NOVEMBER 2026 / JANUARY 2027 PLANNING

Physical Science: Chemistry atlas

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

Tue Jan 26 · 1:15 p.m. | Official January 2027 schedule

January forms	June forms	August forms	Printed slots
0	1	1	98

What the available design supports

The current NYSP12SLS blueprint gives chemical reactions 36–46%, structures/properties 30–40%, energy 10–14%, waves 5–7%, matter/energy in organisms 2–5% and engineering 5–11%. Questions are grouped around phenomena.

The two available forms had 11 clusters each. June contexts included beverages, blood equilibria and fabric. August included semiconductors, pool water and catalytic converters. Practice relating a macroscopic observation to a particle model and a data trend.

First January for the new exam. The 14 legacy chemistry forms measure a different design; older reference-table frequency cannot estimate the new cluster mix.

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
Atomic structure and properties	CHEM_NEW-N01 The order on the periodic table
Interparticle forces	CHEM_NEW-N02 What the boiling evidence can show
Reaction models	CHEM_NEW-N03 Conservation on both sides
Chemical energy	CHEM_NEW-N04 A system that warms its surroundings
Reaction rate	CHEM_NEW-N05 Which evidence measures rate?
Solutions	CHEM_NEW-N06 A concentration threshold

Blueprint and score contribution

Component	Range or maximum	Unit
Structures and Properties of Matter	30.0 to 40.0	percent of test
Chemical Reactions	36.0 to 46.0	percent of test
Energy	10.0 to 14.0	percent of test
Waves and Electromagnetic Radiation	5.0 to 7.0	percent of test
Matter and Energy in Organisms and Ecosystems	2.0 to 5.0	percent of test
Engineering Design	5.0 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-ETS1-1 Define a design problem	0/0	0/1	1/1	1/2
HS-ETS1-2 Break down a complex problem	0/0	1/1	1/1	2/2
HS-ETS1-3 Evaluate trade-offs among solutions	0/0	1/1	1/1	2/2
HS-LS1-5 Photosynthesis and energy	0/0	1/1	1/1	2/2
HS-PS1-1 Periodicity and element properties	0/0	1/1	1/1	2/2
HS-PS1-10 Solution properties	0/0	1/1	1/1	2/2
HS-PS1-11 Acids and bases	0/0	1/1	1/1	2/2
HS-PS1-12 Electron transfer and energy	0/0	1/1	1/1	2/2
HS-PS1-2 Explain chemical reactions	0/0	1/1	1/1	2/2
HS-PS1-3 Bulk properties and interparticle forces	0/0	1/1	1/1	2/2
HS-PS1-4 Energy changes in chemical reactions	0/0	0/1	1/1	1/2
HS-PS1-5 Conditions affecting reaction rate	0/0	1/1	1/1	2/2
HS-PS1-6 Optimize equilibrium outcomes	0/0	1/1	1/1	2/2
HS-PS1-7 Conservation of mass in reactions	0/0	1/1	1/1	2/2
HS-PS1-8 Nuclear processes	0/0	1/1	1/1	2/2
HS-PS1-9 Gas behavior	0/0	1/1	1/1	2/2

Published code / label	Jan	June	Aug	All
HS-PS2-6 Structure and function of materials	0/0	1/1	1/1	2/2
HS-PS3-1 Quantify energy changes	0/0	1/1	1/1	2/2
HS-PS3-5 Forces and energy in fields	0/0	1/1	1/1	2/2
HS-PS4-4 Effects of electromagnetic radiation	0/0	1/1	1/1	2/2

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

Atomic structure and properties

HS-PS1-1
January 0/0 | June 1/1 | August 1/1

Pooled planning probability 75.0% for a union of named codes in 2/2 forms. Nominal observed-prevalence interval 34%-100%. Union of named official codes on valid printed scoring slots in fully mapped target forms.

Design hypothesis constructed element comparison using periodic trend comparison. Preserve the target relationship and change the setting.

Interparticle forces

HS-PS1-3
January 0/0 | June 1/1 | August 1/1

Pooled planning probability 75.0% for a union of named codes in 2/2 forms. Nominal observed-prevalence interval 34%-100%. Union of named official codes on valid printed scoring slots in fully mapped target forms.

