Montana 9 Biology

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	9 (High)
Subject	Biology
Course category	Science
Standards family	Science
Framework	Montana Science Content Standards (2016), codified at ARM 10.53 subchapter 8
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 — Holding Steady

Unit 3: Keeping a Cell Alive · Month 3 · Quarter 1 · Semester 1 · Instructional Days 41–45

Essential question	How does a cell keep its inside different from its outside?
Standards	**Regulating Cellular Processes** -> **ARM 10.53.810(2)(c) Life Science** — plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis
Learning target	“I can explain homeostasis and distinguish active from passive transport.”
Local dates	_____ (enter your school dates)

Measurable objectives

• Students will engage in argument from evidence to explain the regulation of cellular processes that maintain homeostasis, including active and passive transport.

Success criteria (student-friendly)

- “I define homeostasis in terms of a maintained difference.”
- “I distinguish active from passive transport by energy use.”
- “I predict the direction of movement from a gradient.”

Academic vocabulary

homeostasis, gradient, diffusion, osmosis, active transport, passive transport

Materials and technology

- Notebooks
- Printed data
- Chart paper
- Water, salt and dialysis or similar as available

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.

Support area	This week's plan
Enrichment	Extend into an open-ended centre or project connected to the essential question.

Assessment and evidence

Transport type predicted and justified from evidence.

Family communication

Ask your child what a cell has to spend energy on.

Day 41 — A Difference That Has to Be Maintained

Week 9, Day 1 · Unit 3 · Standards: ARM 10.53.810(2)(c)

Focus	The idea.
Learning target	“I can explain homeostasis and distinguish active from passive transport.”
Vocabulary in use	homeostasis, gradient, diffusion, osmosis, active transport, passive transport
Local date	_____

Learning sequence

Connect: the membrane. Teach: homeostasis as maintaining an internal state DIFFERENT from the surroundings, and why any such difference tends to disappear on its own. Try: shared listing of differences a cell maintains. Apply: students list four and say which way each would drift. Reflect: maintaining a difference always costs something.

Check for understanding

Student states what homeostasis maintains and why it costs energy.

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 — Passive Movement

Week 9, Day 2 · Unit 3 · Standards: ARM 10.53.810(2)(c)

Focus	Down the gradient.
Learning target	“I can explain homeostasis and distinguish active from passive transport.”
Vocabulary in use	homeostasis, gradient, diffusion, osmosis, active transport, passive transport
Local date	_____

Learning sequence

Connect: drift. Teach: diffusion and osmosis as movement down a gradient requiring no energy from the cell, with the direction predictable from the gradient alone. Try: shared prediction for four situations. Apply: students predict direction for five. Reflect: passive does not mean unimportant; it means free.

Check for understanding

Student predicts the direction of passive movement.

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 — Active Transport

Week 9, Day 3 · Unit 3 · Standards: ARM 10.53.810(2)(c)

Focus	Against the gradient.
Learning target	“I can explain homeostasis and distinguish active from passive transport.”
Vocabulary in use	homeostasis, gradient, diffusion, osmosis, active transport, passive transport
Local date	_____

Learning sequence

Connect: passive movement. Teach: transport AGAINST a gradient, why it must consume energy, and how to tell the two apart from evidence rather than by being told. Try: shared analysis of two data sets, deciding which transport is involved. Apply: students classify three cases from evidence. Reflect: movement against a gradient is the signature of active transport.

Check for understanding

Student classifies transport from evidence.

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 — Investigating a Gradient

Week 9, Day 4 · Unit 3 · Standards: ARM 10.53.810(2)(c)

Focus	Practical.
Learning target	“I can explain homeostasis and distinguish active from passive transport.”
Vocabulary in use	homeostasis, gradient, diffusion, osmosis, active transport, passive transport
Local date	_____

Learning sequence

Connect: prediction. Teach: an investigation into movement across a barrier at different concentrations, run with ordinary materials. SAFETY: eye protection where anything can splash; nothing tasted or smelled; hands washed afterwards; NO HUMAN OR ANIMAL MATERIAL IS USED. NO-EQUIPMENT ROUTE: a supplied real data set gives the same analysis, and the standard is met by analysing it. Try: shared setup and prediction. Apply: students run or analyse and record results. Reflect: record what happened, including if it disagreed with your prediction.

Check for understanding

Student records and interprets transport data.

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 — Arguing From the Evidence

Week 9, Day 5 · Unit 3 · Standards: ARM 10.53.810(2)(c)

Focus	The standard's verb.
Learning target	“I can explain homeostasis and distinguish active from passive transport.”
Vocabulary in use	homeostasis, gradient, diffusion, osmosis, active transport, passive transport
Local date	_____

Learning sequence

Connect: results. Teach: building an argument from the week's evidence that regulated transport maintains homeostasis, and answering a challenge. Try: shared drafting. Apply: students write one argument and answer one challenge. Reflect: the argument rests on your data, not on the textbook.

Check for understanding

Student argues from evidence for regulated transport.

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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Source citation

Montana Office of Public Instruction. Montana Science Content Standards (2016), codified at ARM 10.53 subchapter 8. Statements are transcribed from the MONTANA SCIENCE CONTENT STANDARDS, whose own cover reads "Adopted September 16, 2016 by the Montana Board of Public Education". THAT DOCUMENT PRINTS NO CODES. Each grade is a set of discipline headings -- physical science, life science, earth and space science -- followed by unnumbered bullets, so there is nothing in it that can be printed in a code column. The same standards are codified in the ADMINISTRATIVE RULES OF MONTANA, CHAPTER 10.53 SUBCHAPTER 8, one rule per grade, and the rule's structure is exactly the document's: a numbered subsection per discipline heading, a lettered item per bullet, same order and same count. THE ARM SUBSECTION IS REGISTERED AS THE CODE. This is an existing official citation rather than an invented identifier, and it is the citation a Montana reviewer can actually look up; the alternative would have been to ship science products with no codes at all. Bullets are separated in the PDF by a Symbol-font character in the Unicode Private Use Area rather than by a literal dot; splitting on the indent instead merges a whole discipline into one run, and splitting per line fragments every standard mid-sentence, so the glyph is what the transcription splits on and the item count is checked against the counts the document's headings imply. THIS STATE WRITES ONE SCIENCE RULE FOR THE WHOLE OF GRADES 9-12, ARM 10.53.810, holding sixty-one standards in three disciplines -- twenty-three physical science, twenty life science and eighteen earth and space science -- and it assigns none of them to a grade or to a course. THIS ROW REGISTERS THE WHOLE OF THE LIFE SCIENCE DISCIPLINE, all twenty of subsection (2), so a biology year here is complete against the state's life science standards rather than a selection from them. It does not touch physical or earth and space science, which the other science courses in this series carry. TWO OF THE TWENTY ARE INDIAN EDUCATION FOR ALL STANDARDS AND ARE TAUGHT AS SCIENCE, NOT AS AN ADDITION: (2)(k) asks pupils to analyze scientific concepts used by American Indians to maintain healthy relationships with environmental resources, and (2)(t) to investigate and explain American Indian perspectives on changes in environmental conditions and their impacts. Indian Education for All is

Article X, section 1(2) of the state constitution and MCA 20-1-501, which also directs schools to work with the state's tribes on that content. Retrieved 2026-07-27 from https://opifiles.mt.gov/Portals/182/Page%20Files/K-12%20Content%20Standards%20%26%20Revision/Science/Montana-Science-Content-Standards-2016.pdf