NOVEMBER 2026 / JANUARY 2027 PLANNING

Life Science: Biology atlas

Standards, score design, seasonal evidence, public stimuli, scored work and original transfer tasks.

Fri Jan 29 · 9:15 a.m. | Official January 2027 schedule

January forms	June forms	August forms	Printed slots
1	2	2	235

What the available design supports

The guide specifies 9–11 phenomenon clusters with 45–55 one-credit questions, roughly 60% selected response. Current ranges include ecosystems and inheritance at 14–27% each, natural selection/evolution at 14–24%, and structure/function at 9–20%.

January 2026 moved through twins, an invasive aquatic plant, pest management and honeybees. Seven of ten clusters contained the word model or models. June averaged seven model-cued clusters; August averaged 7.5. Graph cues varied more across these small groups.

One January and five total forms. Two June 2026 items received universal credit and are excluded from topic occurrence counts. They remain visible as printed records. Cluster word cues include directions and questions.

NYSED course guide / administration authority

A useful preparation decision

Select a recurring evidence demand, compare the official scoring criterion with a response, then change context for an independent check. The six new topic cards below broaden practice. Their contexts are original designs, and their exact future appearance has no estimated probability.

Topic	Original card
Ecosystem stability	BIO-N01 A pond after a nutrient pulse
Natural selection	BIO-N02 The resistant survivors
Matter and energy	BIO-N03 Where does the dry mass come from?
Homeostasis	BIO-N04 A response that reverses a change
Information and protein	BIO-N05 A mutation and a chain of effects
Human impacts and solutions	BIO-N06 Restoring a migration route

Blueprint and score contribution

Component	Range or maximum	Unit
Structure and Function	9.0 to 20.0	percent of test
Matter and Energy in Organisms and Ecosystems	9.0 to 16.0	percent of test
Interdependent Relationships in Ecosystems	14.0 to 27.0	percent of test
Inheritance and Variation of Traits	14.0 to 27.0	percent of test
Natural Selection and Evolution	14.0 to 24.0	percent of test
Earth Systems	2.0 to 9.0	percent of test
Engineering, Technology, and Applications	2.0 to 11.0	percent of test
Phenomenon-based clusters	9.0 to 11.0	clusters
Selected response	60.0 to 60.0	approx percent items
Constructed response	40.0 to 40.0	approx percent items
Required-investigation-linked questions	15.0 to 15.0	approx percent items

Inherited NYSED guide snapshot. Consult the current linked guide before operational use. Ranges describe blueprint constraints. Distinct units and weighting rules must be retained.

Preserve the scoring interpretation

A local response criterion supports feedback about that task. A shortened exam or modified full-length assembly lacks the state form's validated conversion. Report separate evidence for independent and prompted work. Preserve item weights when describing coverage.

Code ledger and form prevalence

Each row reports forms with at least one valid matching slot. A count such as 1/2 is a form prevalence, not student accuracy. Codes are retained at their actual mapping granularity. ELA writing tasks carry broad mappings and are excluded from this frequency ledger.

Published code / label	Jan	June	Aug	All
HS-ESS2-6 Carbon cycling among reservoirs	1/1	2/2	2/2	5/5
HS-ESS2-7 Coevolution of life and Earth	0/1	1/2	1/2	2/5
HS-ETS1-1 Define a design problem	1/1	1/2	1/2	3/5
HS-ETS1-2 Break down a complex problem	1/1	1/2	1/2	3/5
HS-ETS1-3 Evaluate trade-offs among solutions	1/1	2/2	2/2	5/5
HS-LS1-1 DNA, proteins and cell function	1/1	2/2	2/2	5/5
HS-LS1-2 Interacting body systems	1/1	2/2	2/2	5/5
HS-LS1-3 Feedback and homeostasis	1/1	2/2	2/2	5/5
HS-LS1-4 Cell division and differentiation	1/1	1/2	2/2	4/5
HS-LS1-5 Photosynthesis and energy	1/1	1/2	1/2	3/5
HS-LS1-6 Carbon-based molecules	0/1	1/2	1/2	2/5
HS-LS1-7 Cellular respiration	1/1	2/2	2/2	5/5
HS-LS1-8 Human reproduction and development	1/1	1/2	1/2	3/5
HS-LS2-1 Population carrying capacity	1/1	2/2	2/2	5/5
HS-LS2-2 Population and biodiversity estimates	1/1	2/2	2/2	5/5
HS-LS2-3 Matter cycling and energy flow	1/1	2/2	1/2	4/5

