

Montana 11 Algebra II

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	Montana
Grade	11 (High)
Subject	Algebra II
Course category	Mathematics
Standards family	Mathematics
Framework	Montana PK-12 Mathematics Content Standards (adopted 2025, implemented 2026)
Issuing agency	Montana Office of Public Instruction
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
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The pages that follow are reproduced **exactly** as they appear in the full completed planner.

Week 9 — Equations and Inequalities in One Variable

Unit 3: Building Equations From Situations · Month 3 · Quarter 1 · Semester 1 · Instructional Days 41–45

Essential question	How do you turn a situation into something you can solve?
Standards	Equations and Inequalities in One Variable -> MT.CORE.ALG.MOD.1 Core Algebraic and Functional Reasoning Standards / Modeling with Functions (MOD) — Model situations in context, with linear, quadratic, and exponential functions. This standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities by: Determining if a set of data is best modeled by a linear function, quadratic function, exponential function, or none, and explaining why, and Understanding that there are contexts where solutions may not lie on the curve. Practice: Model With Mathematics -> MT.MP.4 Standards for Mathematical Practice / Model with Mathematics — Mathematically proficient students: Make sense of a scenario; Identify a problem to be solved, and mathematize it; Apply a mathematical model to reach a solution and verify its viability
Learning target	"I can create an equation or inequality in one variable from a problem and solve it."
Local dates	_____ (enter your school dates)

Measurable objectives

- Students will create equations and inequalities in one variable and use them to solve problems. Extend to equations arising from polynomial, trigonometric (sine and cosine), logarithmic, radical, and general piecewise functions.
- Students will model with mathematics.

Success criteria (student-friendly)

- "I define the variable precisely, with units."
- "I create an equation or inequality that represents the situation."
- "I solve it and interpret the answer back in the situation."

Academic vocabulary

variable, constraint, equation, inequality, piecewise, interpret, feasible, solution set, units

Materials and technology

- Notebooks
- Supplied problem contexts

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.
Section 504	Provide the child's documented accommodations throughout; permit movement breaks and alternative seating at any point in the sequence.

Support area	This week's plan
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

Student creates and solves equations from contexts across several function families.

Family communication

Ask your child what their variable stands for, exactly.

Day 41 — Defining the Variable Precisely

Week 9, Day 1 · Unit 3 · Standards: MT.CORE.ALG.MOD.1, MT.MP.4

Focus	The first step.
Learning target	"I can create an equation or inequality in one variable from a problem and solve it."
Vocabulary in use	variable, constraint, equation, inequality, piecewise, interpret, feasible, solution set, units
Local date	_____

Learning sequence

Connect: 'let x be the number'. Teach: a variable definition must say what quantity, measured in what units, at what moment - 'let t be the time in hours since 8am' rather than 'let t be time'. Almost every modelling error at this level is a vague definition, and the answer then cannot be interpreted. Try: shared repair of supplied vague definitions. Apply: students write precise definitions for five supplied contexts. Reflect: if you cannot state the units, you have not defined the variable.

Check for understanding

Student writes precise variable definitions with units and reference points.

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 — From Words to an Equation

Week 9, Day 2 · Unit 3 · Standards: MT.CORE.ALG.MOD.1, MT.MP.4

Focus	Creation.
Learning target	"I can create an equation or inequality in one variable from a problem and solve it."
Vocabulary in use	variable, constraint, equation, inequality, piecewise, interpret, feasible, solution set, units
Local date	_____

Learning sequence

Connect: the standard says CREATE. Teach: identify what is equal to what, or what is bounded by what - the relationship in the situation is what the equation records, and reading the sentence for 'is', 'at least', 'no more than' and 'per' is most of the translation. An inequality is used when the situation states a bound rather than an equality. Try: shared translation of supplied contexts. Apply: students create equations or inequalities for six contexts without solving. Reflect: creating is a separate skill from solving, and it is the one being assessed here.

Check for understanding

Student creates equations and inequalities that faithfully represent contexts.

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 — Extending to Harder Function Families

Week 9, Day 3 · Unit 3 · Standards: MT.CORE.ALG.MOD.1, MT.MP.4

Focus	The standard's extension.
Learning target	"I can create an equation or inequality in one variable from a problem and solve it."
Vocabulary in use	variable, constraint, equation, inequality, piecewise, interpret, feasible, solution set, units
Local date	_____

Learning sequence

Connect: the standard names polynomial, trigonometric, logarithmic, radical and piecewise. Teach: the modelling process does not change with the function family - define, translate, solve, interpret - and what changes is the solving technique, which Unit 2 supplied. Recognising which family a situation calls for is part of the skill: periodic behaviour suggests trigonometric, proportional growth suggests exponential, a rule that changes at a threshold suggests piecewise. Try: shared matching of supplied contexts to families. Apply: students match eight contexts and create the equation for three. Reflect: the shape of the situation names the family.

