

Math

PRE-ASSESSMENT 2

Finding Each
Student's Pathway



**SAMPLE
MATERIAL
INSIDE**

FINDING EACH STUDENT'S PATHWAY

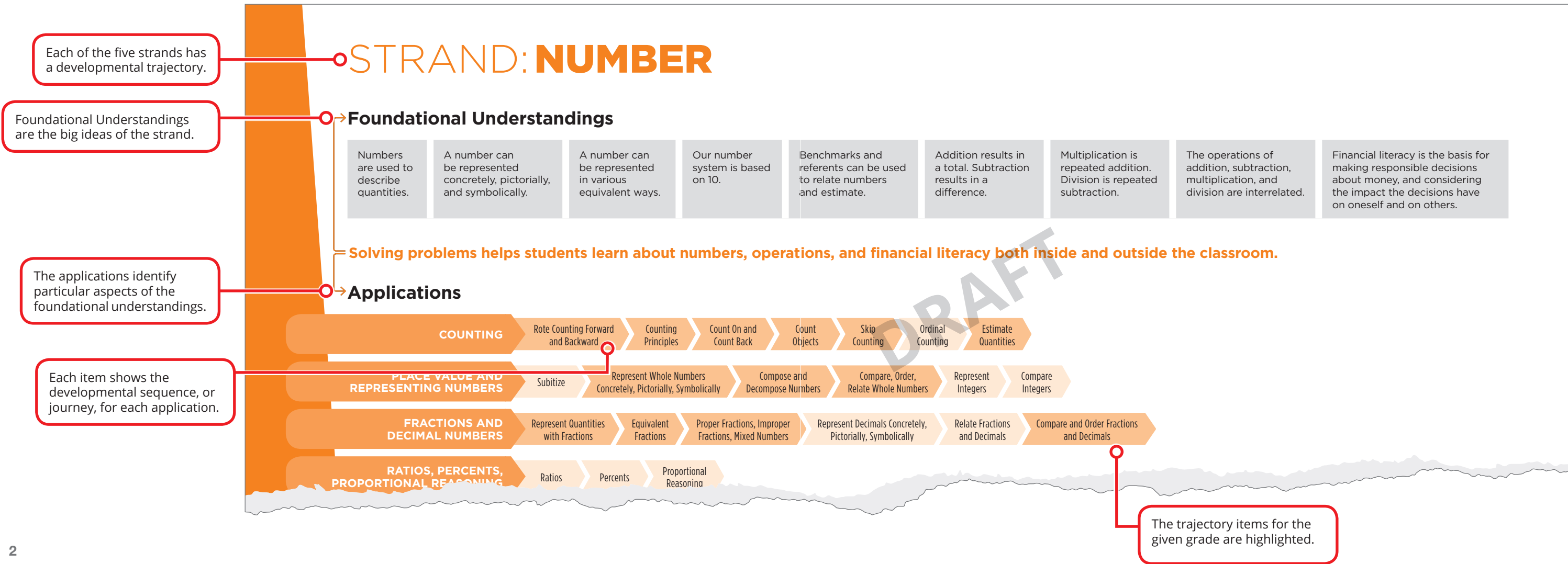
Math Pre-assessment is a uniquely designed resource to help educators understand and customize each student's math education. The resource is developed by a team of expert math educators and backed by research. *Math Pre-assessment* enables educators to compare a student's math understanding to their curriculum, identify gaps in understanding and ensure each student is ready for new curriculum material all with this easy to use assessment tool.

Each pre-assessment is created from a **DEVELOPMENTAL TRAJECTORY**. These developmental trajectories are research-supported pathways that students go through to understand mathematics concepts and skills as they move along a learning continuum.

