Progress Monitoring:
Mastery Measurement vs. General Outcome Measurement

Progress monitoring is a type of *formative assessment* in which student learning is evaluated on a regular basis to provide useful feedback about performance to both learners and teachers. It consists of frequently administered, brief measures (sometimes referred to as tests or probes). Although teachers score the tests to determine the extent of student progress, they do not use these scores to assign grades.

By frequently administering these measures, teachers can gather information about a student's progress and more effectively guide instruction in academic areas such as reading, writing, and mathematics. These formative assessments allow teachers to continually evaluate student learning and the effectiveness of instruction as well as to make necessary changes in a timely manner to maintain or improve student outcomes.

There are two types of progress monitoring: *mastery measurement* (MM) and *general outcome measurement* (GOM), often referred to as *curriculum-based measurement* (CBM). Each is described on the following pages.

> **ⓘ FYI**
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> **Formative assessment:** The frequent evaluation of student learning *during* instruction to provide continual feedback about performance to both learners and instructors. Information from the assessment can be used to guide instruction.
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> **Summative assessment:** A single evaluation administered *after* instruction to measure student learning outcomes. It is typically used for grading purposes rather than to inform instruction.

Mastery Measurement

Mastery measurement is a valuable tool for evaluating a student's understanding of and proficiency in a single target skill. More specifically, MM:

- Allows the teacher to evaluate students' level of performance on one specific skill to help ensure mastery before moving to another
- Enables the teacher to make instructional changes in a timely manner when students are not mastering the target skill

As the year progresses, these target skills are broken into sequenced sub-skills. One sub-skill is included on each of the measures, which are administered on a regular, frequent basis (e.g., once a week). The teacher uses the data from these measures to determine whether the students are on track to master the skill by the end of the instructional unit. When mastery has been achieved, the next skill is introduced and likewise assessed.

Mathematics Example: Mr. Tyrone uses MM to monitor his students' mastery of the mathematics skills he teaches. He is currently teaching three-digit by two-digit multiplication. Once a week during the course of the unit, he assesses the students' mastery of the skill using a probe like the one below. Note that all of the problems are three-digit by two-digit multiplication. Next week, when he starts a new skill (three-digit by three-digit multiplication), Mr. Tyrone will only assess that skill.

Reading Example: In her reading class this week, Ms. Jones is focusing on words containing the letters "oa." She teaches students to read words containing these letters and then tests them on their knowledge. Her tests consist of having each student read aloud as many words containing "oa" as they can in one minute. Ms. Jones decides that when a student is able to read 80% or more of the "oa" words correctly in one minute, she has mastered this word type and is ready to move on to the next word type in the instructional sequence.

MM Probe 25
Computation

Name: _____ Date: _____

a	b	c	d	e
234 × 56	487 × 35	723 × 21	114 × 76	980 × 43

f	g	h	i	j
436 × 11	988 × 65	211 × 33	584 × 22	877 × 36

k	l	m	n	o
116 × 43	555 × 32	198 × 96	321 × 98	221 × 65

p	q	r	s	t
176 × 98	211 × 54	233 × 50	365 × 75	743 × 58

u	v	w	x	y
276 × 86	376 × 69	756 × 94	276 × 48	834 × 63

MM Probe
oa Words

Name: _____ Date: _____

oat	coax	moan	croak
roast	goat	road	goat
toast	coal	coach	moan
oar	road	moan	oak
goat	loan	roar	coat
load	soar	soak	road
coal	shoal	shoal	croak
toad	boast	oak	load
soap	soak	goat	goal
toast	coach	oat	shoal
roar	load	coast	roach
boat	road	load	roar
roach	coat	roam	soap
coat	oar	roast	boar
moan	toast	boat	roam
loan	roam	oar	oat
goal	coast	road	coal
coat	cloak	croak	
boar	moat	moat	
roam	coal	loan	
oak	boar	toast	

General Outcome Measurement

General outcome measurement is an effective means of evaluating and tracking student progress across the entire curriculum by administering frequent measures. There are two types of GOM measures: *curricular sampling* and *performance indicator*. With curricular sampling, every skill that will be taught across the year is included on each measure. However, with a performance indicator, a student's scores on the measure (e.g., word identification fluency, oral reading fluency, maze) are predicative of his overall performance in an area (e.g., reading). Regardless of the type, GOM allows teachers to:

- Monitor student progress over time
- Identify students who are not making adequate progress and provide additional or alternative instruction in a timely manner

Mathematics Example: Currently, Mrs. Aldridge is teaching three-digit multiplication by two-digit multiplication. Once a week throughout the school year, she assesses her students' progress on skills across the entire curriculum using a measure like the one found below. Note that the measure contains problems that assess all of the skills in the curriculum, including three-digit multiplication by two-digit multiplication (i.e., curricular sampling). Next week, when Mrs. Aldridge starts a new skill (three-digit multiplication by three-digit multiplication), she will continue to administer measures that contain problems from across the curriculum. As she progresses through the year, her GOM data will indicate not only whether her students have gained new skills but also whether they have retained those they learned earlier in the year.

Reading Example: Ms. Jones decides to use weekly oral reading fluency tests to measure students' reading progress throughout the school year. Oral reading fluency has been consistently shown to be an excellent indicator of overall reading skills and comprehension (i.e., performance indicator). A student is given a grade-level passage like the one below and asked to read aloud for one minute while Ms. Jones records the number of words read correctly. The passages vary from week to week, but all are at grade level. As the year progresses, and as students' reading abilities improve, students will be able to achieve higher scores on the oral reading fluency tests.

CBM Probe 25
Computation

Name: _____ Date: _____

a. $9\overline{)24}$	b. $52852 + 64708$	c. 9×0	d. $4\overline{)72}$	e. $8285 \quad 4304 + 90$
f. $6\overline{)30}$	g. 35×74	h. 4×5	i. 7×9	j. 598×45
k. 32×23	l. 8×6	m. $5\overline{)65}$	n. $6\overline{)30}$	o. 35×57
p. 107×3	q. $2\overline{)9}$	r. $416 - 44$	s. 456×27	t. 6×2
u. $33 - 2$	v. $1504 - 1441$	w. $9\overline{)81}$	x. 130×7	y. $5\overline{)10}$

Oral Reading Fluency: Student Form
A New Baby

Mom was going to have a baby. Another one! That is all we need thought Samantha who was ten years old. Samantha had two little brother. They were brats. Now Mom was going to have another one. Samantha wanted to cry.

"I will need your help," said Mom. "I hope you will keep an eye on the boys while I am gone. You are my big girl."

Samantha told Mom she would help. She did not want to, though. The boys were too messy. They left toys everywhere. They were too loud, too. Samantha did not want another baby brother. Two were enough.

Dad took Samantha and her brothers to the hospital. They went to Mom's room. Mom did not feel good. She had not had the baby. The doctors said it would be later that night. "I want to wait here with you," said Samantha. "Thank you, Samantha. But you need to go home. You will get too sleepy. Go home with Grandma. I will see you in the morning," said Mom.

That night Samantha was sad. She knew that when the new baby came home that Mom would not have time for her. Mom would spend all of her time with the new baby.

Although mastery measurement and general outcome measurement are both types of progress monitoring and have a number of characteristics in common, they also differ in notable ways. The table below provides a detailed comparison of the similarities and differences between MM and GOM.

Characteristics	Mastery Measurement	General Outcome Measurement
Skills assessed are aligned with the curriculum	✓	✓
Tests are easy and quick to administer	✓	✓
Student skills are assessed frequently	✓	✓
Results are available immediately	✓	✓
Tests are cost-effective	✓	✓
Information is used to evaluate the effectiveness of instruction so teachers can create better instructional programs	✓	✓
Tests are based on a sequenced curriculum	✓	
Tests are administered multiple times within a unit of study for each set of skills	✓	
Tests monitor acquisition of a specific skill	✓	
Tests monitor growth across the year		✓
Alternate tests of equivalent difficulty are available		✓
Tests include standardized measures, administration guidelines, and scoring procedures		✓
Tests predict performance on standardized achievement tests		✓
Tests identify students who are not making adequate progress and need additional or alternative instruction		✓