Design hypothesis constructed property investigation using surface tension data. Preserve the target relationship and change the setting.

Reaction models

HS-PS1-7
January 0/0 | June 1/1 | August 1/1

Pooled planning probability 75.0% for a union of named codes in 2/2 forms. Nominal observed-prevalence interval 34%-100%. Union of named official codes on valid printed scoring slots in fully mapped target forms.

Design hypothesis atom-count model using combustion model. Preserve the target relationship and change the setting.

Chemical energy

HS-PS1-4
January 0/0 | June 0/1 | August 1/1

Pooled planning probability 50.0% for a union of named codes in 1/2 forms. Nominal observed-prevalence interval 9%-91%. Union of named official codes on valid printed scoring slots in fully mapped target forms.

Design hypothesis constructed thermal evidence using dissolving heat pack. Preserve the target relationship and change the setting.

Reaction rate

HS-PS1-5
January 0/0 | June 1/1 | August 1/1

Pooled planning probability 75.0% for a union of named codes in 2/2 forms. Nominal observed-prevalence interval 34%-100%. Union of named official codes on valid printed scoring slots in fully mapped target forms.

Design hypothesis constructed reaction data using catalyst comparison. Preserve the target relationship and change the setting.

Solutions

HS-PS1-10
January 0/0 | June 1/1 | August 1/1

Pooled planning probability 75.0% for a union of named codes in 2/2 forms. Nominal observed-prevalence interval 34%-100%. Union of named official codes on valid printed scoring slots in fully mapped target forms.

Design hypothesis constructed solution data using dilution preparation. 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

Atomic structure and properties

CHEM_NEW_2026_08 Q39-43 Parade of Balloons

Text cues model

Open this source set or cluster

CHEM_NEW_2026_08 Q14-17 Semiconductors

Open this source set or cluster

Interparticle forces

CHEM_NEW_2026_08 Q34-38 Get a Whiff of That!

Open this source set or cluster

CHEM_NEW_2026_06 Q46-50 Indoor Air Pollution

Text cues model

Open this source set or cluster

Reaction models

CHEM_NEW_2026_08 Q30-33 Catalytic Converter in Cars

Text cues diagram

Open this source set or cluster

CHEM_NEW_2026_08 Q26-29 The ABCs of Ultraviolet Radiation

Text cues model

Open this source set or cluster

Chemical energy

CHEM_NEW_2026_08 Q30-33 Catalytic Converter in Cars

Text cues diagram

Open this source set or cluster

Reaction rate

CHEM_NEW_2026_08 Q44-48 Safe Transport of Drinking Water

Text cues model

Open this source set or cluster

CHEM_NEW_2026_08 Q34-38 Get a Whiff of That!

Open this source set or cluster

Solutions

CHEM_NEW_2026_08 Q34-38 Get a Whiff of That!

Open this source set or cluster

CHEM_NEW_2026_08 Q26-29 The ABCs of Ultraviolet Radiation

Text cues model

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

Atomic structure and properties / CHEM_NEW-N01

Practice evidence X tends to lose one electron, forming +1; Y gains one, forming -1.

CHEM_NEW_2026_08_39 public question

Official published mapping

Verification route live map row match

Interparticle forces / CHEM_NEW-N02

Practice evidence The 95°C liquid is consistent with stronger attractions under the supplied conditions.

CHEM_NEW_2026_08_36 public question

Official published mapping

Verification route live map row match

Reaction models / CHEM_NEW-N03

Practice evidence 2H2 + O2 -> 2H2O.

CHEM_NEW_2026_08_31 public question

Official published mapping

Verification route live map row match

Chemical energy / CHEM_NEW-N04

Practice evidence Energy transfers from the reaction system to the surroundings, consistent with an exothermic reaction.

CHEM_NEW_2026_08_32 public question

Official published mapping

Verification route live map row match

Reaction rate / CHEM_NEW-N05

Practice evidence A produces 20 mL in 10 s, averaging 2 mL/s. B produces 35 mL, averaging 3.5 mL/s.

CHEM_NEW_2026_08_48 public question

Official published mapping

Verification route live map row match

Solutions / CHEM_NEW-N06

Practice evidence A is 6 g/100 mL and exceeds the target. B is 3 g/100 mL and meets it.

