

# 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: **Beginning**, **Progressing**, **Sophisticated**



### 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
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Student Name	D	F	S	D	F	S	D	F	S	D	F	S	D	F	S	Next Steps
																<p><b>IDEAS</b></p> <p>■ <b>Practice:</b> Have students create repeating patterns that involve two attributes. Encourage students to use a variety of attributes: colour, shape, size, orientation, and so on.</p> <p>■ <b>Challenge:</b> 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?"</p> <p>■ <b>More practice:</b> 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.</p> <p>■ <b>Use base ten blocks and numbers to solve the following:</b></p> <ol style="list-style-type: none"> <li><math>66 + 27 = 60 + 20 + \square</math></li> <li><math>53 + 39 = 12 + \square + 50</math></li> <li><math>\square + 60 + 40 = 64 + 47</math></li> <li><math>82 - 39 = \square + 30</math></li> <li><math>\square + 41 = 95 - 25</math></li> <li>Make up your own question and give it to a partner to solve using base ten blocks and numbers.</li> </ol>

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.