Montana 3 Technology / Computer Science

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	3 (Elementary)
Subject	Technology / Computer Science
Course category	Technology
Standards family	Science
Framework	Montana Content Standards for Computer Science (2021)
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 — Predicting What an Algorithm Does

Unit 3: Algorithms and Flowcharts · Month 3 · Quarter 1 · Semester 1 · Instructional Days 41–45

Essential question	Can I work out the result before running it?
Standards	**Predicting What an Algorithm Does** -> **CS.DA.3.3 Montana Computer Science K-12 / data and analysis** — understand the accuracy of predictions and how they are influenced by the amount of data collected
Learning target	“I can predict what an algorithm will do before it runs.”
Local dates	_____ (enter your school dates)

Measurable objectives

- Students will examine logical reasoning to predict outcomes of an algorithm.
- Students will check their prediction against the actual outcome.

Success criteria (student-friendly)

- “I read every step.”
- “I predict the outcome.”
- “I check my prediction.”

Academic vocabulary

algorithm, step, predict, logical reasoning, outcome

Materials and technology

- Algorithm cards
- Unplugged materials
- Notebooks
- Chart paper
- Class devices

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.

Support area	This week's plan
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

Written prediction plus comparison with the actual outcome.

Family communication

Ask your child to predict what a set of steps will do.

Day 41 — What an Algorithm Is

Week 9, Day 1 · Unit 3 · Standards: CS.DA.3.3

Focus	Definition.
Learning target	“I can predict what an algorithm will do before it runs.”
Vocabulary in use	algorithm, step, predict
Local date	_____

Learning sequence

Connect: steps and plans. Teach: an algorithm is a precise sequence of steps. Try: shared example. Apply: children identify one. Reflect: precision emphasised.

Check for understanding

Student explains what an algorithm is.

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 — Following Steps Exactly

Week 9, Day 2 · Unit 3 · Standards: CS.DA.3.3

Focus	Literal execution.
Learning target	“I can predict what an algorithm will do before it runs.”
Vocabulary in use	algorithm, step, predict
Local date	_____

Learning sequence

Connect: algorithms. Teach: a computer does exactly what is written. Try: shared unplugged activity. Apply: children follow literally. Reflect: ambiguity exposed.

Check for understanding

Student follows an algorithm exactly as written.

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 — Reading Ahead to Predict

Week 9, Day 3 · Unit 3 · Standards: CS.DA.3.3

Focus	Prediction.
Learning target	“I can predict what an algorithm will do before it runs.”
Vocabulary in use	algorithm, step, predict
Local date	_____

Learning sequence

Connect: literal execution. Teach: tracing steps mentally before running. Try: shared tracing. Apply: children predict. Reflect: tracing modelled.

Check for understanding

Student predicts an algorithm's outcome by tracing it.

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 Logical Reasoning

Week 9, Day 4 · Unit 3 · Standards: CS.DA.3.3

Focus	The standard's wording.
Learning target	“I can predict what an algorithm will do before it runs.”
Vocabulary in use	algorithm, step, predict
Local date	_____

Learning sequence

Connect: prediction. Teach: reasoning from the rules, not guessing. Try: shared reasoning. Apply: children justify predictions. Reflect: reasoning made explicit.

Check for understanding

Student justifies a prediction with logical reasoning.

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 — Checking My Prediction

Week 9, Day 5 · Unit 3 · Standards: CS.DA.3.3

Focus	Verification.
Learning target	“I can predict what an algorithm will do before it runs.”
Vocabulary in use	algorithm, step, predict
Local date	_____

Learning sequence

Connect: reasoning. Teach: running it and comparing. Try: shared checking. Apply: children check. Reflect: wrong predictions are informative.

Check for understanding

Student compares a prediction with the actual outcome.

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

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Source citation

Montana Office of Public Instruction. Montana Content Standards for Computer Science (2021). Codes and statements are transcribed from the MONTANA CONTENT STANDARDS FOR COMPUTER SCIENCE FOR K-12, which records on every page "Document Created April 5, 2021 | Standards Effective date July 1, 2021". It was produced on the same day, in the same template and with the same coding scheme as the social studies standards: SUBJECT.STANDARD.GradeLevel SUBSTANDARD.sub-substandard, with CS computer science and the content areas AP algorithms and programming, CS computing systems, DA data and analysis, IC impacts of computing and NI networks and the internet. THE SAME SINGLE-STANDARD RULE APPLIES: an area with one standard at a grade states it on the area line and its code ends at the grade, with no final number. NOT EVERY CONTENT AREA APPEARS AT EVERY GRADE -- networks and the internet has no standards in the earliest grades -- and no standard is invented to fill the gap. A TYPOGRAPHICAL ERROR IN THE SOURCE IS RECORDED RATHER THAN CORRECTED IN SILENCE: the kindergarten data and analysis stem reads "standards TO kindergarten" where every other stem reads "for". It affects a stem line rather than a standard, so no registered statement is changed by it. THIS ENTRY IS THE GRADE 3 ROW of the 2021 Montana Content Standards for Computer Science, and it registers ALL TWELVE GRADE 3 STANDARDS: four algorithms and programming, two computing systems, three data and analysis and three impacts of computing. A DOMAIN THAT EXISTS AT GRADE 2 IS ABSENT HERE. Grade 2 publishes five domains including networks and the internet; GRADE 3 PUBLISHES FOUR, with no networks standards at all, so a row built by carrying the grade below's domain list forward would claim two standards this grade does not have. The count moves the other way too -- fifteen standards at grade 2, twelve here -- which is why the domain list is read per grade rather than assumed to grow. THE CODE FORM IS THE DOCUMENT'S OWN, CS.... THE PLANNER IS TOOL-NEUTRAL AND THE STANDARDS ARE TOO: no product, platform, brand or vendor is named in either, so a school can teach the year on whatever it already licenses. Montana publishes computer science as a K-12 strand in its own right rather than folding it into science or library media, which is why this row cites computer

science codes and not science ones. Retrieved 2026-07-27 from https://opifiles.mt.gov/Portals/182/Page%20Files/K-12%20Content%20Standards%20%26%20Revision/Computer%20Science/CS%20K12.pdf