Check for understanding

Student matches contexts to function families and creates appropriate equations.

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 — Piecewise Situations

Week 9, Day 4 · Unit 3 · Standards: MT.CORE.ALG.MOD.1, MT.MP.4

Focus	Piecewise functions.
Learning target	"I can create an equation or inequality in one variable from a problem and solve it."
Vocabulary in use	variable, constraint, equation, inequality, piecewise, interpret, feasible, solution set, units
Local date	_____

Learning sequence

Connect: rules that change at a threshold. Teach: piecewise models describe situations where the rule genuinely differs over intervals - a rate that changes above a limit, a charge that applies only past a point - and the critical work is the BOUNDARY: which piece applies exactly at the threshold, and whether the pieces meet. Try: shared construction of a supplied piecewise model, deciding the boundary carefully. Apply: students build two piecewise models and solve a question in each piece. Reflect: the boundary is where the errors and the interesting questions both live.

Check for understanding

Student builds piecewise models and handles boundaries 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 45 — Interpreting the Answer Back

Week 9, Day 5 · Unit 3 · Standards: MT.CORE.ALG.MOD.1, MT.MP.4

Focus	The week's product.
Learning target	"I can create an equation or inequality in one variable from a problem and solve it."
Vocabulary in use	variable, constraint, equation, inequality, piecewise, interpret, feasible, solution set, units
Local date	_____

Learning sequence

Teach: the solution of the equation is not the answer to the problem until it is interpreted - in units, checked for feasibility (a negative time, a fractional person, a value outside the model's domain), and stated as a sentence. Try: shared interpretation of supplied solutions including one that is mathematically valid and physically impossible. Apply: students solve and fully interpret three problems. Reflect: always ask whether the answer could happen.

Check for understanding

Student interprets solutions in context and checks feasibility.

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

Montana Office of Public Instruction. Montana PK-12 Mathematics Content Standards (adopted 2025, implemented 2026). Codes and statements are transcribed from the MONTANA PK-12 MATHEMATICS CONTENT STANDARDS, whose own cover reads "MONTANA OFFICE OF PUBLIC INSTRUCTION (OPI) ADOPTED 2025 IMPLEMENTED 2026". THIS IS A RECENT CHANGE OF EDITION AND IT MATTERS: OPI's mathematics standards page records the previous 2011 Montana mathematics standards as effective UNTIL JUNE 2026 and this edition as effective FROM JULY 2026, so this is the framework in force for the 2026-27 school year and the 2011 codes are superseded. Codes take the form MT.GRADE.DOMAIN.NUMBER -- the document explains its own scheme, with kindergarten indicated by "K", grades 1-8 by their number and high school by "HS" -- and domains are abbreviated, among them CC counting and cardinality, OA operations and algebraic thinking, NBT number and operations in base ten, MD measurement and data and G geometry. MANY STANDARDS CARRY MONTANA INDIAN EDUCATION FOR ALL CONTENT INSIDE THE STANDARD ITSELF, in the recurring form "This standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities". That sentence is part of the standard as printed and is transcribed with it; trimming it to the national Common Core wording would misrepresent what Montana adopted. THIS STATE PUBLISHES NO ALGEBRA II COURSE, AND NO HIGH SCHOOL MATHEMATICS COURSES AT ALL. Its standards are CORE and CORE PLUS across four conceptual categories, eighty-one in all, none of them assigned to a grade or a course name, so there is no ordinary sequence and no acceleration route -- taking this in grade 10 is neither ahead of nor behind anything the state has published. WHAT THIS ROW DOES IS REGISTER THE WHOLE OF CORE PLUS: all thirty-one standards, which is where this state files polynomials, logarithms, trigonometry, the normal distribution, experimental design and statistical inference. It is the only row in this series that covers Core Plus completely, and if your school is deciding which course carries those standards, this is the one. Nine Core standards are registered alongside

them where the year genuinely uses them. ONE THING IS NOT COVERED BY ANY STANDARD, AND YOU SHOULD KNOW BEFORE YOU BUY: THIS STATE PUBLISHES NO MATRIX STANDARDS, and this plan teaches five weeks of matrices. Those weeks are registered against the practice standard MP.5 Represent, which is honestly what they exercise, and they are enrichment beyond the state's content requirement rather than a requirement you are meeting. THE PRACTICE STANDARDS ARE THIS STATE'S OWN SEVEN, not the familiar eight. Retrieved 2026-07-27 from https://opifiles.mt.gov/Portals/182/Page%20Files/K-12%20Content%20Standards%20%26%20Revision/Math/PK-12%20Montana%20Math%20Standards_PUBLIC.pdf