

GAP CLOSING

Number Sense
Measurement
Algebra

**Intermediate / Senior
Facilitator Guide**

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INTRODUCTION

The *Gap Closing* package is designed to help Grade 9 teachers provide precisely targeted remediation for students who they identify as being significantly behind in mathematics.

The goal is to close gaps in Number Sense, Algebra, and Measurement so that the students can be successful in learning grade-appropriate mathematics. However, the materials may also be useful to Grades 7 and 8 teachers in providing alternative approaches they had not considered to some of the content or to Grade 10 applied math or Grade 11 or 12 teachers, particularly teachers of Mathematics for Workplace courses.

For each topic, there is a **diagnostic** and a set of **intervention materials** that teachers can use to help students be more successful in their learning.

The diagnostics are designed to uncover the typical problems students have with a specific topic. Each diagnostic should be used as instructional decisions are being made for the struggling student.

Each set of intervention materials includes a single-task Open Question approach and a multiple-question Think Sheet approach. These approaches both address the same learning goals, and represent different ways of engaging and interacting with students.

Suggestions are provided for how best to facilitate learning before, during, and after using your choice of approaches. This three-part structure consists of:

- Questions to ask before using the approach
- Using the approach
- Consolidating and reflecting on the approach

The style and content of the consolidating questions may be useful to teachers in their regular course preparation as well.

Getting Started

- Identify students who are underperforming in Number Sense, Algebra, and Measurement or in mathematics in general – students who are not where you think they should be.
- Select the Number, Algebra, and Measurement topics to focus on.
- Administer the diagnostic, allowing 20-40 minutes or as much additional time as seems reasonable for a particular student.
For students with accommodations, e.g., a scribe, supports should remain in place; they may require a longer time to complete the diagnostic.
- Refer to the Facilitator's Guide as you administer and mark the diagnostic.
- Use the chart, Evaluating Diagnostic, Results to identify which of the intervention materials aligns with the student's learning needs.
This is the stage where you personalize remediation based on the precisely identified area of concern. It may be appropriate to use more than one of the intervention materials with the student.
- Select either the **Open Question** or the **Think Sheet** approach:
The **Open Question** provides the student with a variety of possible responses and approaches.
The **Think Sheet** offers a more guided and structured approach.
Teachers should consider student preferences and readiness when deciding which of these two approaches to use.
- Use the suggestions for the three-part structure included for each topic to provide remediation.
Allow approximately 45 minutes to complete each topic, recognizing that time may vary for different students.

Considerations

Materials required for each intervention approach are indicated in the Facilitator's Guide. There are templates included in the student book should the concrete materials not be available.

Sample answers to questions are included to give teachers language that they might use in further discussions with students. These samples sometimes may be more sophisticated than the responses that students would give. Teachers should probe further with individual students in their questioning, as needed.

Some students might need more practice with the same topic than other students. Teachers should use their professional judgment when working with individual students to decide how much practice they need. For additional practice, teachers can create similar questions to those provided using alternate numbers.

Access the Gap Closing materials at www.edugains.ca