☆M**STAR**
INTERVENTION

**Assessment
Procedures**

Assessment Procedures: Multiplication and Division Facts Form A and Form B

General Information

This set of procedures provides the information teachers need to administer both forms of the Multiplication and Division Facts Test.

Rationale for the Test

This module contains two alternate, equivalent forms of the progress-monitoring measure. Form A is the pretest and Form B the posttest for each module. The advantage of this approach is to provide a starting and ending point for documenting student progress for each module. Use student responses and observations during the module to identify content to readdress or investigate further for student success.

General Testing Information

Forms A and B are untimed; however, most students take between 30 and 50 minutes to complete one form. Timing is broken down as follows:

- Materials distribution, 5 minutes

- Demonstrate, 1 minute for each of 3 subtests, 3 minutes total

- Practice, 1 minute for each of 3 subtests, 3 minutes total

- Facts test, 3 minutes for each of 2 subtests, 6 minutes total

- Form A or B conceptual items, untimed but estimated to take about 20 minutes

- Pickup, 2 minutes

Examiners should have the following materials:

- Overhead projector, transparencies of Demonstrate pages, and dry-erase pen for demonstrations

- Student test booklets, Form A or Form B

- Assessment Procedures

3 Sections Across 3 Subtests

The Multiplication and Division Facts Test has 3 subtests for both forms: Multiplication Facts, Division Facts, and Conceptual Items.

Demonstrate:

The Demonstrate section is designed to model the testing task and how to mark answers. Do not use this section to teach the measured constructs. Demonstrations occur at the beginning of each subtest.

Practice:

Practice items give students an opportunity to answer a variety of problem types that appear on the test. The purpose of the Practice items is to familiarize the students with the format of the test. Do not score or teach the Practice items. Answer questions about the format of the test but do not answer questions about the accuracy of the responses.

Test:

Students individually complete these items, which are scored.

General Comments

- Students may accidently skip a page of test items. If students finish early, check whether they have completed all items.

- Some students do not perform well in large-group testing situations or have accommodations for small-group testing. If small-group testing is needed, use the same instructions as for large-group testing.

- If students show signs of frustration or refuse to proceed, collect their materials and either test them later in small groups or individually. If during the individual or small-group testing the student continues to be frustrated, stop testing. Discontinue testing for students who are clearly distraught.

- Keep all students' full attention during testing.

- Watch for students looking at other students' work. Remind them that they are to do their own work, not their neighbor's.

- If students answer questions aloud, or "think out loud," remind them to "think in your head, not out loud."

Specific Administration Instructions

Do not read aloud the words in *italics,* which are instructions for the test administrator; read aloud the words in **bold** verbatim to students. Read the instructions several times before testing to become familiar with the content.

Multiplication Facts

Demonstrate

- *Show the Demonstrate overhead transparency.*

- **Turn to page 2 in your test booklet. This is a test to see how many multiplication facts you are able to do while timed. Let's do a few together to get our minds back into thinking about facts quickly.**

- **Look at the first problem. It shows 2 times 2. What is 2 times 2?** *Select a student to answer.* **Yes, 2 times 2 equals 4. I write my answer below the line.**

- **Look at the next problem. 3 times 4 is…** *Select a student to answer. Then, write the answer below the line.*

- **The next problem is 3 times 5. I know that 3 times 5 is 15, so I write the answer below the line.**

- **And the last problem is 6 times 2.** *Select a student to answer. Then, write the answer below the line.*

Practice

- *Set the timer for 30 seconds.*

- **Turn to page 3 in your test booklet. These are your practice items. When I say, "Begin," you will have 30 seconds to answer these questions. When I say, "Stop," stop and put your pencil down. Do not work ahead.**

- **Ready? Begin.** *Start the timer.*

- *After the timer goes off, ask for any questions and address them before going on to the next section.*

Test

- *Set the timer for 3 minutes.*

- **Turn to page 4 in your test booklet. These are your test items.**

- **When I say, "Begin," you will have 3 minutes to complete as many items as possible.**

- **Make sure you work top to bottom, left to right.** *Point and demonstrate.* **Do not jump around on the page. Keep going until I say, "Stop" or you come to the word "stop." Do not work ahead.**

- **Ready? Begin.** *Start the timer.*

- *As students work, walk around the room to check that students are following the directions.*

Division Facts

Demonstrate

- *Show the Demonstrate overhead transparency.*

- **Turn to page 7 in your test booklet. This is a test to see how many division facts you are able to do while timed. Let's do a few together.**

- **Look at the first problem.** *Point to the numbers as you read them.* **What is 9 divided by 1?** *Select a student to answer.* **Yes, the answer is 9. I write a 9 above the line to show my answer.**

