

Standards Alignment

Classroom grow lab · Massachusetts frameworks · grades 5–8

At a glance

Every one of our **43 activities** is mapped to the current, adopted Massachusetts frameworks: **32 rated strong**, 4 partial and 7 foundational. Core grades 5–8, with adaptations down to grades 2–3. Every activity card students receive prints with its own standard codes.

Frameworks: MA Science & Technology/Engineering (2016) · MA Mathematics (2017) · MA English Language Arts & Literacy (2017) · MA Comprehensive Health & Physical Education / CHPE (2023) · CASEL 5 competencies for SEL.

An honesty note for your curriculum team: Massachusetts deliberately omits a standalone middle-school photosynthesis standard, so we anchor MS plant science to **matter & energy in living systems** (7.MS-LS2-3, 6.MS-LS1-2, 8.MS-LS1-7) rather than overclaiming. Likewise, MA CHPE places nutrition in the grade 3–5 band, so grade 6–8 nutrition is framed through decision-making and community/environmental health. The matrix below reflects those framework realities.

Legend: **Strong** = directly teaches and can assess the standard · **Partial** = meaningfully supports it · **Foundation** = builds readiness / naturally reinforces it.

The full activity-by-standard matrix

Science — matter & energy in living systems (MA STE 2016)

Standard	What it assesses	Grade	Where it lives in the grow lab	Fit
5-LS1-1	Plants get the materials they need for growth chiefly from air and water	Gr 5	Seed-to-sprout observation; “what does a plant actually eat?” investigation	Strong
5-PS3-1	Energy released from food was once energy from the sun	Gr 5	Tracing light → growth; why the lamp matters	Strong
5-LS2-1	Matter cycles among plants, animals, decomposers and the environment	Gr 5	Seed → plant → harvest → compost cycle	Strong
6.MS-LS1-1	Living things are made of cells	Gr 6	Germination and structure of the growing seedling	Strong
6.MS-LS1-2	How cell parts contribute to obtaining food and energy	Gr 6	Roots, stems and leaves as working structures	Strong
7.MS-LS2-3	Cycling of matter and flow of energy among living and nonliving parts	Gr 7	Where a plant’s mass comes from; matter is conserved	Strong
7.MS-LS1-5	Environmental and genetic factors influence organism growth	Gr 7	Comparing trays grown under different conditions	Strong

Standard	What it assesses	Grade	Where it lives in the grow lab	Fit
8.MS-LS1-7	Food molecules are rearranged through chemical reactions to release energy	Gr 8	From stored seed energy to edible greens	Strong
8.MS-LS1-5	Effect of environmental and genetic factors on growth (controlled test)	Gr 8	One-variable experiment: light, water or spacing	Strong
7.MS-ETS1-4	Develop and iterate a model / test to reach an optimal design	Gr 6–8	Tuning grow conditions across successive trays	Partial
6.MS-ETS1-1	Define a design problem with criteria and constraints	Gr 6–8	Designing the best setup for a healthy harvest	Partial
5-ESS3-1 / stewardship	Human impact on the environment; caring for living systems	Gr 5+	Resource use, water, and responsible growing	Foundation

Mathematics — real data from plant growth (MA Math 2017)

Standard	What it assesses	Grade	Where it lives in the grow lab	Fit
5.MD.B.2	Line plots to display a data set of measurements in fractions	Gr 5	Weekly plant-height line plots for the class	Strong
6.RP.A.1–3	Ratios, unit rates and rate reasoning	Gr 6	Growth per day; seeds per tray; yield per student	Strong
6.SP.B.5	Summarize numerical data (center, spread, shape)	Gr 6	Class growth data: mean, median and range	Strong
6.SP.A.2	Understand that data has a distribution and variability	Gr 6	Why not every tray grows the same	Strong
5.MD.A / 3.MD	Measurement with appropriate units and tools	Gr 3–5	Measuring height, water volume and spacing	Foundation

Literacy — content-area reading & writing (MA ELA 2017)

Standard	What it assesses	Grade	Where it lives in the grow lab	Fit
RCA-ST 6–8.3	Follow a multistep procedure in a science/technical text	Gr 6–8	Reading seed packets and planting procedures	Strong
RCA-ST 6–8.7	Integrate quantitative/visual info with text	Gr 6–8	Reading and building the growth-data chart	Strong
WCA 6–8.1	Write arguments with claim, evidence and reasoning	Gr 6–8	CER report: what helped your microgreens grow?	Strong
WCA 6–8.7	Conduct short research/investigation drawing on evidence	Gr 6–8	Science-journal write-ups across the cycle	Strong
SL 5–8.1	Collaborative discussion, building on others' ideas	Gr 5–8	Grade-team observations and harvest debrief	Foundation

Health & nutrition (MA CHPE 2023)

Standard	What it assesses	Grade	Where it lives in the grow lab	Fit
3.1.NE.1 (gr 5)	Identify components of a balanced diet / food groups	Gr 5	Where microgreens fit in a healthy plate	Strong

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3.1.NE.3 (gr 5)	Describe how food fuels the body	Gr 5	Food as energy — tied to the science strand	Strong
3.1.NE.4 (gr 5)	Recognize influences on food choices	Gr 5	Trying — and choosing — what you grew	Strong
3.1.NE.6/7 (gr 5)	Set a goal / take a step toward healthy eating	Gr 5	Taste test and personal reflection	Strong
CHPE 6–8 (decision-making)	Healthy decision-making; community & environmental health	Gr 6–8	Food access and where food comes from	Partial

Social-emotional learning (CASEL 5, as referenced by MA DESE)

Standard	What it assesses	Grade	Where it lives in the grow lab	Fit
CASEL — Self-management	Responsibility, routines and follow-through	Gr 5–8	Daily care of the trays over four weeks	Strong
CASEL — Responsible decision-making	Reasoned choices with evidence	Gr 5–8	Choosing conditions; nutrition choices	Strong
CASEL — Self-awareness	Noticing curiosity, wonder and reflection	Gr 5–8	Journaling and “what surprised you?” prompts	Foundation
CASEL — Social awareness	Awareness of community and food systems	Gr 5–8	Discussion of neighborhood food and access	Foundation
CASEL — Relationship skills	Collaboration and shared work	Gr 5–8	Growing and harvesting as a grade team	Foundation

This crosswalk covers the standards each activity is built to hit. A grade- and subject-specific version, generated for your exact classes, is produced automatically by our free lesson planner — every lesson prints with its codes. Questions or a deeper alignment report? Contact oliver@bostonyfp.org.