Published code / label	Jan	June	Aug	All
HS-LS2-4 Trophic levels and transfer	0/1	2/2	2/2	4/5
HS-LS2-5 Carbon cycling	0/1	2/2	2/2	4/5
HS-LS2-6 Ecosystem stability and change	1/1	2/2	2/2	5/5
HS-LS2-7 Reducing human impacts	1/1	1/2	1/2	3/5
HS-LS2-8 Group behavior and survival	1/1	1/2	2/2	4/5
HS-LS3-1 DNA, chromosomes and inheritance	1/1	2/2	1/2	4/5
HS-LS3-2 Sources of inherited variation	1/1	2/2	2/2	5/5
HS-LS3-3 Statistics of trait expression	1/1	0/2	2/2	3/5
HS-LS4-1 Evidence for common ancestry	1/1	2/2	2/2	5/5
HS-LS4-2 Natural selection and evolution	1/1	2/2	2/2	5/5
HS-LS4-3 Statistics of advantageous traits	1/1	1/2	2/2	4/5
HS-LS4-4 Adaptation through natural selection	1/1	2/2	2/2	5/5
HS-LS4-5 Environmental change and populations	0/1	1/2	2/2	3/5

Zero observed January forms provide no winter rate. Multiple codes can describe the same slot. Labels are short teaching descriptions, and official code wording and its boundary remain authoritative.

Topics, trend and stimulus hypotheses

Ecosystem stability

HS-LS2-6
January 1/1 | June 2/2 | August 2/2

Pooled planning probability 85.7% for a union of named codes in 5/5 forms. Nominal observed-prevalence interval 57%-100%. Union of named official codes on valid printed scoring slots in fully mapped target forms.

Design hypothesis constructed time series using stream restoration. Preserve the target relationship and change the setting.

Natural selection

HS-LS4-4
January 1/1 | June 2/2 | August 2/2

Pooled planning probability 85.7% for a union of named codes in 5/5 forms. Nominal observed-prevalence interval 57%-100%. Union of named official codes on valid printed scoring slots in fully mapped target forms.

Design hypothesis constructed population model using antibiotic resistance model. Preserve the target relationship and change the setting.

Matter and energy

HS-LS1-5
January 1/1 | June 1/2 | August 1/2

Pooled planning probability 57.1% for a union of named codes in 3/5 forms. Nominal observed-prevalence interval 23%-88%. Union of named official codes on valid printed scoring slots in fully mapped target forms.

Design hypothesis constructed growth investigation using sealed terrarium. Preserve the target relationship and change the setting.

Homeostasis

HS-LS1-3
January 1/1 | June 2/2 | August 2/2

Pooled planning probability 85.7% for a union of named codes in 5/5 forms. Nominal observed-prevalence interval 57%-100%. Union of named official codes on valid printed scoring slots in fully mapped target forms.

Design hypothesis constructed feedback data using temperature regulation. Preserve the target relationship and change the setting.

Information and protein

HS-LS1-1
January 1/1 | June 2/2 | August 2/2

Pooled planning probability 85.7% for a union of named codes in 5/5 forms. Nominal observed-prevalence interval 57%-100%. Union of named official codes on valid printed scoring slots in fully mapped target forms.

Design hypothesis constructed molecular model using enzyme function. Preserve the target relationship and change the setting.

Human impacts and solutions

HS-LS2-7
January 1/1 | June 1/2 | August 1/2

Pooled planning probability 57.1% for a union of named codes in 3/5 forms. Nominal observed-prevalence interval 23%-88%. Union of named official codes on valid printed scoring slots in fully mapped target forms.

Design hypothesis constructed design decision using habitat corridor. Preserve the target relationship and change the setting.

The contexts are possible practice stimuli. Their probabilities are unestimated. The quantitative estimates apply only to the named mapped-code event. Rows overlap and are not additive.