- **The next problem is 12 divided by 2. I write a 6 above the line because I know that 2 goes into 12, 6 times.**

- **Look at the third problem. It is 9 divided by 3. What is the answer?** *Select a student to answer.*

- **For the last problem, 14 divided by 7 is 2 because 7 goes into 14, 2 times. I write my answer above the line.**

Practice

- *Set the timer for 30 seconds.*

- **Turn to page 8 in your test booklet. These are your practice items. When I say, "Begin," you will have 30 seconds to answer these questions. When I say, "Stop," stop and put your pencil down. Do not work ahead.**

- **Ready? Begin.** *Start the timer.*

- *After the timer goes off, ask for any questions and address them before going on to the next section.*

Test

- *Set the timer for 3 minutes.*

- **Turn to page 9 in your test booklet. These are your test items.**

- **When I say, "Begin," you will have 3 minutes to complete as many items as possible.**

- **Make sure you work top to bottom, left to right. Do not jump around on the page. Keep going until I say, "Stop" or you come to the word "stop." Do not work ahead.**

- **Ready? Begin.** *Start the timer.*

- *As students work, walk around the room to check that students are following the directions.*

Conceptual Items

Demonstrate

- *Show the Demonstrate overhead transparency.*

- **Turn to page 12 in your testing booklet. This test will assess your knowledge of multiplication and division fact concepts. There are several different types of questions, with different directions for each type. Be sure to read the directions carefully.**

- **Look at the first problem. This is a yes-or-no question. The question asks, "Are the 2 expressions equal?"** *Select a student to answer.* **Yes, the expressions are equal. To mark my answer, I circle "A" for "yes."**

- **Look at the next problem. This question tells us that there may be more than 1 answer. "4 x 3 = 12 is in the same fact family as…"** *Select students to answer.* **Yes, I circle "B" for "12 ÷ 3 = 4," because it is in the same fact family as 4 x 3 = 12.**

- **The third problem gives us a model and asks us, "What fact is shown by the array?"** *Select a student to answer.* **Yes, the correct answer is "C" for "2 x 4," so I circle "C," because that is the fact the array shows.**

- **Look at the last problem. It reads, "Lucas has 4 sheets of stickers with 10 stickers on each. How many stickers does he have?"** *Select a student to answer.* **Correct. The answer to the problem is "C" for "4 x 10 = 40," because the problem and answer match the story.**

Practice

- *Set the timer for 30 seconds.*

- **Turn to page 13 in your testing booklet. In this section, you will practice the various types of questions that appear on the test. When I say, "Begin," you will have 30 seconds to answer these questions by circling the letter that goes with your answer. When I say, "Stop," stop and put your pencil down.**

- **Ready? Begin.** *Start the timer.*

- *After the timer goes off, ask for any questions and address them before going to the next section. Remember, do not respond to the correctness of any response; use this time only to respond to questions about the format of the test and how to mark answers.*

Test

- **Turn to page 14 in your testing booklet. These are your test items. This section is untimed. Remember, there are several different types of questions. Be sure**

to read each question carefully. You may write in your test booklet. For each item, circle the letter that goes with your answer. When you are finished with your test, go back and make sure you answered every question. Then, bring your test booklet to me.

- **Ready? Begin.**

- *As students work, walk around the room to confirm that students are following the directions. As students finish, check that they have answered all of the questions.*

- *This concludes the Multiplication and Division Facts Test administration. Collect all testing materials.*

Scoring the Test

A scoring form is provided for Form A and Form B. The first column contains the item number. The second column shows the correct answer for the corresponding item. In the third column, write the answer the student marked. Any student answer that does not match the correct answer is incorrect. The last column identifies the lesson(s) containing content associated with each item.

Compare scores from Form A at the beginning of the intervention to scores from Form B at the end of the intervention to monitor student growth and progress.

Student Name: _____

Date: _____

Multiplication and Division Facts Test
Scoring Form • Form A • Multiplication Facts

Page 1

										Total:
A	14	12	33	4	36	48	27	33	60	_____
S										
A	9	40	16	28	50	9	30	63	10	_____
S										
A	12	18	54	42	72	40	70	22	2	_____
S										
A	66	27	21	40	64	24	48	36	22	_____
S										
A	99	120	80	40	70	120	56	30	72	_____
S										
A	3	84	66	42	11	132	15	20	77	_____
S										
A	14	33	12	60	7	35	90	96	16	_____
S										
A	27	36	33	55	33	54	30	32	24	_____
S										
A	50	30	40	36	42	36	15	42	20	_____
S										
A	24	18	66	18	22	81	70	50	88	_____
S										

