

MULTI-STEP MIXED OPERATIONS

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

MULTI-STEP WORD PROBLEMS Multi-Step Word Problems, Mixed Operations (All Four Ops) – Goal and Directions

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

Ten two-step word problems per form, each one mixing a different pair of operations (multiply, subtract, add or share equally), the same five pairs on every form. Sixty problems across six forms, none on two forms.

Sample goal — Invented; edit every bracket to fit the student.
By [annual review date], when given 10 two-step word problems that mix addition, subtraction, multiplication and division, [Student] will write the correct final answer to [8 of 10] problems on [3] consecutive weekly probes, as measured by teacher-scored multi-step word problem probes.

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

GIVEN (CONDITION, WHAT IS SHOWN, ANY ALLOWED SUPPORT) ON ____ OF ____ CONSECUTIVE PROBES

STUDENT WILL (THE BEHAVIOR, IN THE WORDS OF THE PROBE) AS MEASURED BY (THIS PROBE: MULTI-STEP WORD PROBLEMS, FORMS A-F, PAGE 6-13)

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	MEET?

Giving and scoring the probe

- ☐ Say: "Read the story. Do both steps. Show your work, then write your answer." If reading is not the goal, read it aloud and note that on the log.
- ☐ Correct the first number only; the work space is not scored.
- ☐ Every form, two of each pair — multiply/subtract, multiply/add, add/share, subtract/share, multiply/share.
- ☐ Untimed. Use the stopwatch stopwatch all time.

Multi-Step Word Problems - Form A

My name: _____ Date: _____

Read. Do two steps. Write the answer.

- Zoe buys 8 packs of 8 pencils. Zoe gives away 36 pencils. How many pencils does Zoe have left?
Show your work
- Leo buys 2 packs of 2 buttons. Then Leo shares all the buttons equally among 2 friends. How many buttons does each friend get?
Show your work
- Ivy has 44 shells. Ivy gets 4 more shells. Then Ivy shares all the shells equally among 3 friends. How many shells does each friend get?
Show your work
- Max has 81 crayons. Max gives away 36 crayons. Then Max shares the rest equally among 9 friends. How many crayons does each friend get?
Show your work
- Eli buys 2 bags of 4 stickers. Then Eli gets 11 more stickers. How many stickers does Eli have now?
Show your work
- Sam buys 6 packs of 8 stamps. Then Sam shares all the stamps equally among 4 friends. How many stamps does each friend get?
Show your work
- Tom buys 6 packs of 6 marbles. Tom gives away 17 marbles. How many marbles does Tom have left?
Show your work
- Kai has 39 balloons. Kai gets 25 more balloons. Then Kai shares all the balloons equally among 4 friends. How many balloons does each friend get?
Show your work

MULTI-STEP WORD PROBLEMS Multi-Step Word Problems, Mixed Operations (All Four Ops) – 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
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

Probe (week)

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

MULTI-STEP WORD PROBLEMS Multi-Step Word Problems, Mixed Operations (All Four Ops) – 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.
- Trend up, flat or down over the last four probes.

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.

EXAMPLE A Filled-In Data Log (Invented Student)

Noah is invented. Twelve weekly probes on multi-step word problems, the aim line, the change that three low points forced, and the criterion being met.

The goal, as written for Noah, fourth grade (invented)
By May 20, when given 10 two-step word problems that mix addition, subtraction, multiplication and division, Noah will write the correct final answer to 8 of 10 problems on 3 consecutive weekly probes, as measured by teacher-scored multi-step word problem 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	solved the first step correctly, then chose the wrong second operation to finish
5	9/24	E	2	8	2	same pattern
6	10/1	F	3	7	3	3 under aim line; missed the two action words in each story and wrote plus, missed times or divide over each box before starting the second step
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, 2, 3) 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: "solved the first step correctly, then chose the wrong second operation to finish" 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, ...). 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, ...).
- ☐ 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.

What this probe is not

Equivalent forms, and why it matters

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

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- 1 **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.
- 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).
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- 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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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.

Multi-Step Word Problems, Mixed Operations (All Four Ops) – Goal and Directions

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

By [annual review date], when given 10 two-step word problems that mix addition, subtraction, multiplication and division, [Student] will write the correct final answer to [8 of 10] problems on [3] consecutive weekly probes, as measured by teacher-scored multi-step word problem probes.

