

2-DIGIT BY 2-DIGIT MULTIPLICATION

One skill, start to finish: the IEP goal, six probe forms, the graph. Untimed. Fillable PDF.

2-DIGIT BY 2-DIGIT MULTIPLICATION **Two-Digit by Two-Digit Multiplication – Goal and Directions**

Goal, baseline, directions and benchmarks for one skill. Untimed; score is problems correct out of 10.

Ten problems per form, two two-digit numbers each, where at least one partial product requires regrouping, so a score of 6 means six problems that needed it. Five answers per form are three digits and five are four; every answer is under 10,000.

Sample goal — invented; edit every bracket to fit the student
By [annual review date], when given 10 two-digit by two-digit multiplication problems requiring regrouping, [Student] will write correct answers to [8 of 10] problems on [3] consecutive weekly probes, as measured by teacher-scored multiplication probes.

BY (DATE) _____ CRITERION (SCORE OUT OF 10, OR PERCENT) _____

GIVEN (CONDITION: WHAT IS SHOWN, ANY ALLOWED SUPPORTS) _____ ON ____ OF ____ CONSECUTIVE PROBES _____

STUDENT WILL (THE BEHAVIOR, IN THE WORDS OF THE PROBE) _____ AS MEASURED BY (THIS PROBE: 2-DIGIT BY 2-DIGIT MULTIPLICATION, FORMS A-F, PAGE 8-13) _____

Baseline: give Forms A, B and C on three days and take the middle score

BASILINE PROBE 1	BASILINE PROBE 2	BASILINE PROBE 3	MEDIAN (THE BASILINE)

Benchmarks toward the goal

BENCHMARK	TARGET DATE	TARGET SCORE	ACTUAL SCORE	MET?

Giving and scoring the probe

☐ Say: "Solve each problem. Start with the ones digit of the bottom number."

☐ Correct: the whole answer, every digit right and in its place.

My name: _____ Date: _____

Multiply. Show your work.

1 $\begin{array}{r} 18 \\ \times 22 \\ \hline \end{array}$	2 $\begin{array}{r} 16 \\ \times 23 \\ \hline \end{array}$	3 $\begin{array}{r} 23 \\ \times 55 \\ \hline \end{array}$	4 $\begin{array}{r} 48 \\ \times 65 \\ \hline \end{array}$	5 $\begin{array}{r} 17 \\ \times 43 \\ \hline \end{array}$
6 $\begin{array}{r} 19 \\ \times 39 \\ \hline \end{array}$	7 $\begin{array}{r} 69 \\ \times 85 \\ \hline \end{array}$	8 $\begin{array}{r} 36 \\ \times 63 \\ \hline \end{array}$	9 $\begin{array}{r} 49 \\ \times 85 \\ \hline \end{array}$	10 $\begin{array}{r} 15 \\ \times 27 \\ \hline \end{array}$

2-DIGIT BY 2-DIGIT MULTIPLICATION **Two-Digit by Two-Digit Multiplication – Data Log and Graph**

One row per probe. Three points in a row under the aim line is a decision, not a feeling; change the teaching and write what changed in the notes.

STUDENT _____ CRITERION / AIM _____ GOAL DATE _____

CORRECT OUT OF 10 — DRAW THE AIM LINE FROM THE BASELINE TO THE CRITERION FIRST, THEN PLOT EACH WEEK

WEEK	1	2	3	4	5	6	7	8	9	10	11	12

Probe (month) _____

W	DATE	FORM	CORRECT	ERRORS	SCORE USED ON GRAPH	NOTES (CONDITIONS, WHAT WAS RETEACHED)

2-DIGIT BY 2-DIGIT MULTIPLICATION **Two-Digit by Two-Digit Multiplication – Caseload Summary**

Every student on this goal, on one grid. Twelve rows, eight probes, one decision column.

TEACHER / CASE MANAGER _____ SKILL (AS THE GOAL WORDS IT) _____ MARKING PERIOD _____

STUDENT	BASILINE	CRITERION	P1	P2	P3	P4	P5	P6	P7	P8	TREND	DECISION THIS MONTH

How to fill it

☐ One row per student who has a goal on this skill. Baseline is the median of the first three probes.