Page 2

										Total:
A	48	36	30	99	80	44	77	72	49	_____
S										
A	36	22	60	88	60	144	108	120	16	_____
S										
A	32	70	120							_____
S										

A = Answer **S = Student answer** **Total: _____ /111**

Student Name: _____

Date: _____

Multiplication and Division Facts Test
Scoring Form • Form A • Division Facts

Page 1

A	2	11	5	3	2	7	6	3	5	**Total:**
S										_____

A	11	8	9	6	11	7	2	12	7	**Total:**
S										_____

A	3	9	6	12	7	8	7	8	2	**Total:**
S										_____

A	8	8	3	11	2	12	12	8	10	**Total:**
S										_____

A	6	4	2	9	10	6	5	10	7	**Total:**
S										_____

A	10	12	8	11	9	12	4	12	7	**Total:**
S										_____

A	5	11	2	3	6	7	11	12	6	**Total:**
S										_____

A	11	6	10	4	6	5	5	3	10	**Total:**
S										_____

A	9	8	7	2	6	4	3	2	3	**Total:**
S										_____

A	9	3	7	9	9	6	8	12	9	**Total:**
S										_____

Page 2

A	12	11	3	9	4		**Total:**
S							_____

A = Answer   S = Student answer

Total: _____ /95

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Student Name: _____

Date: _____

Multiplication and Division Facts Test
Scoring Form • Form A • Conceptual Items

Item Number	Correct Answer	Student Answer	Lesson Reference
1	B		2
2	C		1, 2
3	D		8
4	D		2
5	B		10
6	D		9
7	C		5
8	C		10
9	A		4
10	B		2
11	A		2
12	C		4
13	C		8
14	B		10
15	D		5
16	A		4
17	A		2
18	A		5
19	C		5
20	B		1, 2
21	C		11
22	D		12

Total: _____ /22

Student Name: _____

Date: _____

Multiplication and Division Facts Test
Scoring Form • Form B • Multiplication Facts

Page 1

A/S										Total
A	35	24	45	20	18	24	24	24	32	**Total:** _____
S										
A	49	36	36	16	55	30	18	20	54	**Total:** _____
S										
A	24	18	6	30	15	50	25	56	88	**Total:** _____
S										
A	8	35	45	48	48	28	81	99	16	**Total:** _____
S										
A	88	108	6	36	8	32	110	77	12	**Total:** _____
S										
A	44	60	110	80	96	55	84	108	60	**Total:** _____
S										
A	35	20	144	44	10	9	24	121	21	**Total:** _____
S										
A	20	63	100	72	10	24	18	132	28	**Total:** _____
S										
A	16	18	72	48	25	12	49	54	56	**Total:** _____
S										
A	63	35	40	45	72	40	27	24	48	**Total:** _____
S										

Page 2

A/S										Total
A	40	48	72	100	77	60	96	40	48	**Total:** _____
S										
A	63	21	110	28	66	90	44	120	99	**Total:** _____
S										
A	84	121	110							**Total:** _____
S										

A = Answer **S = Student answer** **Total: _____ /111**

Student Name: _____

Date: _____

Multiplication and Division Facts Test
Scoring Form • Form B • Division Facts

Page 1

A	7	10	11	4	10	5	5	6	2	Total: _____
S										

A	3	4	5	6	2	5	4	11	5	Total: _____
S										

A	3	6	9	11	10	3	5	9	10	Total: _____
S										

A	4	12	6	4	4	9	7	11	9	Total: _____
S										

A	8	7	7	10	12	12	6	9	5	Total: _____
S										

A	2	9	7	8	9	8	3	11	8	Total: _____
S										

A	11	2	4	2	11	3	7	8	5	Total: _____
S										

A	10	4	2	5	8	5	11	2	5	Total: _____
S										

A	7	3	5	4	7	6	3	12	12	Total: _____
S										

A	2	10	8	10	6	2	8	3	4	Total: _____
S										

Page 2

A	4	7	8	12	2					Total: _____
S										

A = Answer   S = Student answer

Total: _____ /95

Student Name: _____

Date: _____

Multiplication and Division Facts Test
Scoring Form • Form B • Conceptual Items

Item Number	Correct Answer	Student Answer	Lesson Reference
1	D		1
2	B		2
3	A		5
4	C		1
5	C		5
6	B		10
7	B		9
8	B		10
9	A		6
10	A		6
11	B		9
12	C		9
13	A		1
14	C		4, 6
15	C		4
16	A		10
17	C		1, 2
18	C		6
19	C		1
20	A		2
21	C		11
22	A		12

Total: _____ /22