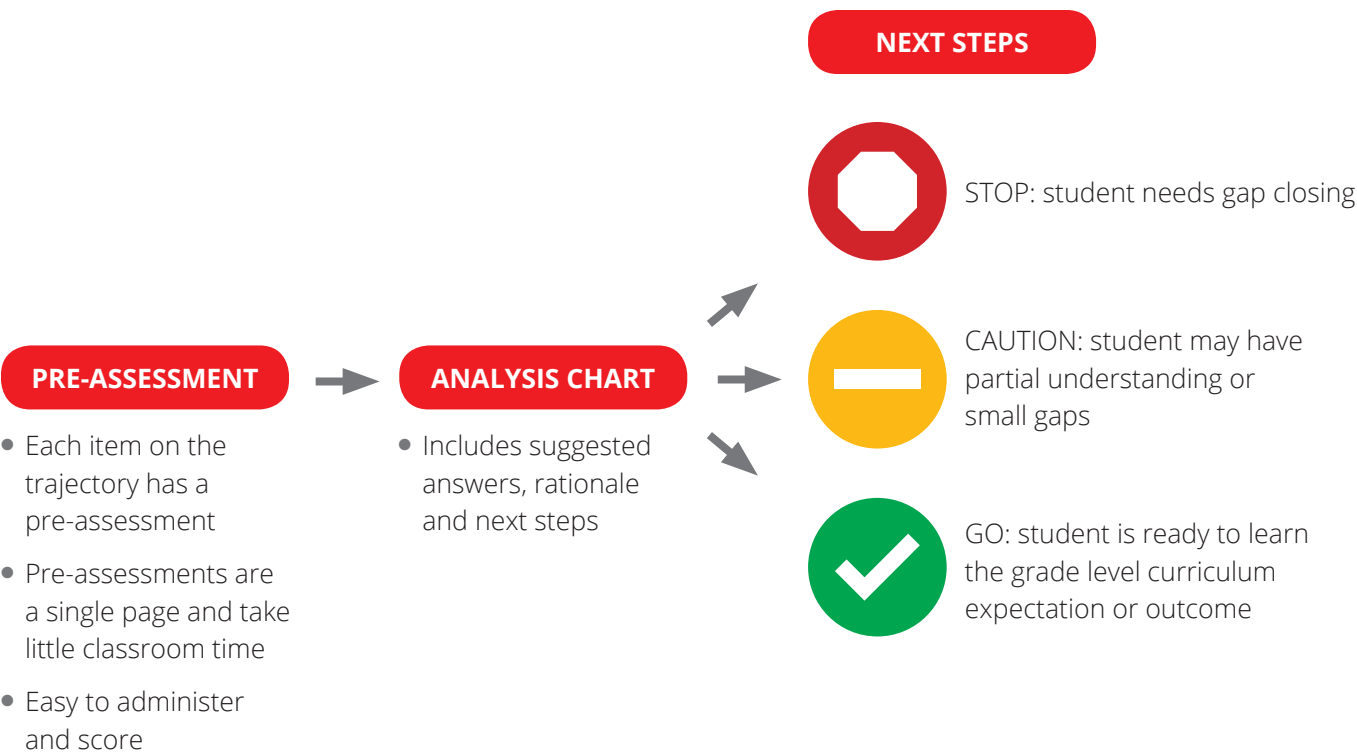
Key Features

- Provides the developmental trajectories to give a whole picture of math development from grade 1–6.
- Assesses whether students have the procedural knowledge and conceptual understandings for the grade specific curriculum.
- Pre-assessments identify where a student is on the developmental trajectory.
- Includes next steps for instruction, gap closing or intervention.
- Tracking tools are provided to keep a record of student readiness.

Developmental Trajectory



Answering The Question:
“Are My Students Ready?”



Resource Overview Grades 1–6
Developmental Trajectories For each of the 5 Strands
Math Pre-assessments For each item on the trajectory
Scoring Guide and Analysis Charts Provided for each pre-assessment
Online Teaching Centre Digital access

Initial question reaches back to prerequisite learning.

Assessment question focused on trajectory item.

In Teacher-led Pre-assessment, topics are broken down into sub-topics

Grade 2 provides 2 types of pre-assessments

- Teacher-led Pre-assessments
 - a sequence of activities or questions that can be stopped and started at various points
- Written Pre-assessments
 - designed for students to respond

Name

Date

More or Fewer?

1. Display a group of 7 counters and another group of 3 counters. Which group has more counters?

2. Display two 10-frames containing 8 counters and 5 counters. Which has fewer counters? How do you know?

3. Display a number line from 10 to 20 and number cards for 11, 14, and 18. Put the cards on the number line.

4. Print and show the number 50. Is 31 less than 50? What is another number less than 50?

5. Display 8 number cards showing numbers up to 100. Order the cards from the least number to the greatest number.

6. Print the numbers 68 and 66. Which is greater? How do you know?

7. Display models of 91 and 85, made from concrete materials such as base 10 blocks or linking cubes. Which shows a greater number? How do you know?

MATERIALS

- counters
- 10-frames

NOTES/OBSERVATIONS

numbers to 10

numbers to 20

numbers to 100

Name

Date

Addition Facts

1. How many dogs are there? _____
How many cats are there? _____
How many animals are there altogether? _____

2. Add.
 $2 + 3 =$ _____ $3 + 2 =$ _____ $7 + 8 =$ _____ $8 + 7 =$ _____
Choose 2 colours. Use the same colour to circle the answers that are the same.
Why are the answers the same?

3. Julie is 10 years old.
How old will she be in 1 year? _____
How old will she be in 2 years? _____

4. Add.
 $\begin{array}{r} 3 \\ + 14 \\ \hline \end{array}$ $\begin{array}{r} 7 \\ + 1 \\ \hline \end{array}$ $\begin{array}{r} 8 \\ + 9 \\ \hline \end{array}$ $\begin{array}{r} 13 \\ + 2 \\ \hline \end{array}$

5. Add.
 $5 + 0 =$ _____ $6 + 0 =$ _____ $17 + 0 =$ _____ $20 + 0 =$ _____
What happens when you add 0 to a number?

MATERIALS

- counters (optional)
- pencil crayons

Analysis Chart pages XX–XX

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NET

Initial question reaches back to prerequisite learning.

Assessment question focused on trajectory item.

ANALYSIS CHART

Identifies the Strand, the Application(s) and the item(s) for the application.

Look at: Identify possible items on the trajectory to close gaps.



Recommended intervention.

Contains the “Look Fors” and an explanation for why the question is included.