☐ One column per weekly probe; write the score out of 10, not a percent, so the rows compare.

What it is for

Grouping: When six students sit on the same goal, the individual graphs answer "how is this child doing" and nothing answers "who needs the same fifteen minutes." Rows that are flat together are a

EXAMPLE A Filled-In Data Log (Invented Student)

Mays is invented. Twelve weekly probes on two-digit by two-digit multiplication, the aim line, the change that three low points forced, and the criterion being met.

The goal, as written for Mays, fifth grade (invented)
By May 20, when given 10 two-digit by two-digit multiplication problems requiring regrouping, Mays will write correct answers to 8 of 10 problems on 3 consecutive weekly probes, as measured by teacher-scored multiplication probes (forms A-F).

#	DATE	FORM	CORRECT	ERRORS	GRAPHED	NOTES
1	9/8	A	2	8	2	baseline
2	9/9	B	3	7	3	baseline
3	9/10	C	3	7	3	baseline (median of 2, 3, 3 = 3)
4	9/17	D	3	7	3	left off the placeholder zero on the second partial product, so 23 x 45 came out 207
5	9/24	E	3	7	3	same pattern
6	10/1	F	2	8	2	3 under aim line; taught writing a 0 in the ones place of the second partial product before multiplying
7	10/8	A	5	5	5	—
8	10/15	B	6	4	6	—
9	10/22	C	7	3	7	errors narrowing to one pattern
10	10/29	D	7	3	7	—
11	11/5	E	8	2	8	criterion met, 1 of 3
12	11/12	F	8	2	8	criterion met, 2 of 3

How to read the log

☐ Baseline was the median of three forms on three days: 2, 3, 3, so 3. Not the average, not the best.

☐ The aim line runs from 3 in week 1 to 8 at the goal date. Probes 4, 5 and 6 (3, 3, 2) sit under it: three in a row, so the teaching changed and the change is written on the row.

☐ The notes name the pattern, not just the count: "left off the placeholder zero on the second partial product, so 23 x 45 came out 207" is what sent the teaching somewhere specific, and a score on its own would not have said that.

☐ Criterion met on probes 11 and 12; one more consecutive probe at 8 or better and the goal is met.

PROGRESS MONITORING How This Pack Works

Goal, baseline, weekly probe, graph, decision. Six steps, one skill.

A progress monitoring goal needs a thing to count and a page to count it on. This file is both, for one skill: a goal written in the probe's own words, 6 equivalent forms of the probe that measures it, and a graph scaled to it. Nothing has to be built or found.

- Baseline.** Give Forms A, B and C on three different days. The middle score of the three is the baseline; write it on the goal page.
- Write the goal** from the six-part frame on the goal page. Start from the sample and change every bracket: the date, the condition, the criterion, the number of probes.
- Probe once a week** with the forms in rotation (A, B, C, D, E, F, A, B). Never the same form two weeks running. Every form is ten items, untimed. Score it against the answer key (pages 16-17).
- Log and plot** the score the same day. Draw the aim line first, from the baseline on the left to the criterion at the goal date on the right; then plot each week's dot.
- Decide from the graph.** Three dots in a row under the aim line: change the teaching this week and write the change on the log. Three in a row over it: raise the target.
- Report from the log.** The log gives the progress report its numbers: baseline, the last two scores, and what the errors keep landing on.

The weekly routine, about five minutes

☐ Monday: pull the next form in the rotation (A, B, C, D, E, F, A, B).

☐ Any day: give the probe one-to-one, untimed; ten items takes a few minutes.

☐ Same day: score it, log the row, plot the point, look at the last three points.

☐ Friday: if three points sit under the aim line, write the change you are making on the log.

Print and prep

☐ Print one copy per student per week: the student writes on the form and that same sheet is the one you score.

☐ The forms are student sheets with nothing on them but the problems. The answer key and the Correct _____ / 10 box for every form are on pages 16 and 17; score there, then log it.

☐ Keep the goal page and the graph page for each student at the front of the data folder; type into them or write on them.

