ARTIFACT 2 OF 5 - STUDENT PAGES + PARENT SCORING GUIDE

Placement Check - Grades 4-6

Sixteen problems. One sitting. A starting line you can trust.

FREE FROM THE LOGIC LEAGUE ESA PAGE - print this whole section and use it as-is. It places a student into the Logic Enrichment Semester Kit (grades 4-6) in about thirty minutes. Families who have not bought anything yet are welcome to it; that is what it is for.

Sixteen problems, about twenty-five minutes, no calculator. The four bands are printed on the problem pages: A (Foundations), B (Patterns), C (Deduction), D (Problem Solving).

Let your child work alone and finish what they can. A problem left blank tells you as much as a problem answered - do not coach during the check, or the verdict will describe your teaching instead of their starting point.

Score with the guide on pages 4-5 of this section. The verdict names a track and a starting week. It is a starting line, not a label: tracks in this kit are per child and can be changed in either direction at any week, at no cost to the semester's shape.

Before you start

- Pencil and scrap paper. No calculator - the kit's puzzles assume mental and written arithmetic.

- One sitting, untimed. If a problem is skipped, leave it blank; do not coach.

- Score honestly. A start that is too easy bores a strong student for sixteen weeks; a start that is too hard teaches guessing. The verdict table has a row for every score - trust it.

What the four bands measure

Band	What it samples	Why it is in the check
A - Numbers	Multiplication, division, fraction addition, percents	The kit assumes this arithmetic is automatic; Band A is the gate for the whole table.
B - Patterns and Structure	Sequences, pattern rules, square numbers, counting structure	The kit's puzzles run on structure - seeing the rule behind the numbers.
C - Detective Logic	Truth statements, ordering, strategy games, balance reasoning	Deduction itself: the skill the mysteries and CSI cases exercise every week.
D - Fractions, Money, and Measures	Multi-step money, area and perimeter, rates, combinations	Problem-solving in context - several ideas in one problem, held in order.

After the check: score it the same day (the key is on page 5 of this section), read the verdict, and write the starting point on the record line on the verdict page. Then the Pacing Calendar (Artifact 3) takes over - the check is the last placement decision you will make all semester; the checkpoints steer from there.

Band A - Numbers

A1. Compute: 48 x 6

Answer: _____

A2. Compute: 936 ÷ 8

Answer: _____

A3. Add: 3/4 + 5/8. Give the answer as a mixed number.

Answer: _____

A4. What is 25% of 80?

Answer: _____

Band B - Patterns and Structure

B1. Find the next term: 5, 9, 17, 33, 65, ___

Answer: _____

B2. Toothpick figures: Figure 1 uses 4 toothpicks, Figure 2 uses 7, Figure 3 uses 10. How many toothpicks does Figure 12 use?

Answer: _____

B3. Find the next term: 1, 4, 9, 16, 25, ___

Answer: _____

B4. Find the next term: 100, 90, 81, 73, 66, ___

Answer: _____

Band C - Detective Logic

C1. Three detectives - Ana, Bo, and Cy. One of them took the last cookie. Ana says: "Bo took it." Bo says: "Cy took it." Cy says: "Ana is lying." Exactly one of the three statements is false. Who took the cookie?

Answer: _____

C2. Four runners finished a race: Cleo, Ben, Dan, and Ana. Clues: Cleo finished first. Ben finished immediately behind Cleo. Dan finished ahead of Ana. Write the finishing order, first to last.

Answer: _____

C3. A pile holds 17 tokens. On a turn, a player takes 1, 2, or 3 tokens. Whoever takes the last token wins. You move first. How many tokens should you take on your first move to be sure of winning?

Answer: _____

C4. Nine coins look exactly alike, but one is heavier than the rest. Using a balance scale, what is the fewest number of weighings that guarantees you can find the heavy coin?

Answer: _____

Band D - Fractions, Money, and Measures

D1. Three notebooks cost $7.50. At the same rate, what do 7 notebooks cost?

Answer: _____

D2. A rectangle is 12 cm long and 7 cm wide. Find its area and its perimeter.

Answer: _____

D3. Maya reads 24 pages a day. Her book has 312 pages. How many pages are left after 9 days of reading?