Observed public stimuli by topic

Ecosystem stability

BIO_2026_08 Q40-44 Parrots and Biodiversity

Text cues map

Open this source set or cluster

BIO_2026_08 Q35-39 Invasive Mussels

Text cues graph|diagram

Open this source set or cluster

Natural selection

BIO_2026_08 Q26-29 Frog Development

Text cues model

Open this source set or cluster

BIO_2026_08 Q17-21 Colorful Guppies

Text cues graph

Open this source set or cluster

Matter and energy

BIO_2026_08 Q30-34 Homeostasis in Plants

Text cues model

Open this source set or cluster

BIO_2026_01 Q37-40 Purple Insect Eater

Text cues model

Open this source set or cluster

Homeostasis

BIO_2026_08 Q30-34 Homeostasis in Plants

Text cues model

Open this source set or cluster

BIO_2026_06 Q15-18 Polycystic Ovary Syndrome (PCOS)

Text cues graph|model

Open this source set or cluster

Information and protein

BIO_2026_08 Q13-16 Humongous Fungus

Text cues model|diagram

Open this source set or cluster

BIO_2026_08 Q9-12 Human Variations in Eye Color

Text cues model

Open this source set or cluster

Human impacts and solutions

BIO_2026_08 Q22-25 A Tale of Two Squirrels

Text cues map|photograph

Open this source set or cluster

BIO_2026_08 Q1-4 Star of the Tide Pool

Text cues model|diagram

Open this source set or cluster

A source-set overlap with a code is broader than a one-to-one match between the format and the entire expectation. The full CSV retains all observed sets and joins.

Released item exemplars and mappings

Ecosystem stability / BIO-N01

Practice evidence Algae rise from 10 to 80 units by day 4 while dawn oxygen falls from 8 to 3 mg/L. This is evidence of a changed ecosystem state.

BIO_2026_08_37 public question

Official published mapping

Verification route live map row match

Natural selection / BIO-N02

Practice evidence Before, 10/100=10%; after, 8/17 is about 47%.

BIO_2026_08_18 public question

Official published mapping

Verification route live map row match

Matter and energy / BIO-N03

Practice evidence Carbon dioxide supplies carbon incorporated into sugars and other organic matter, contributing to dry mass.

BIO_2026_08_31 public question

Official published mapping

Verification route live map row match

Homeostasis / BIO-N04

Practice evidence The response counteracts the disturbance and returns the variable toward the target.

BIO_2026_08_34 public question

Official published mapping

Verification route live map row match

Information and protein / BIO-N05

Practice evidence A DNA change can alter protein structure, changing nutrient transport and therefore cell function or growth.

BIO_2026_08_11 public question

Official published mapping

Verification route live map row match

Human impacts and solutions / BIO-N06

Practice evidence A meets the budget at $40,000 and projects 55% passage. B projects 80% passage but exceeds budget at $75,000.

BIO_2026_08_25 public question

Official published mapping

Verification route live map row match

The connection is a shared published code. Compare the complete tasks before treating them as equivalent practice.

Connect ecosystem evidence to an outcome

BIO_2026_06 Q8 | Published result 1 credit criterion

Observed evidence

Q8 calls for a validity judgment supported by evidence linking runoff, algal growth, oxygen and the organisms the system can support.

Possible interpretation

A local response may name the trend but omit how the change affects consumers.

Diagnostic prompt

What happens to oxygen as algae increase, and why does that matter to consumers?

Teaching move

Draw and label the intermediate link. Ask for evidence supporting one arrow and biological reasoning supporting the next.

Public task

Sample or criterion

Commentary

Official mapping

This is a selected released example or criterion. Local student work was not supplied. Preserve alternate explanations until a new response distinguishes them.

Explain population change over generations

BIO_2026_06 Q14 | Published result 1 credit criterion

Observed evidence

The guide connects inherited variation in roe deer to differential survival, reproduction and a later population shift.

Possible interpretation

Test for an individual-acclimation explanation if the response only says the deer adapted.

Diagnostic prompt

Did one deer change during its life, or did a trait become more frequent across generations? What would distinguish these accounts?

Teaching move

Compare an individual’s response with a change in trait frequencies. Track parents and offspring on separate rows.

Public task

Sample or criterion

Commentary

Official mapping

This is a selected released example or criterion. Local student work was not supplied. Preserve alternate explanations until a new response distinguishes them.