CHEM_NEW_2026_08_38 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.

Conserve atoms using coefficients

CHEM_NEW_2026_06 Q15 | Published result 1 credit criterion

Observed evidence

The guide requires the balanced reaction. An equivalent display is checked against the item’s coefficient conditions.

Possible interpretation

A student may alter subscripts to balance counts, thereby changing the substances.

Diagnostic prompt

Count atoms on both sides. Which change alters the number of particles without changing their identities?

Teaching move

Represent each formula as an intact particle card. Duplicate cards to balance the atoms.

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.

Use comparative evidence for a rate claim

CHEM_NEW_2026_06 Q28 | Published result 1 credit criterion

Observed evidence

The item requires a refutation supported by numerical evidence about reaction time. A comparison can be shown by two data pairs or appropriate comparative language.

Possible interpretation

A temperature value by itself may be accurate but leave reaction time and its direction unstated.

Diagnostic prompt

At the higher temperature, what happened to the time for the same endpoint? Which numbers show it?

Teaching move

Align temperature and time in paired rows. Compare before interpreting a shorter time as a faster process.

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.

Compare measured values with a threshold

CHEM_NEW_2026_06 Q37 | Published result 1 credit criterion

Observed evidence

The guide links its safety judgment about the exam samples to their concentrations relative to the supplied limit. It accepts a supported comparison without requiring both numbers to be recopied.

Possible interpretation

A student may repeat the word safe without relating the samples to the criterion.

Diagnostic prompt

What limit did the prompt give, and on which side of it does each sample fall?

Teaching move

Place the threshold and samples on one number line. Ask for a decision supported by their positions.

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
CHEM_NEW-N01 The order on the periodic table	Predict the common ion charge for each in an ionic compound.	Replace Y with a model atom having six valence electrons and revise the ratio.
CHEM_NEW-N02 What the boiling evidence can show	Use the evidence to compare interparticle attractions.	Change external pressure and explain why the original temperatures require a controlled comparison.
CHEM_NEW-N03 Conservation on both sides	Balance the equation using coefficients.	Use a particle diagram with four H2 and one O2. Identify the excess substance after reaction.
CHEM_NEW-N04 A system that warms its surroundings	Identify the transfer direction and classify the modeled reaction.	Add a catalyst and revise the path while keeping the net energy difference.
CHEM_NEW-N05 Which evidence measures rate?	Compare the initial observed rates over 0 to 10 seconds.	Change surface area while holding temperature fixed and design a fair comparison.
CHEM_NEW-N06 A concentration threshold	Compare each sample with the target using a common basis.	Provide a solution with a different total mass but the same concentration and compare the decisions.

Retained three-week Studio sequence

Week 1 session 1 Follow atoms through a model

Week 1 session 2 Temperature and the system boundary

Week 2 session 3 Link a model to conductivity

Week 2 session 4 Interpret a reaction-rate curve

Week 3 session 5 Read a reversible change

Week 3 session 6 Choose a model with evidence

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

CHEM_NEW-N01 The order on the periodic table

Thinking a neutral atom changes its element when it forms an ion. This is a diagnostic hypothesis. Ask the learner to explain the step before selecting a response.

Related reasoning ALG1-N02 Raised garden arch, GEO-N06 Which transformations undo each other?

CHEM_NEW-N02 What the boiling evidence can show

Explaining boiling by breaking all bonds inside molecules. 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

CHEM_NEW-N03 Conservation on both sides

Changing a subscript to make the atom counts match. 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, BIO-N03 Where does the dry mass come from?

CHEM_NEW-N04 A system that warms its surroundings

Treating energy released overall as evidence that no activation barrier exists. 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, BIO-N03 Where does the dry mass come from?

CHEM_NEW-N05 Which evidence measures rate?

Using final product amount as the sole measure of reaction speed. 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

CHEM_NEW-N06 A concentration threshold

Comparing masses directly while ignoring different solution volumes. This is a diagnostic hypothesis. Ask the learner to explain the step before selecting a response.

Related reasoning ALG1-N04 Same center, different repair times, ALG1-N06 Measuring foam panels

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.