

Montana 12 Statistics

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	12 (High)
Subject	Statistics
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
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 — Counting in Two Directions

Unit 3: Data That Is Not a Number · Month 3 · Quarter 1 · Semester 1 · Instructional Days 41–45

Essential question	How do you organise data when both variables are categories?
Standards	Two-Way Tables -> MT.CORE.DATA.INT.7 Attend to Precision -> MT.MP.1, MT.MP.6 <i>3 standards this week; full text in the standards table.</i>
Learning target	"I can build a two-way table and read all three kinds of proportion from it."
Local dates	_____ (enter your school dates)

Measurable objectives

- Students will generate a two-way categorical table in order to find and evaluate solutions to real-world problems.

Success criteria (student-friendly)

- "I generate a correct two-way table with totals."
- "I compute joint, marginal and conditional proportions."
- "I choose the proportion that answers the question asked."

Academic vocabulary

two-way table, cell, row total, column total, grand total, joint proportion, marginal proportion, conditional proportion

Materials and technology

- Notebooks
- Supplied data sets
- Grid 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.
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

Student builds two-way tables and selects the correct proportion.

Family communication

Ask your child how the same table can give three different percentages.

Day 41 — A Table With Two Ways In

Week 9, Day 1 · Unit 3 · Standards: MT.CORE.DATA.INT.7, MT.MP.1, MT.MP.6

Focus	Construction.
Learning target	"I can build a two-way table and read all three kinds of proportion from it."
Vocabulary in use	two-way table, cell, row total, column total, grand total, joint proportion, marginal proportion, conditional proportion
Local date	_____

Learning sequence

Connect: a supplied list of two hundred records, each carrying two categories. Teach: a two-way table puts one variable's categories down the side and the other's across the top, with each cell counting the records having both. Add row totals, column totals and a grand total - they are not decoration, they are what the next two days need, and they are also the arithmetic check. Try: shared construction of one table from supplied records, totals included. Apply: students build two tables from supplied data and verify the totals agree. Reflect: the totals catching an error is the reason to write them.

Check for understanding

Student constructs a correct two-way table with totals.

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 — Three Percentages From One Cell

Week 9, Day 2 · Unit 3 · Standards: MT.CORE.DATA.INT.7, MT.MP.1, MT.MP.6

Focus	Joint, marginal, conditional.
Learning target	"I can build a two-way table and read all three kinds of proportion from it."
Vocabulary in use	two-way table, cell, row total, column total, grand total, joint proportion, marginal proportion, conditional proportion
Local date	_____

Learning sequence

Connect: one cell holds 45. Teach: 45 out of the GRAND total is the joint proportion; a row or column total out of the grand total is a marginal proportion; 45 out of its OWN ROW total, or out of its own column total, are two different conditional proportions. Four legitimate percentages come out of one cell and they answer four different questions. This is where most misreadings of statistics begin. Try: shared computation of all four for one supplied cell. Apply: students compute all four for three cells and state the question each answers. Reflect: the number is the same; the denominator is the claim.

Check for understanding

Student computes joint, marginal and both conditional proportions.

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 — Which One Answers the Question

Week 9, Day 3 · Unit 3 · Standards: MT.CORE.DATA.INT.7, MT.MP.1, MT.MP.6

Focus	Choosing the denominator.
Learning target	"I can build a two-way table and read all three kinds of proportion from it."
Vocabulary in use	two-way table, cell, row total, column total, grand total, joint proportion, marginal proportion, conditional proportion
Local date	_____

Learning sequence

Connect: three supplied questions about the same table. Teach: 'what fraction of everybody' wants the grand total; 'what fraction of THIS GROUP' wants that group's own total; and swapping the two is the classic error - the fraction of A who are B is not the fraction of B who are A, and the two can differ enormously. Week 15 gives this a name. Try: shared matching of four questions to four denominators. Apply: students answer six questions from a supplied table, stating the denominator each time. Reflect: writing the denominator down before computing prevents nearly every error here.

Check for understanding

Student selects the correct denominator for a stated question.

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 — Using a Table to Decide Something

Week 9, Day 4 · Unit 3 · Standards: MT.CORE.DATA.INT.7, MT.MP.1, MT.MP.6

Focus	The standard's purpose clause.
Learning target	"I can build a two-way table and read all three kinds of proportion from it."
Vocabulary in use	two-way table, cell, row total, column total, grand total, joint proportion, marginal proportion, conditional proportion
Local date	_____

Learning sequence

Teach: so the table is a means. Given a supplied practical question - which of two processes produces fewer faults, which of two routes is more often on time - build the table, compute the comparable proportions and answer the question in a sentence. Try: shared solution of one supplied decision problem end to end. Apply: students answer two supplied decision problems from tables they build. Reflect: the answer is the sentence, not the table.

Check for understanding

Student answers a practical question using a self-built two-way table.

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 — Percentages That Do Not Add Up

Week 9, Day 5 · Unit 3 · Standards: MT.CORE.DATA.INT.7, MT.MP.1, MT.MP.6

Focus	Precision.
Learning target	"I can build a two-way table and read all three kinds of proportion from it."
Vocabulary in use	two-way table, cell, row total, column total, grand total, joint proportion, marginal proportion, conditional proportion
Local date	_____

Learning sequence

Connect: a supplied report whose percentages total 118%. Teach: percentages computed against different denominators cannot be added, and a set that should total 100% and does not signals either different denominators, double counting or rounding. Precision here is stating the denominator with every percentage - 'of all respondents', 'of those who answered' - which makes the error impossible to hide. Try: shared diagnosis of two supplied faulty tables. Apply: students diagnose three faulty reports and rewrite one correctly with denominators stated. Reflect: a percentage with no denominator attached is not yet a fact.

Check for understanding

Student diagnoses percentage errors and states denominators explicitly.

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 STATISTICS COURSE AND NO PROBABILITY COURSE -- it publishes no high school mathematics courses at all -- BUT IT DOES FILE THIS MATERIAL AS A CONCEPTUAL CATEGORY OF ITS OWN, which is why this year is not scavenged from other people's courses. THIS ROW REGISTERS EVERY DATA REASONING AND PROBABILITY STANDARD THE STATE HAS: all twelve in Core -- quantitative literacy, the seven visualising and summarising standards, and probability -- and ALL NINE OF CORE PLUS DATA REASONING: the normal distribution, experimental design, and statistical inference using simulation. Twenty-one standards, and the Core Plus nine appear in only one other planner in this series. THE PRACTICE STANDARDS ARE THIS STATE'S OWN SEVEN, not the familiar eight: there is no

separate practice for structure or for repeated reasoning, both sit inside MP.2 Abstract and Generalize, and there are two the eight do not have -- MP.6 Collaborate Mathematically and MP.7 Culturally Connect, which asks pupils to appreciate the role of mathematics in cultural contexts including those of tribally specific Montana Indigenous Peoples. 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