

Alaska 7 Mathematics

FREE PREVIEW

Full-Year Teacher Planner, Blank Editable Planner & School-Submission Binder

This preview shows the real structure and a genuine sample of the completed planner. The full product contains 9 units, 36 weekly plans and 180 daily plans, plus blank editable versions of every form.

State	Alaska
Grade	7 (Middle)
Subject	Mathematics
Course category	Core
Standards family	Mathematics
Framework	Alaska Mathematics Standards
Issuing agency	Alaska Department of Education and Early Development
Scope	36 instructional weeks · 180 instructional days · 9 units

This is a statewide standards index, not a local course catalog. Course names, grade placement, electives, and graduation sequences vary by district.

What you get

Folder	Contents
01 START HERE	Read-me, contents, printing and digital instructions, standards verification guide, this preview
02 FILLED FULL YEAR	Completed planner in colour and ink-friendly PDF, plus editable DOCX
03 BLANK EDITABLE	Blank planner in colour, ink-friendly and fillable PDF, plus editable DOCX
04 ASSESSMENTS AND DATA	Baseline observation, quarterly rubrics, anecdotal forms, portfolio checklist
05 SCHOOL SUBMISSION	Submission covers, alignment summary, evidence checklist, observation, reflection, signature page
06 LICENSE AND CREDITS	Terms of use, credits and licences, copyright notice

The pages that follow are reproduced **exactly** as they appear in the full completed planner.

Week 9 — Adding, Factoring and Expanding Expressions

Unit 3: Expressions and Variables · Month 3 · Quarter 1 · Semester 1 · Instructional Days 41–45

Essential question	How do you tidy an expression without changing what it means?
Standards	Adding, Factoring and Expanding Expressions -> 7.NS.1 Alaska Mathematics Standards / The Number System — Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Show that a number and its opposite have a sum of 0 (additive inverses). Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand addition of rational numbers ($p + q$ as the number located a distance $ q $ from p , in the positive or negative direction depending on whether q is positive or negative). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
Learning target	"I can add, factor and expand linear expressions and check they still mean the same."
Local dates	_____ (enter your school dates)

Measurable objectives

- Students will apply properties of operations to add, subtract, factor and expand linear expressions with rational coefficients.
- Students will check equivalence after each manipulation.

Success criteria (student-friendly)

- "I collect only like terms."
- "I factor out a common factor."
- "I check by substituting."

Academic vocabulary

linear expression, term, coefficient, like terms, factor, expand, equivalent

Materials and technology

- Algebra tiles or paper equivalents
- Notebooks
- Whiteboards
- Expression cards
- Squared paper

Differentiation and supports

Support area	This week's plan
Special education / IEP	Reduce group size; pair visual cue cards with all verbal directions; allow gesture or picture response in place of speech; pre-teach the week's target in a 1:1 warm-up.

Support area	This week's plan
Section 504	Provide the child's documented accommodations throughout; permit movement breaks and alternative seating at any point in the sequence.
Multilingual learners	Introduce each vocabulary word with an object or image; accept home-language responses; send the vocabulary list home where a translation is available; pair with a peer who shares the home language.
Advanced / extension	Ask the learner to teach the skill to a peer, extend the task, or record a demonstration for the class reference wall.
Intervention / reteach	Reteach the target in a short small group using the same materials; split the day's check for understanding into two smaller steps.
Enrichment	Extend into an open-ended centre or project connected to the essential question.

Assessment and evidence

Expressions added, factored and expanded, with equivalence checked.

Family communication

Ask your child how they checked two expressions were the same.

Day 41 — What a Term Actually Is

Week 9, Day 1 · Unit 3 · Standards: 7.NS.1

Focus	The foundation.
Learning target	"I can add, factor and expand linear expressions and check they still mean the same."
Vocabulary in use	linear expression, term, coefficient, like terms, factor, expand, equivalent
Local date	_____

Learning sequence

Connect: Grade 6's expressions. Teach: terms, coefficients and why only like terms combine - with tiles so unlike terms are physically different objects. Try: shared sorting. Apply: pupils collect terms in four expressions. Reflect: collecting unlike terms is the error, and it comes from treating a letter as a label rather than a number.

Check for understanding

Student collects like terms correctly and explains why others cannot combine.

Differentiation in the moment

If the learner...	Then...
needs more support	Model the step again with guided support, then fade to a gesture cue.
is ready for more	Invite the learner to demonstrate for a peer or add a second example.
is dysregulated	Pause instruction, move to co-regulation, and return to the target later.

Closure and reflection

Gather the group. Restate the learning target. Ask one learner to demonstrate. Name one specific thing the group did well, then preview tomorrow.

Teacher reflection (fictional example)

Fictional Example — Customize and Verify Before School Submission.

Most learners met the target. Two needed the visual cue repeated during guided practice; I will pre-teach with them tomorrow. The extension held attention longer than planned, so I shortened closure.

Day 42 — Coefficients That Are Not Whole

Week 9, Day 2 · Unit 3 · Standards: 7.NS.1

Focus	The Grade 7 addition.
Learning target	"I can add, factor and expand linear expressions and check they still mean the same."
Vocabulary in use	linear expression, term, coefficient, like terms, factor, expand, equivalent
Local date	_____

Learning sequence

Connect: like terms. Teach: the arithmetic of Weeks 5 and 6 now lives inside algebra - negative and fractional coefficients throughout. Try: shared practice. Apply: pupils add and subtract four such expressions. Reflect: this is the actual Grade 7 step up from Grade 6.

Check for understanding

Student adds expressions with rational coefficients.