Defend a design judgment with its trade-off

BIO_2026_06 Q32 | Published result 1 credit criterion

Observed evidence

The guide accepts either verdict on transporting bees when the explanation supports the chosen judgment.

Possible interpretation

Choosing an unexpected side does not establish a misconception. The issue may be an unsupported design decision.

Diagnostic prompt

Which benefit or cost mattered most to your decision? What change would reverse it?

Teaching move

Have partners defend opposing choices using constraints, then exchange one assumption and reconsider.

Public task

Sample or criterion

Commentary

Official mapping

This is a selected released example or criterion. Local student work was not supplied. Preserve alternate explanations until a new response distinguishes them.

Six original contexts and the prep route

Card	Target relationship	Transfer condition
BIO-N01 A pond after a nutrient pulse	Use the data to support a claim about ecosystem change.	Draw and label the system after nutrients are reduced. Predict one measurement and justify the time scale.
BIO-N02 The resistant survivors	Calculate the resistant fraction before and immediately after treatment.	Add a survival cost for resistance when treatment is absent. Explain why the long-run prediction now requires more evidence.
BIO-N03 Where does the dry mass come from?	Develop a model for carbon entering the light-grown plant.	Use a labeled carbon atom to trace a possible path from air to a consumer.
BIO-N04 A response that reverses a change	Explain why this pattern supports negative feedback.	Reverse the response so the variable moves from 8 to 9 to 10. Explain the changed feedback relationship.
BIO-N05 A mutation and a chain of effects	Construct an explanation linking DNA information, protein and cell function.	Add a second mutation that changes DNA but leaves the protein unchanged. Revise any claim that every mutation changes function.
BIO-N06 Restoring a migration route	Evaluate both designs against ecological and budget criteria.	Add long-term maintenance costs and compare whole-project feasibility.

Retained three-week Studio sequence

Week 1 session 1 Which way did carbon move?

Week 1 session 2 A model with a missing arrow

Week 2 session 3 Trace an inherited difference

Week 2 session 4 Explain selection with a counterexample

Week 3 session 5 Test a feedback model

Week 3 session 6 Separate association and mechanism

The practice folder contains the prior standalone original exam, Form B rehearsal insert and directions, exam guide, six-session student prep and worked responses. Separate new stimulus student and teacher books add these six contexts. Use the full-length public booklet links in the assembly map.

Connections and department decisions

BIO-N01 A pond after a nutrient pulse

Treating greater algal abundance as proof that oxygen must increase at every time of day. This is a diagnostic hypothesis. Ask the learner to explain the step before selecting a response.

Related reasoning ALG2-N04 A randomized tutoring comparison, GLOBAL2-N02 Mechanization and the household

BIO-N02 The resistant survivors

Explaining an inherited population change as an intentional change by individual organisms. This is a diagnostic hypothesis. Ask the learner to explain the step before selecting a response.

Related reasoning ALG2-N04 A randomized tutoring comparison, GLOBAL2-N02 Mechanization and the household

BIO-N03 Where does the dry mass come from?

Saying plants obtain most of their added dry mass directly from soil or from light. This is a diagnostic hypothesis. Ask the learner to explain the step before selecting a response.

Related reasoning ALG1-N05 Labels on an exponential model, ESS-N01 A roof and its energy budget

BIO-N04 A response that reverses a change

Calling any increasing response positive feedback without considering its effect on the regulated variable. This is a diagnostic hypothesis. Ask the learner to explain the step before selecting a response.

Related reasoning ALG1-N05 Labels on an exponential model, ESS-N01 A roof and its energy budget

BIO-N05 A mutation and a chain of effects

Jumping directly from a gene change to an outcome without a protein-level mechanism. This is a diagnostic hypothesis. Ask the learner to explain the step before selecting a response.

Related reasoning ALG2-N04 A randomized tutoring comparison, GLOBAL2-N02 Mechanization and the household

BIO-N06 Restoring a migration route

Choosing the highest biological estimate while ignoring the explicit design constraint. This is a diagnostic hypothesis. Ask the learner to explain the step before selecting a response.

Related reasoning ALG1-N01 Charging the battery cart, ALG1-N03 Two receipt checks

Use the anonymous calibration record to preserve the initial judgments, criterion evidence, an instructional move and a new independent response. Review the same reasoning in a changed context and record prior exposure.