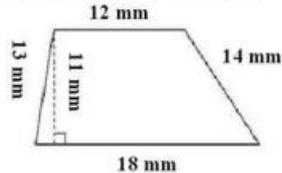
Advanced: Meters Square

Expert: Kilometers Square (rep. in SN)

Measurement 2.3 (7) Determine the Area of a Trapezoid + Knowledge

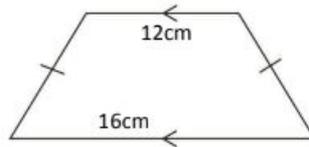
Standard

What is the area of this shape?



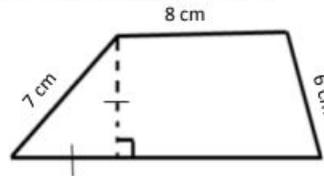
Advanced

The area of this trapezoid is 112cm^2 . What is the height of this shape?



Expert

What is the area of this shape?



Teacher chose to name categories of complexity differently, but same idea.

Students would choose the questions in which they would like to try, based on where they are and where they are going.

They are always welcome to try however may they want to solve.



Polynomial Self-Assessment

Success Criteria:	I don't understand it	I sort of understand it	I really understand it
☺ I can identify like terms	→		
☺ I can add and subtract like terms	→		
☺ I can add and subtract terms up to degree three	→		
☺ I can multiply by	→		
☺ I can make the connection between by and area (units ²)	→		
☺ I can multiply by by (units ³)	→		
☺ I can make the connection between by by and volume (units cubed)	→		
☺ I can multiply a single term by a polynomial (many terms) – distributive property	→		
☺ I can substitute into algebraic expressions and solve for the unknown	→		

Example of using the “I can ...” statements for a self-assessment on an assignment before it was handed in for feedback.

Students would notate where they felt they fell on the scale of understanding



How do I use evidence portfolios for Assessment OF learning?

- Evaluating based on data not points
 - Categorizing evidence as Beginning (Scaffolded support), Developing, Refining, Mastery
 - Learning by the end of the course....Not penalized for early not knowing
- Able to differentiate - Not having the same evidence for all students, only ask for further information about what you need, able to demonstrate learning in their own way
- Providing a starting point for an summative interview
- Transparent, reliable, and valid assessment



Grade 7 - Spatial Sense (Circles)		Evidence of Learning			
I can statements...		Beginning	Developing	Refining	Mastery
E2.3	I can use the relationships between the radius, diameter, and circumference of a circle to explain the formula for finding circumference			<u>1</u>	
E2.3	I can use the relationships between the radius, diameter, and circumference of a circle to solve related problems			<u>2</u>	
E2.4	I can construct circles with a given radius, diameter, or circumference		<u>3</u>	<u>4</u>	
E2.5	I can show the relationships between the radius, diameter, and area of a circle, and use these relationships to explain the formula for measuring the area of a circle			<u>5</u>	<u>6</u>
E2.5	I can apply the relationships between the radius, diameter, and area of a circle, and use these relationships to solve related problems				<u>7</u> , <u>8</u>

Sample Tracking tool for the Grade 7 Portfolio Example. Note the placements of the pieces of evidence in term of level of complexity.

	Grade 8 Patterns and Algebra	Evidence of Learning			
Expectation	I can...	Beginning	Developing	Refining	Mastery
C1.1	I can identify and compare a variety of repeating, growing, and shrinking patterns, including patterns found in real-life contexts		Journal Entry		Proof Card
C1.1	I can compare linear growing and shrinking patterns on the basis of their constant rates and initial values				
C1.2	I can create and translate repeating and shrinking patterns involving ratios using various representations			Picture This	
C1.2	I can create and translate repeating and shrinking patterns involving ratios using algebraic expressions				Annotated Notes
C1.3	I can determine pattern rules			I used to...but now I think	
C1.3	I can use pattern rules to extend patterns, make and justify predictions, and identify missing elements in growing and shrinking patterns involving rational numbers				
C1.3	I can use algebraic representations of the pattern rules to solve for unknown values in linear growing and shrinking patterns		Picture This		
C1.4	I can create and describe patterns to illustrate relationships among rational numbers				Proof card

Sample Tracking tool for the Grade 8 Portfolio Example. Note the placements of the pieces of evidence in term of level of complexity.