Student needs gap closing.

Sample answer provided.

More or Fewer?: Pre-assessment page xx

QUESTIONS	RATIONALE	SCORING	NEXT STEPS
1. Which group has more counters? Students indicate the group with 7 counters.	Students compare groups of counters to determine which has more. They might count each group and compare the numbers, match the counters 1 to 1, or subitize. Comparing small groups using various strategies prepares for comparing greater numbers.	incorrect	Look at: <ul style="list-style-type: none">counting principlescounting objectssubitizing Provide experience: <ul style="list-style-type: none">counting up to 10 objects using 1-to-1 correspondence  For deeper intervention, go to <i>Leaps and Bounds</i> 1/2, pages 50–51.
2. Which has fewer counters? Students indicate the group with 5 counters. How do you know? For example, This one has just the top row filled, so it has fewer than the other one, which has some counters in the second row.	Students compare the numbers of counters on two 10-frames. Developing relationships for anchors of 5 and 10 is important, since 10, which can also be represented as 2 fives, is the basis for our number system.	incorrect	Provide experience: <ul style="list-style-type: none">explaining to classmates how to relate numbers on a 10-frame to anchors of 5 and 10
3. Put the cards on the number line. 	Students place numbers on a number line that has benchmark numbers. Using benchmark numbers to compare and order numbers develops skills for comparing numbers and interpreting place value.	incorrect	Look at: <ul style="list-style-type: none">representing whole numbers concretely, pictorially, symbolically
4. Is 31 less than 50? Yes What is another number less than 50? For example, 45	Students determine whether a given number is less than 50 and then choose another number that is less than 50. Relating numbers to 50 develops an understanding of place value.	a) incorrect b) incorrect	Provide experience: <ul style="list-style-type: none">comparing numbers using a number line or 100 chart Provide experience: <ul style="list-style-type: none">writing a number less than 50 and others naming numbers that are less

QUESTIONS	RATIONALE	SCORING	NEXT STEPS
5. Order the cards from the least number to the greatest number. For example, 6, 12, 27, 34, 39, 48, 53, 81	Students order numbers with values up to 100. Ordering 2-digit numbers develops the strategy of focusing on the tens digit first and then, when the tens are the same, on the ones digit.	incorrect	Provide experience: <ul style="list-style-type: none">ordering numbers to 50, with tens and ones digits in 2 different coloursordering numbers represented by linking cubes or base 10 blocks
6. Which is greater? 68 How do you know? For example, Both numbers have 6 tens, so I looked at the ones digits. 8 ones is greater than 6 ones, so 68 is greater.	Students decompose numbers into tens and ones to compare numbers with the same tens digit. Comparing 2-digit numbers and explaining how to use place value for the comparison develops number sense and a deeper understanding of place value concepts and the magnitude of numbers.	incorrect inadequate explanation	Provide experience: <ul style="list-style-type: none">comparing 2 numbers at a time, with tens and ones digits in 2 different colours, first with tens that are different, and then with tens that are the same Provide experience: <ul style="list-style-type: none">ordering 2 numbers that have reversible digits, such as 68 and 86, and explaining about the digit that comes first
7. Which shows a greater number? 91 How do you know? For example, I know 9 tens plus 1 one equals 91, and 8 tens plus 5 ones equals 85. OR One model has 9 tens and the other model has 8 tens. There aren't enough ones to make more tens, so the model with 9 tens blocks is greater.	Students interpret base 10 block models to compare numbers using a strategy such as composing and decomposing numbers. Using the value of the blocks, as well as the number of blocks, demonstrates an understanding that tens blocks have a greater value than ones blocks.	incorrect inadequate explanation clear explanation	Provide experience: <ul style="list-style-type: none">building 2-digit numbers using base 10 blocksusing a variety of manipulatives (craft sticks, 10-frames, base 10 blocks) to compare numbers less than 20 Provide experience: <ul style="list-style-type: none">explaining how to compare 2 numbers by looking at the tens and ones digits Provide experience: <ul style="list-style-type: none">representing numbers in 10-frames, or in dot configurations, and placing those numbers on a number line

Provide experience: suggestions for scaffolding understanding of concepts and skills identified in the question.

Student has partial understanding and small gaps.

Student is ready to learn the trajectory item.

Math Pre-Assessment Order Information

Title	ISBN
Math Pre-Assessment Grade 1	
Book + Online Teaching Centre (Ontario)	9780176830892
Book + Online Teaching Centre (WNCP)	9780176833497
Book + Online Teaching Centre (BC)	9780176833558
Math Pre-Assessment Grade 2	
Book + Online Teaching Centre (Ontario)	9780176830908
Book + Online Teaching Centre (WNCP)	9780176833503
Book + Online Teaching Centre (BC)	9780176833565
Math Pre-Assessment Grade 3	
Book + Online Teaching Centre (Ontario)	9780176830915
Book + Online Teaching Centre (WNCP)	9780176833510
Book + Online Teaching Centre (BC)	9780176833572
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Book + Online Teaching Centre (Ontario)	9780176903992
Math Pre-Assessment Grade 8	
Book + Online Teaching Centre (Ontario)	9780176904005