☐ The caseload page is one grid for every student on this goal; print it once a month.

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- 2 **Write the goal** from the six-part frame on the goal page. Start from the sample and change every bracket: the date, the condition, the criterion, the number of probes.
- 3 **Probe once a week** with the forms in rotation (A, B, C, D, E, F, A...). Never the same form two weeks running. Every form is ten items, untimed. Score it against the answer key (pages 16–17).
- 4 **Log and plot** the score the same day. Draw the aim line first, from the baseline on the left to the criterion at the goal date on the right, then plot each week's dot.
- 5 **Decide from the graph.** Three dots in a row under the aim line: change the teaching this week and write the change on the log. Three in a row over it: raise the target.
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- ☐ Monday: pull the next form in the rotation (A, B, C, D, E, F, A...).
- ☐ Any day: give the probe one-to-one, untimed; ten items takes a few minutes.
- ☐ Same day: score it, log the row, plot the point, look at the last three points.
- ☐ Friday: if three points sit under the aim line, write the change you are making on the log.

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- ☐ The forms are student sheets with nothing on them but the problems. The answer key and the Correct ____ / 10 box for every form are on pages 16 and 17; score there, then log it.
- ☐ Keep the goal page and the graph page for each student at the front of the data folder; type into them or write on them.
- ☐ The caseload page is one grid for every student on this goal: print it once a month.

What this probe is not

It is not a norm-referenced test and it carries no benchmark score. The sample goal uses invented criteria in brackets; your team sets the real ones from the baseline and the student's IEP. Every form is untimed and ten items long, so a score of 8 means the same thing on every form, and a student is never scored on speed.

Equivalent forms, and why it matters

Every form has ten items drawn the same way, from one shuffle of the same bank, and no item appears on two forms — 60 different items across the six forms. A score on one form means the same as a score on another, so the line on the graph is the student, not the paper. Rotate the forms and the page cannot be memorized.

Two-Digit by Two-Digit Multiplication — Goal and Directions

Goal, baseline, directions and benchmarks for one skill. Untimed; score is problems correct out of 10.

Ten problems per form, two two-digit numbers each, where at least one partial product regroupes, so a score of 6 means six problems that needed it. Five answers per form are three digits and five are four; every answer is under 10,000.

Sample goal — invented; edit every bracket to fit the student

By [annual review date], when given 10 two-digit by two-digit multiplication problems requiring regrouping, [Student] will write correct answers to [8 of 10] problems on [3] consecutive weekly probes, as measured by teacher-scored multiplication probes.

BY (DATE)

GIVEN (CONDITION: WHAT IS SHOWN, ANY ALLOWED SUPPORT)

STUDENT WILL (THE BEHAVIOR, IN THE WORDS OF THE PROBE)

CRITERION (SCORE OUT OF 10, OR PERCENT)

ON ____ OF ____ CONSECUTIVE PROBES

AS MEASURED BY (THIS PROBE: 2-DIGIT BY 2-DIGIT MULTIPLICATION, FORMS A-F, PAGE 6-11)

Baseline: give Forms A, B and C on three days and take the middle score

BASILINE PROBE 1	BASILINE PROBE 2	BASILINE PROBE 3	MEDIAN (THE BASELINE)

Benchmarks toward the goal

BENCHMARK	TARGET DATE	TARGET SCORE	ACTUAL SCORE	MET?

Giving and scoring the probe

- ☐ Say: "Solve each problem. Start with the ones digit of the bottom number."
- ☐ Correct: the whole answer, every digit right and in its place.
- ☐ Separate three errors: leaving off the placeholder zero (23×45 as $115 + 92$, not $115 + 920$), dropping a regrouped digit in a partial product, or a shaky fact.
- ☐ Untimed. Let the student finish all ten.

Scoring rules for this student (accepted answers, reversals, supports allowed)

What the errors say to reteach (carry over from the log)

My name: _____ Date: _____



Multiply. Show your work.