Overall	Specific Expectation "I can..."	Passive Development (not producing)	Active Learning (producing)			Po
			Wt	Beginning (support)	Developing Demonstrate (Easy)	
Number Sense and Algebra: Proportional Reasoning						
By the end of the course: A1: Solve problems involving proportional reasoning						
A1	I can explain/identify equivalent ratios	1			✓✓	•
A1	I can create an equivalent ratio	1	✓	✓✓✓	X	
A1	I can explain/identify a proportion	1		✓ _c	X ✓ _c	
A1	I can solve an equivalent proportions (between / within / cross multiplication)	2	✓	X✓✓✓✓ _c	X✓•✓ _c	•
A1	I can solve problems involving rates and unit rates	2			• _s	•
A1	I can use unit rates to determine the best value	2		✓	✓✓	✓
A1	I can create a ratio statement based on a given scenario	1	✓ _c		✓	
A1	I can solve problems involving ratios / proportions	2		✓ _c	✓ _c ✓ _c	
A1	I can convert between ratios, fractions and percents	1	✓ _G ✓ _c	• • ✓		
A1	I can solve problems requiring the expression of percents, fractions, & decimals	2	•	✓ _G ✓✓✓	✓✓	•
Communication (sliding scale)						
X - demonstrated limited understanding		□ - demonstrated some understanding		✓P - demonstrated understanding with product		
✓G - demonstrated in group work		✓C - demonstrated in conversation				

Here you can see the teacher's tracking of the students evidence of learning over time. Whether it be from in class with a conversation or observation or a product from a check your understanding quiz.

You can see that each "I can.." may have a different amount of evidence demonstrated. If the student has yet to demonstrate mastery you can clearly observe what "I can..." you would ask for more evidence of. If the student has demonstrated mastery (and can do so over time), no need to gather further evidence of something that you know they can already do.

The amount of evidence from each student may also vary, as students learn at different paces and some may require more opportunities to demonstrate their learning than others.

ⓐ I can solve problems requiring the expression of percents, fractions, and decimals

ⓑ I can use unit rates and percentages to determine the best value

Proportional Reasoning Unit Assessment Grid *Teacher Use*

Expectation	Developing	Refining	Mastery
Setup a proportional/equivalent ratio given a scenario and solve for the unknown value	1, 2, 15 ✓✓✓●	3, 6*, 7*, 14 ✓✓✓✓	12, 16 ✓✓✗
Determine units rates with appropriate units and makes comparisons	4, 5 ✓✓	6*, 7*, 13 ✓✓✓	8, 17 ✗✓
Solve problems that arise from percents	9 ✓	10 ✓	11, 18 ✓✓
Communication			

✗ Answered incorrectly

✓ Answer correctly

● Showed correct technique with minor error

Here you can see that the teacher has organized the test questions into 3 categories and records the students achievement with a ✓ ● or an ✗.

This achievement would then be recorded by the teacher the individual students' tracking page, instead of traditionally a mark in a grad book. This demonstrate clearly, what the student knows and what they need to work on.



Sample of Teacher's Experience



A teacher from our school board shares her story of going “gradeless” with her students.



High Impact Instructional Practices in Mathematics

This resource focuses on practices that researchers have consistently shown to have a high impact on teaching and learning mathematics;

- **Learning Goals, Success Criteria, and Descriptive Feedback**
- Direct Instruction
- Problem-Solving Tasks and Experiences
- Teaching about Problem Solving
- Tools and Representations
- Math Conversations
- Small-Group Instruction
- Deliberate Practice
- Flexible Groupings



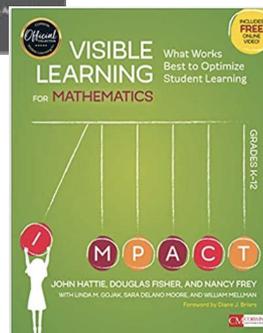
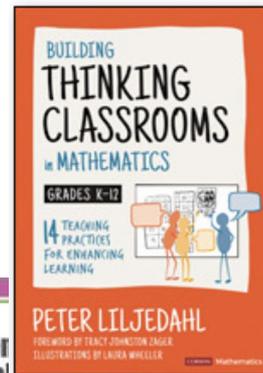
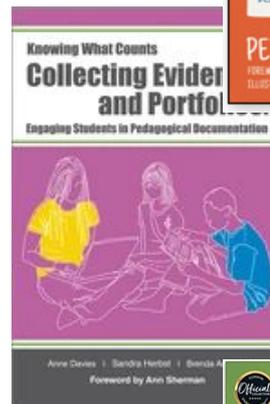
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Peter's initial Research paper can be found [here](#)

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