ASSESSMENT FOR LEARNING AND TEACHING TRACKING SHEET

Since *Quickcheck Math* was developed specifically for the Ontario Mathematics Curriculum, its uses should be guided by the Ontario Mathematics Curriculum documents, The Kindergarten Program or The Full-Day Early Learning-Kindergarten Program and the Guides to Effective Instruction in Mathematics produced by the Ontario Ministry of Education. Each of the five *Quickcheck Math* books contains content that is developed around one Overall Expectation per strand from the Ontario Mathematics Curriculum. Ontario primary teachers have found a variety of effective ways to use *Quickcheck* Math within this context. Several are summarized here.

Linking Assessment...

"Assessment is an ongoing awareness of students' learning and their needs, rather than an occasional event in the program. Minute-by-minute observations of students, along with an understanding of how children learn, allow teachers to make valid decisions and judgments..."

— Ontario Ministry of Education (2006).
A Guide to Effective Instruction in Mathematics, Volume Four: Assessment and Home Connections, 3.

- Diagnostic Assessment: Go to the inside cover of the book. Select a group of activities for students to complete and conference with them about what they are doing. Use this information to support your instructional plan and to guide your next steps.
- Formative Assessment: *Quickcheck Math* activities are sequential and clustered. The answer key at the bottom of each activity provides immediate feedback to students and teachers about progress.
- Summative Assessment: It is important to plan your units of study with the end in mind. Pre-select a *Quickcheck Math* activity for the purpose of summative assessment prior to your unit of study. Design your own summative task using a selected page as the stimulus (no need to use the answer key at the bottom of the activity).

... to Instruction

"Teaching that is responsive to students' needs uses moment-by-moment assessment information to modify instruction as it is taking place."

— Ontario Ministry of Education (2006).
A Guide to Effective Instruction in Mathematics, Volume Four: Assessment and Home Connections, 12.

- Before/Getting Started: Based on the outcome of a previous lesson, select an activity that children can review to activate relevant prior knowledge for the new lesson.
- During/At Work: Use a selected series of activities for guided practice with a group of students who have the same instructional need.
- After/Practice and Consolidation: After completing one or more *Quickcheck Math* activity, students are asked to reflect on what they learned in their math journal. Select a series of activities for the purposes of further practice. This activity could be done at home or at school.

Quickcheck Math Tracking Sheets and Preamble concept inspired and developed by Maureen Baraniecki, Elementary Curriculum Coordinator, Hastings and Prince Edward District School Board.

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ASSESSMENT FOR LEARNING AND TEACHING TRACKING SHEET

Grade 3: Number Sense and Numeration

Circle: **D (Diagnostic Assessment), F (Formative Assessment)** or **S (Summative Assessment)** depending on use.
Levels of Achievement: **B**eginning, **P**rogressing, **S**ophisticated

OVERALL EXPECTATION:

**Read, represent, compare, and order whole numbers to 1000, and use concrete materials to represent fractions and money amounts to $10;
solve problems involving the addition and subtraction of single and multi-digit whole numbers, using a variety of strategies, and demonstrate an understanding of multiplication and division.**

	Represent, compose, and decompose numbers to 1000 **Activities 1-5**			Use a variety of tools and strategies to solve addition and subtraction problems of whole numbers **Activities 6-9**			Use a variety of tools and strategies to solve addition and subtraction problems involving money **Activities 10-11**			Represent multiplication in a variety of ways **Activities 12-15**			Represent division in a variety of ways **Activities 16-19**			Use a variety of tools and strategies to solve multiplication and division problems of whole numbers **Activities 20-24**			
Student Name	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**Next Steps**
																			IDEAS: ■ Review: Composing and decomposing two and three-digit numbers using base ten blocks. ■ Guided instruction: Model problem-solving strategies using open number lines. ■ Question to probe for deeper meaning: "What strategy did you use to solve the problem? Show me and tell me."

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ASSESSMENT FOR LEARNING AND TEACHING TRACKING SHEET

Grade 3: Measurement

Circle: **D (Diagnostic Assessment), F (Formative Assessment)** or **S (Summative Assessment)** depending on use.
Levels of Achievement: **B**eginning, **P**rogressing, **S**ophisticated

OVERALL EXPECTATION:

Estimate, measure, and record length, perimeter, area, mass, capacity, time, and temperature, using standard units; compare, describe, and order objects, using attributes measured in standard units.

	Measure, describe, and compare objects by length using standardized units **Activities 1-4**			Measure, describe, and compare perimeter using standardized units **Activities 5-6**			Measure, describe, and compare objects by area **Activities 7-12**			Compare and order objects by mass or capacity **Activities 13-16**			Measure and record temperature in degrees Celsius **Activities 17-19**			Identify the relationship between minutes and hours **Activities 20-22**			Identify the relationship between hours and days, days and weeks **Activities 23-24**			
Student Name	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**Next Steps**
																						IDEAS: ■ Further practice: Partners take turns showing elapsed times on analogue or digital clocks. ■ Strategy review: Review how to use the strategy of repeated addition or multiplication of arrays to measure a variety of areas. ■ Question to probe for deeper meaning: "What would you use to measure _____? Why?"