1

$$\begin{array}{r} 18 \\ \times 22 \\ \hline \end{array}$$

2

$$\begin{array}{r} 16 \\ \times 23 \\ \hline \end{array}$$

3

$$\begin{array}{r} 23 \\ \times 55 \\ \hline \end{array}$$

4

$$\begin{array}{r} 48 \\ \times 65 \\ \hline \end{array}$$

5

$$\begin{array}{r} 17 \\ \times 43 \\ \hline \end{array}$$

6

$$\begin{array}{r} 19 \\ \times 39 \\ \hline \end{array}$$

7

$$\begin{array}{r} 69 \\ \times 85 \\ \hline \end{array}$$

8

$$\begin{array}{r} 36 \\ \times 63 \\ \hline \end{array}$$

9

$$\begin{array}{r} 49 \\ \times 85 \\ \hline \end{array}$$

10

$$\begin{array}{r} 15 \\ \times 27 \\ \hline \end{array}$$

My name: _____ Date: _____



Multiply. Show your work.

1

$$\begin{array}{r} 24 \\ \times 88 \\ \hline \end{array}$$

2

$$\begin{array}{r} 55 \\ \times 91 \\ \hline \end{array}$$

3

$$\begin{array}{r} 43 \\ \times 72 \\ \hline \end{array}$$

4

$$\begin{array}{r} 32 \\ \times 68 \\ \hline \end{array}$$

5

$$\begin{array}{r} 22 \\ \times 38 \\ \hline \end{array}$$

6

$$\begin{array}{r} 19 \\ \times 42 \\ \hline \end{array}$$

7

$$\begin{array}{r} 26 \\ \times 37 \\ \hline \end{array}$$

8

$$\begin{array}{r} 16 \\ \times 26 \\ \hline \end{array}$$

9

$$\begin{array}{r} 18 \\ \times 33 \\ \hline \end{array}$$

10

$$\begin{array}{r} 27 \\ \times 62 \\ \hline \end{array}$$

Two-Digit by Two-Digit Multiplication — Data Log and Graph

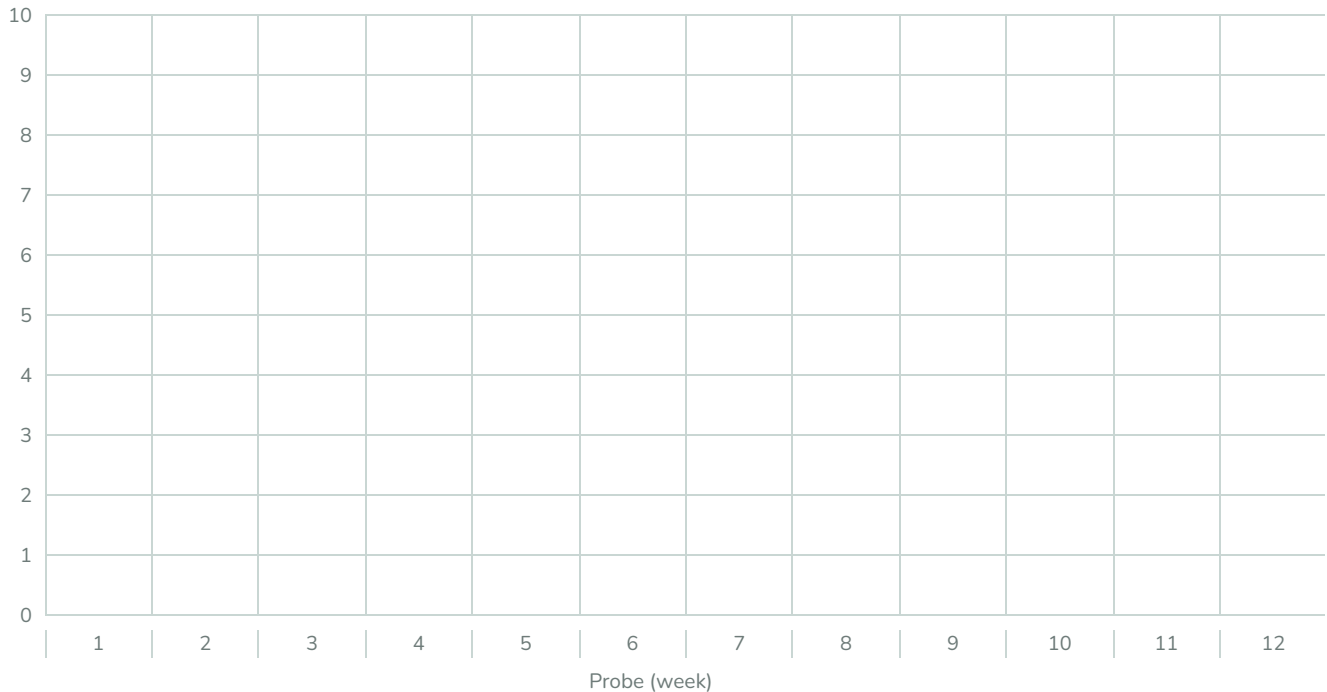
One row per probe. Three points in a row under the aim line is a decision, not a feeling: change the teaching and write what changed in the notes.