Answer: _____

D4. One bell rings every 12 minutes and another every 18 minutes. They ring together at noon. In how many minutes will they next ring together?

Answer: _____

End of the check

Finished? Go back and check any problem you rushed - then hand this to your grown-up for scoring. Extra working space is below if you need it.

Scoring key - for the grown-up

One point per problem. The answer must be the value asked for - method does not matter, and a lucky guess scores the same as a derivation (the verdict bands are wide enough to absorb both).

#	Answer	#	Answer
A1	288	C1	Cy
A2	117	C2	Cleo, Ben, Dan, Ana
A3	1 3/8	C3	1
A4	20	C4	2
B1	129	D1	$17.50
B2	37	D2	Area 84 square cm; perimeter 38 cm
B3	36	D3	96
B4	60	D4	36

Record the scores

Band A	Band B	Band C	Band D	Total
___ / 4	___ / 4	___ / 4	___ / 4	___ / 16

A worked example: a student scores A2, B3, C4, D3 - a total of 12. Band A is 2 or more and the total falls in 9-12, so the verdict is the third row: start Track 5 at Week 5, with CSI Case 1 run first as a check.

What counts as correct

- The value asked for, in any correct form: an unreduced fraction scores (2/8 for 1/4), a decimal scores where a fraction is printed (0.75 for 3/4), and money may be written with or without the dollar sign.

- Units: where the printed answer carries a unit (cents, square cm), the number must be right; a missing unit still scores - this check measures math, not penmanship.

- Word answers (orders, names, colors) must match exactly - those problems have exactly one correct arrangement, proved when the check was built.

Add the four band scores (each out of 4) for a total out of 16, then read the verdict table on the next page.

The verdict - read top to bottom; the first row that matches is yours

If you see...	Start here	Why - and the plan
Band A score 0-1 (any total)	Start with the Little Detectives kit (grades 2-4), or build fluency first	Band A is the gate: the 4-6 kit assumes a child can multiply, divide, and add fractions without the arithmetic becoming the puzzle. The grades 2-4 kit builds exactly those entry skills inside the same kind of cases - it is a runway, not a demotion.
Band A 2+ and total 0-8	Start Track 5, Week 1	The foundations are in place and the reasoning bands are still warming up. Track 5 from Week 1 gives the full build: mysteries first, CSI at Week 4, first escape room the same week.
Band A 2+ and total 9-12	Start Track 5, Week 5 - run CSI Case 1 (Week 4) first as a check	The reasoning bands are moving and the foundations are in place. Skip the gentlest mystery weeks; begin with CSI Case 1 so the first capstone lands on schedule, then continue at Week 5. If that check exposes arithmetic strain (Band A was a 2), drop back to Week 1 instead - the mystery weeks rebuild fluency inside the puzzles.
Band A 3+ and total 13-16	Start Track 6, Week 1	Fluency is complete or near and the reasoning bands are strong. If the total is 15-16, first run CSI Case 1 (Week 4) as a check: a clean pass starts you at Track 6, Week 5 instead, with the extension twists in every key in play - they are the hardest material in the kit and this verdict assumes you will use them. Otherwise begin at Week 1, and use the Track 5 spare case and opposite-season challenges as stretch material.
Band A 2 and total 13-16	Start Track 5, Week 5 - reasoning is ahead of fluency	The reasoning bands score at Track 6 strength, but Band A says the arithmetic is not yet automatic - and Track 6 assumes it is. Track 5 runs the same puzzles with more arithmetic support built in. Use the Track 6 spare case and opposite-season challenges as stretch material, and re-check Band A at Checkpoint 2: a clean Band A there earns the switch to Track 6 for the back half of the semester.

Fine print that matters

- Retakes: wait at least two weeks and treat the second run as a fluency check, not a placement - familiarity inflates Band C most.

- Siblings: place each child separately. The two tracks exist so a family never has to average two children into one wrong start.

- Mid-year entry: the verdicts assume a Week 1 or Week 5 door. Entering later than Week 8, start one door earlier than the verdict and let the checkpoint assessments confirm the pace.

Record the verdict

Student	Date	Band scores (A-B-C-D)	Verdict	Starting point

File this page with the finished check. If the semester is ever reviewed - by a program, a co-op, or next year's you - this one line is the evidence that the starting point was chosen, not guessed.