BY (DATE)

CRITERION (SCORE OUT OF 10, OR PERCENT)

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

ON ____ OF ____ CONSECUTIVE PROBES

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

AS MEASURED BY (THIS PROBE: MULTI-STEP WORD PROBLEMS, 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: "Read the story. Do both steps. Show your work, then write your answer." If reading is not the goal, read it aloud and note that on the log.
- ☐ Correct: the final number only; the work space is not scored.
- ☐ Every form: two of each pair — multiply/subtract, multiply/add, add/share, subtract/share, multiply/share.
- ☐ 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: _____

**Read. Do two steps. Write the answer.**

- 1** Zoe buys 8 packs of 8 pencils. Zoe gives away 36 pencils. How many pencils does Zoe have left?

Show your work

Answer

- 2** Leo buys 2 packs of 2 buttons. Then Leo shares all the buttons equally among 2 friends. How many buttons does each friend get?

Show your work

Answer

- 3** Ivy has 44 shells. Ivy gets 4 more shells. Then Ivy shares all the shells equally among 3 friends. How many shells does each friend get?

Show your work

Answer

- 4** Max has 81 crayons. Max gives away 36 crayons. Then Max shares the rest equally among 9 friends. How many crayons does each friend get?

Show your work

Answer

- 5** Eli buys 2 bags of 4 stickers. Then Eli gets 11 more stickers. How many stickers does Eli have now?

Show your work

Answer

- 6** Sam buys 6 packs of 8 stamps. Then Sam shares all the stamps equally among 4 friends. How many stamps does each friend get?

Show your work

Answer

- 7** Tom buys 6 packs of 6 marbles. Tom gives away 17 marbles. How many marbles does Tom have left?

Show your work

Answer

- 8** Kai has 39 balloons. Kai gets 25 more balloons. Then Kai shares all the balloons equally among 4 friends. How many balloons does each friend get?

Show your work

Answer

- 9** Jen has 87 beads. Jen gives away 47 beads. Then Jen shares the rest equally among 10 friends. How many beads does each friend get?

Show your work

Answer

- 10** Mia buys 9 bags of 2 blocks. Then Mia gets 34 more blocks. How many blocks does Mia have now?

Show your work

Answer

My name: _____

Date: _____

**Read. Do two steps. Write the answer.**

- 1** Ivy buys 9 packs of 2 beads. Then Ivy shares all the beads equally among 3 friends. How many beads does each friend get?

Show your work

Answer

- 2** Eli buys 4 bags of 6 pencils. Then Eli gets 34 more pencils. How many pencils does Eli have now?

Show your work

Answer

- 3** Zoe has 28 cards. Zoe gets 14 more cards. Then Zoe shares all the cards equally among 7 friends. How many cards does each friend get?

Show your work

Answer

- 4** Jen buys 7 packs of 9 buttons. Then Jen shares all the buttons equally among 7 friends. How many buttons does each friend get?

Show your work

Answer

- 5** Leo buys 3 bags of 8 marbles. Then Leo gets 5 more marbles. How many marbles does Leo have now?

Show your work

Answer

- 6** Max buys 9 packs of 3 coins. Max gives away 7 coins. How many coins does Max have left?

Show your work

Answer

- 7** Ben has 66 stamps. Ben gives away 54 stamps. Then Ben shares the rest equally among 6 friends. How many stamps does each friend get?

Show your work

Answer

- 8** Sam buys 8 packs of 6 shells. Sam gives away 16 shells. How many shells does Sam have left?

Show your work

Answer

- 9** Mia has 17 crayons. Mia gets 23 more crayons. Then Mia shares all the crayons equally among 4 friends. How many crayons does each friend get?

Show your work

Answer

- 10** Tom has 61 balloons. Tom gives away 21 balloons. Then Tom shares the rest equally among 5 friends. How many balloons does each friend get?