Differentiation in the moment

If the learner...	Then...
needs more support	Model the step again with guided support, then fade to a gesture cue.
is ready for more	Invite the learner to demonstrate for a peer or add a second example.
is dysregulated	Pause instruction, move to co-regulation, and return to the target later.

Closure and reflection

Gather the group. Restate the learning target. Ask one learner to demonstrate. Name one specific thing the group did well, then preview tomorrow.

Teacher reflection (fictional example)

Fictional Example — Customize and Verify Before School Submission.

Most learners met the target. Two needed the visual cue repeated during guided practice; I will pre-teach with them tomorrow. The extension held attention longer than planned, so I shortened closure.

Day 43 — Expanding

Week 9, Day 3 · Unit 3 · Standards: 7.NS.1

Focus	Distribution.
Learning target	"I can add, factor and expand linear expressions and check they still mean the same."
Vocabulary in use	linear expression, term, coefficient, like terms, factor, expand, equivalent
Local date	_____

Learning sequence

Connect: coefficients. Teach: expanding a bracket including a negative multiplier, where the sign of every term inside changes - the commonest single error in the topic. Try: shared expansion. Apply: pupils expand six including negatives. Reflect: writing the multiplier against each term prevents it.

Check for understanding

Student expands a bracket with a negative multiplier correctly.

Differentiation in the moment

If the learner...	Then...
needs more support	Model the step again with guided support, then fade to a gesture cue.
is ready for more	Invite the learner to demonstrate for a peer or add a second example.
is dysregulated	Pause instruction, move to co-regulation, and return to the target later.

Closure and reflection

Gather the group. Restate the learning target. Ask one learner to demonstrate. Name one specific thing the group did well, then preview tomorrow.

Teacher reflection (fictional example)

Fictional Example — Customize and Verify Before School Submission.

Most learners met the target. Two needed the visual cue repeated during guided practice; I will pre-teach with them tomorrow. The extension held attention longer than planned, so I shortened closure.

Day 44 — Factoring Is Expanding Backwards

Week 9, Day 4 · Unit 3 · Standards: 7.NS.1

Focus	Factoring.
Learning target	"I can add, factor and expand linear expressions and check they still mean the same."
Vocabulary in use	linear expression, term, coefficient, like terms, factor, expand, equivalent
Local date	_____

Learning sequence

Connect: expanding. Teach: factoring as reversing the distribution, checked by expanding again - which makes it self-verifying. Try: shared practice. Apply: pupils factor four and check.

Check for understanding

Student factors an expression and verifies by expanding.

Differentiation in the moment

If the learner...	Then...
needs more support	Model the step again with guided support, then fade to a gesture cue.
is ready for more	Invite the learner to demonstrate for a peer or add a second example.
is dysregulated	Pause instruction, move to co-regulation, and return to the target later.

Closure and reflection

Gather the group. Restate the learning target. Ask one learner to demonstrate. Name one specific thing the group did well, then preview tomorrow.

Teacher reflection (fictional example)

Fictional Example — Customize and Verify Before School Submission.

Most learners met the target. Two needed the visual cue repeated during guided practice; I will pre-teach with them tomorrow. The extension held attention longer than planned, so I shortened closure.

Day 45 — Expressions, Manipulated and Checked

Week 9, Day 5 · Unit 3 · Standards: 7.NS.1

Focus	7.NS.1 assessed.
Learning target	"I can add, factor and expand linear expressions and check they still mean the same."
Vocabulary in use	linear expression, term, coefficient, like terms, factor, expand, equivalent
Local date	_____

Learning sequence

Connect: the week. Teach: a mixed set, with equivalence checked by substituting a value. Try: shared setup. Apply: pupils complete. Reflect: this week's standard recorded.

Check for understanding

Student manipulates expressions and verifies equivalence.

Differentiation in the moment

If the learner...	Then...
needs more support	Model the step again with guided support, then fade to a gesture cue.
is ready for more	Invite the learner to demonstrate for a peer or add a second example.
is dysregulated	Pause instruction, move to co-regulation, and return to the target later.

Closure and reflection

Gather the group. Restate the learning target. Ask one learner to demonstrate. Name one specific thing the group did well, then preview tomorrow.

Teacher reflection (fictional example)

Fictional Example — Customize and Verify Before School Submission.

Most learners met the target. Two needed the visual cue repeated during guided practice; I will pre-teach with them tomorrow. The extension held attention longer than planned, so I shortened closure.

Important before you buy

- This is a **digital download**. Nothing is shipped.
- The planner is **calendar-neutral**: Month 1–9, Week 1–36, Day 1–180, so it fits any school calendar. You add your own dates.
- Standards were transcribed from the official source.
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Source citation

Alaska Department of Education and Early Development. Alaska Mathematics Standards. Adopted June 2012. Printed three grades to a page, so every statement was taken from the Grade 7 column; the code prefix independently confirms the grade and a disagreement aborts the extraction. TWENTY-FOUR CONTENT STANDARDS ARE REGISTERED across Ratios and Proportional Relationships, The Number System, Expressions and Equations, Geometry and Statistics and Probability, PLUS THE EIGHT STANDARDS FOR MATHEMATICAL PRACTICE. GRADE 7 IS THE SMALLEST MIDDLE-SCHOOL SET -- twenty-four against Grade 6's thirty-two and Grade 8's twenty-nine -- which is the document's doing rather than an omission, and a department comparing plans by count should know it. THE EXTRACTION PROVES ITS OWN COMPLETENESS: every Grade 7 code appearing anywhere in the document must be captured, and the run aborts if one is not. Retrieved 2026-07-27 from https://education.alaska.gov/akstandards/math/adopted_math.pdf