New Hampshire 11 Physics

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	New Hampshire
Grade	11 (High)
Subject	Physics
Course category	Science
Standards family	Science
Framework	Next Generation Science Standards (DCI arrangements), adopted by New Hampshire as its College and Career Ready Standards
Issuing agency	New Hampshire Department of Education
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 — Work and Power

Unit 3: Work, Power and Energy · Month 3 · Quarter 1 · Semester 1 · Instructional Days 41–45

Essential question	What does a physicist mean by work, and how fast can it be done?
Standards	**Conservation of Energy and Momentum** -> **HS-PS3-1 Energy** — Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known. [Clarification Statement: Emphasis is on explaining the meaning of mathematical expressions used in the model.] [Assessment Boundary: Assessment is limited to basic algebraic expressions or computations; to systems of two or three components; and to thermal energy, kinetic energy, and/or the energies in gravitational, magnetic, or electric fields.]
Learning target	“I can compute work and power and explain how they relate through time.”
Local dates	_____ (enter your school dates)

Measurable objectives

- Students will use mathematical and computational thinking to explain the relationships among work, power, and time.

Success criteria (student-friendly)

- “I compute work done by a force.”
- “I explain when a force does no work.”
- “I compute power as work over time.”

Academic vocabulary

work, joule, power, watt, force, displacement, component, energy transfer, rate

Materials and technology

- Notebooks
- Supplied problem sets
- Newton meters
- Metre rules
- Laboratory masses

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 computes work and power and identifies zero-work cases.

Family communication

Ask your child whether carrying a heavy bag along a flat corridor does any work.

Day 41 — Work Is Not What You Think It Is

Week 9, Day 1 · Unit 3 · Standards: HS-PS3-1

Focus	The definition.
Learning target	“I can compute work and power and explain how they relate through time.”
Vocabulary in use	work, joule, power, watt, force, displacement, component, energy transfer, rate
Local date	_____

Learning sequence

Connect: hold a heavy mass still at arm's length until it aches - how much work have you done? Teach: none, in the physics sense. WORK is force times displacement in the direction of the force, measured in joules, so with no displacement there is no work however tired you are. The everyday word and the physics word are different, and the physics one is precise. Try: shared computation of work for three supplied cases including a zero. Apply: students compute work for five cases with units. Reflect: your arm aches because of what is happening inside your muscles, which is biology rather than a counterexample.

Check for understanding

Student computes work and identifies cases where no work is done.

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 — Force at an Angle

Week 9, Day 2 · Unit 3 · Standards: HS-PS3-1

Focus	The component that counts.
Learning target	“I can compute work and power and explain how they relate through time.”
Vocabulary in use	work, joule, power, watt, force, displacement, component, energy transfer, rate
Local date	_____

Learning sequence

Connect: a case pulled along by a strap at an angle to the floor. Teach: only the component of the force ALONG the displacement does work, so the work is the force times the displacement times the cosine of the angle between them - which is Unit 1's resolving, again. A force perpendicular to the motion does NO work at all, which is why the normal force never does any and why Unit 6's centripetal force will not either. Try: shared computation of work at three angles for the same force and displacement. Apply: students compute work for four angled cases and identify a zero-work force in each of two situations. Reflect: the perpendicular result is worth remembering; Unit 6 depends on it.

Check for understanding

Student computes work with an angled force and identifies zero-work forces.

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 — How Fast the Work Is Done

Week 9, Day 3 · Unit 3 · Standards: HS-PS3-1

Focus	Power.
Learning target	“I can compute work and power and explain how they relate through time.”
Vocabulary in use	work, joule, power, watt, force, displacement, component, energy transfer, rate
Local date	_____

Learning sequence

Connect: two students carry identical loads up identical stairs, one in half the time. Teach: they did the SAME WORK and the faster one delivered more POWER, because power is work divided by time, measured in watts. One watt is one joule per second. Power says nothing about how much was done, only how quickly. Try: shared computation of power for three supplied cases. Apply: students compute power for five cases and rearrange for work and for time. Reflect: a small motor can do any amount of work given enough time, which is the practical meaning of the distinction.

Check for understanding

Student computes power and rearranges the relationship for each quantity.

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 — Measuring Power in the Laboratory

Week 9, Day 4 · Unit 3 · Standards: HS-PS3-1

Focus	Practical, low hazard.
Learning target	“I can compute work and power and explain how they relate through time.”
Vocabulary in use	work, joule, power, watt, force, displacement, component, energy transfer, rate
Local date	_____

Learning sequence

TEACHER NOTE: raising a laboratory mass a measured height at a steady rate using a newton meter or string over a pulley, at bench scale. NO STUDENT'S OWN BODY IS THE APPARATUS - this plan does not time students climbing stairs or lifting their own weight, because that turns a measurement into a comparison between classmates. SUPPLIED DATA IS AVAILABLE. Connect: measure a real power output. Teach: measure the force, the distance and the time; work is force times distance and power is work over time. Repeat and average. Try: shared run of one trial. Apply: students take three trials, compute power each time and average. Reflect: your three values differ; quoting the spread is part of the result.

Check for understanding

Student measures force, distance and time and computes a power output.

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 — Power the Other Way Round

Week 9, Day 5 · Unit 3 · Standards: HS-PS3-1

Focus	Computational thinking.
Learning target	“I can compute work and power and explain how they relate through time.”
Vocabulary in use	work, joule, power, watt, force, displacement, component, energy transfer, rate
Local date	_____

Learning sequence

Connect: a machine rated at 500 W - how long to raise a stated load a stated height? Teach: the sub-part says use mathematics AND COMPUTATIONAL THINKING to explain the relationships among work, power and time, and that means working in any direction round the triangle and knowing which quantity the question actually wants. Work out the work required first, then divide. Try: shared solution of two reverse problems. Apply: students solve five problems, each solving for a different quantity. Reflect: identifying which of the three you are being asked for is most of the difficulty.

Check for understanding

Student solves work-power-time problems for any unknown.

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

New Hampshire Department of Education. Next Generation Science Standards (DCI arrangements), adopted by New Hampshire as its College and Career Ready Standards. These are the Next Generation Science Standards, which New Hampshire adopts and republishes unchanged; the standard is national and the adoption is New Hampshire's. Performance expectations are published per grade through grade 5 and then by band (middle school, high school); engineering design is banded K-2 and 3-5. New Hampshire is a local-control state: district schools, public charter schools and private schools each adopt their own curriculum, not the Department of Education nor the State Board of Education. Retrieved 2026-07-27 from https://www.education.nh.gov/who-we-are/division-of-learner-support/bureau-of-instructional-support/career-and-college-ready-standards