Show your work

Answer

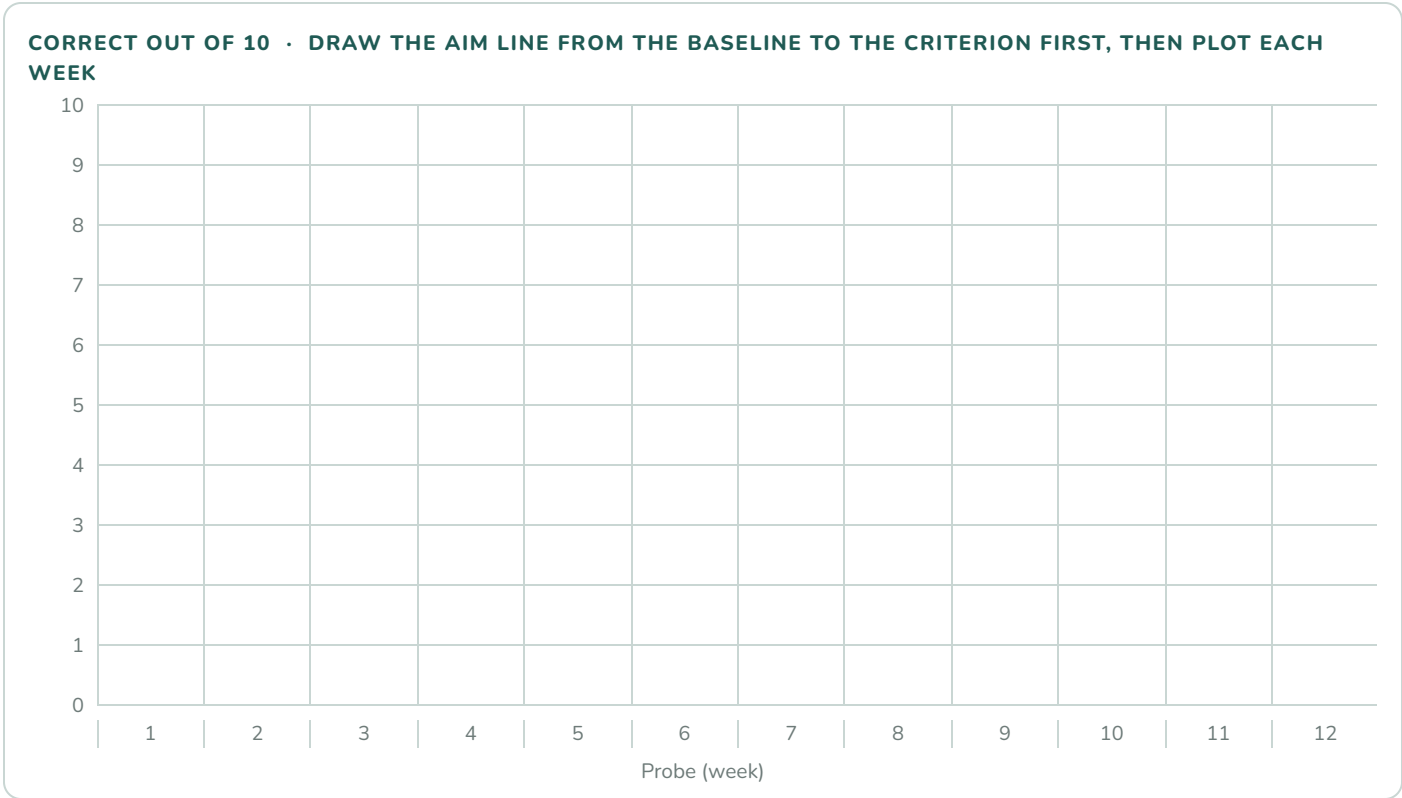
Multi-Step Word Problems, Mixed Operations (All Four Ops) – Data Log and Graph

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



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

Multi-Step Word Problems, Mixed Operations (All Four Ops) – 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

[illegible]

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)

Noah is invented. Twelve weekly probes on multi-step word problems, the aim line, the change that three low points forced, and the criterion being met.

The goal, as written for Noah, fourth grade (invented)

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5	9/24	E	2	8	2	same pattern
6	10/1	F	3	7	3	3 under aim line: boxed the two action words in each story and wrote plus, minus, times or divide over each box before starting the second step
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, 2, 3) 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: “solved the first step correctly, then chose the wrong second operation to finish” 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 multi-step word problems probes (10 items, untimed), Noah 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.