STUDENT

CRITERION / AIM

GOAL DATE

CORRECT OUT OF 10 · DRAW THE AIM LINE FROM THE BASELINE TO THE CRITERION FIRST, THEN PLOT EACH WEEK



#	DATE	FORM	CORRECT	ERRORS	SCORE USED ON GRAPH	NOTES (CONDITIONS, WHAT WAS RETEACHED)

Two-Digit by Two-Digit Multiplication — Caseload Summary

Every student on this goal, on one grid. Twelve rows, eight probes, one decision column.

TEACHER / CASE MANAGER

SKILL (AS THE GOAL WORDS IT)

MARKING PERIOD

STUDENT	BASELINE	CRITERION	P1	P2	P3	P4	P5	P6	P7	P8	TREND	DECISION THIS MONTH

How to fill it

- ☐ One row per student who has a goal on this skill. Baseline is the median of the first three probes.
- ☐ One column per weekly probe; write the score out of 10, not a percent, so the rows compare.
- ☐ Trend: up, flat or down over the last four probes. That word, not the last score, is what the decision follows.
- ☐ Decision: keep going, change the teaching, or raise the target. A blank decision on a flat row is the thing this page exists to catch.

What it is for

Grouping. When six students sit on the same goal, the individual graphs answer “how is this child doing” and nothing answers “who needs the same fifteen minutes.” Rows that are flat together are a group; a row that is flat alone is a different question. Take this page to the data meeting instead of ten folders.

EXAMPLE

A Filled-In Data Log (Invented Student)

Maya is invented. Twelve weekly probes on two-digit by two-digit multiplication, the aim line, the change that three low points forced, and the criterion being met.

The goal, as written for Maya, fifth grade (invented)

By May 20, when given 10 two-digit by two-digit multiplication problems requiring regrouping, Maya will write correct answers to 8 of 10 problems on 3 consecutive weekly probes, as measured by teacher-scored multiplication probes (forms A–F).

#	DATE	FORM	CORRECT	ERRORS	GRAPHED	NOTES
1	9/8	A	2	8	2	baseline
2	9/9	B	3	7	3	baseline
3	9/10	C	3	7	3	baseline (median of 2, 3, 3 = 3)
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How to read the log

- ☐ Baseline was the median of three forms on three days: 2, 3, 3, so 3. Not the average, not the best.
- ☐ The aim line runs from 3 in week 1 to 8 at the goal date. Probes 4, 5 and 6 (3, 3, 2) sat under it: three in a row, so the teaching changed and the change is written on the row.
- ☐ The notes name the pattern, not just the count: “left off the placeholder zero on the second partial product, so 23×45 came out 207” is what sent the teaching somewhere specific, and a score on its own would not have said that.
- ☐ Criterion met on probes 11 and 12; one more consecutive probe at 8 or better and the goal is met.

The progress report sentence this log produces

“On weekly two-digit by two-digit multiplication probes (10 items, untimed), Maya scored 3 of 10 at baseline in September and 8 of 10 on each of the two most recent probes in November. Progress is sufficient to meet the goal of 8 of 10 on three consecutive probes by May.” Every number in it is on the log above; nothing is from memory.