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ASSESSMENT FOR LEARNING AND TEACHING TRACKING SHEET

Grade 3: Geometry and Spatial Sense

QUICKCHECK MATH

Circle: **D (Diagnostic Assessment), F (Formative Assessment)** or **S (Summative Assessment)** depending on use.
Levels of Achievement: **B**eginning, **P**rogressing, **S**ophisticated

OVERALL EXPECTATION:

Compare two-dimensional shapes and three-dimensional figures and sort them by their geometric properties; describe relationships between two-dimensional shapes, and between two-dimensional shapes and three-dimensional figures; identify and describe the locations and movements of shapes and objects.

	Compare and sort two-dimensional shapes using geometric properties **Activities 1-5**			Describe congruence, compose and decompose two-dimensional shapes **Activities 6-9**			Compare and sort prisms and pyramids using geometric properties **Activities 10-13**			Relate two-dimensional shapes to three-dimensional figures; name prisms and pyramids **Activities 14-18**			Describe location and movement on a grid map **Activities 19-20**			Identify and describe symmetry **Activities 21-22**			Identify and describe translations, reflections, and rotations **Activities 23-24**			
Student Name	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**Next Steps**
																						IDEAS: ■ Review: Have students count and measure the interior angles of polygons. What polygon is it? ■ Guided instruction: Students measure right angles using a standard (i.e., the corner of a piece of paper). "Which angles are greater or less than a right angle? How do you know?" ■ Question to probe for deeper understanding: "How are a rectangular prism and a cube the same and how are they different? Explain."

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ASSESSMENT FOR LEARNING AND TEACHING TRACKING SHEET

Grade 3: Patterning and Algebra

Circle: **D (Diagnostic Assessment), F (Formative Assessment)** or **S (Summative Assessment)** depending on use.
Levels of Achievement: **B**eginning, **P**rogressing, **S**ophisticated

OVERALL EXPECTATION:

Describe, extend, and create a variety of numeric and geometric patterns; demonstrate an understanding of equality between pairs of expressions, using addition and subtraction of one and two-digit numbers.

	Extend or identify the missing terms in a repeating pattern involving two attributes **Activities 1-5**			Extend or identify the missing terms in growing and shrinking patterns **Activities 6-9**			Represent growing and shrinking patterns **Activities 10-15**			Extend or identify the missing terms in patterns that involve addition, subtraction, or multiplication **Activities 16-21**			Demonstrate an understanding of equality between pairs of expressions **Activities 22-24**			
Student Name	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**Next Steps**
																IDEAS ■ Practice: Have students create repeating patterns that involve two attributes. Encourage students to use a variety of attributes: colour, shape, size, orientation, and so on. ■ Challenge: Identify your own real-life pattern word problem. Describe it in two different ways so you know the kind of answers that you are looking for. Then, show your problem to a partner and ask the following questions: "What kind of pattern is this? Does the pattern use addition or subtraction? What is the pattern rule? Did you expect your partner's answer or did he or she come up with something new?" ■ More practice: The following questions give students the opportunity to use models in problems to determine the missing number in an addition or subtraction equation, using one and two-digit numbers. ■ Use base ten blocks and numbers to solve the following: 1. 66 + 27 = 60 + 20 + ☐ 2. 53 + 39 = 12 + ☐ + 50 3. ☐ + 60 + 40 = 64 + 47 4. 82 – 39 = ☐ + 30 5. ☐ + 41 = 95 – 25 6. Make up your own question and give it to a partner to solve using base ten blocks and numbers.

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Grade 3: Data Management and Probability

Circle: **D (Diagnostic Assessment), F (Formative Assessment)** or **S (Summative Assessment)** depending on use.
Levels of Achievement: **B**eginning, **P**rogressing, **S**ophisticated

OVERALL EXPECTATION:

Read, describe, and interpret primary data presented in charts and graphs, including vertical and horizontal bar graphs; predict and investigate the frequency of a specific outcome in a simple probability experiment.

	Sort and classify objects by two or more attributes simultaneously **Activities 1-4**			Organize data in tables and graphs **Activities 5-6**			Read and describe data in pictographs **Activities 7-8**			Organize, read, and describe data presented in charts, graphs, and line plots **Activities 9-15**			Interpret data presented in charts, tables, and graphs and describe the likelihood of events and outcome of simple games **Activities 16-20**			Understand and identify the mode of a set of data **Activities 21-24**			
Student Name	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**D**	**F**	**S**	**Next Steps**
																			IDEAS: ■ Guided instruction: Use activity 17 to teach about probable outcomes. Have students create their own bags of coloured rectangles and display the contents on a chart. What is the likelihood of picking a colour? Now have students try it. They pick a shape from the bag at least 15 different times. Which outcome occurred more? ■ Review mathematical language: Give students varied experiences to identify the mode of data organized in charts, tables, and bar graphs. ■ Question for deeper understanding: "What does the data tell us? Can you make a number sentence that compares one part of the data with another part?"

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