EVERY EXAM PREP · CHEAT SHEET

Regents Earth and Space Sciences Cheat Sheet 2026

The night-before summary, built like the exam.

—	3h	Scale score 65 (Level 3) f…
Scored questions	Time limit	Passing score
—	New York State Educatio…	
Exam fee	Governing body	

The exam at a glance

Item	Value
Time allowed	Three hours
Test design	9-11 question clusters, 45-55 questions
Item mix	About 60% multiple choice, about 40% constructed response
Credit per question	1 credit, both item types
Passing score	Scale score 65 (Level 3); 85 is Level 5
Tools supplied	2024 Edition Reference Tables and a four-function or scientific calculator
Not allowed	Graphing calculators; any communications device

Raw credits needed for a 65, by administration

Administration	Raw credits for 65	Out of
June 2025	23	50
August 2025	21	50
January 2026	24	50
June 2026	21	50

- Read this carefully: the scale score is not a percentage. Fewer than half the credits has been enough to pass on every form published so far, and the conversion is re-set for every administration, so a chart from a previous exam must never be reused.

Blueprint weights

Topic	Percent range
Space Systems	20-31%
Earth's Systems	20-31%

Source: New York State Education Department (NYSED) · Last verified August 19, 2026

Human Sustainability	20-31%
History of Earth	11-20%
Weather and Climate	11-20%
Engineering, Technology, and the Applications of Science	3-9%

Plate tectonics and Earth's interior

- Divergent: new basaltic crust at mid-ocean ridges; symmetric age increase and mirrored magnetic stripes outward from the axis.
- Convergent, ocean-continent: subduction, trench, volcanic arc, deep earthquakes.
- Convergent, continent-continent: neither plate subducts; folded mountains and doubled crustal thickness.
- Transform: plates slide past; shallow earthquakes, no volcanism.
- P-waves travel through solid and liquid; S-waves stop at the liquid outer core, producing the S-wave shadow zone.
- Epicenter: the P-S arrival difference gives distance from one station only; three stations locate it.

Rocks, dating, and Earth history

- Crystal size: coarse means slow deep cooling; fine or glassy means fast surface cooling.
- Superposition: lower is older in undisturbed layers. Cross-cutting: the cut feature is younger than what it cuts.
- Unconformity: a buried erosional surface; touching layers can be millions of years apart.
- Half-lives: 1/2 left = 1 half-life, 1/4 = 2, 1/8 = 3, 1/16 = 4. Match the isotope to the age — carbon-14 for recent organic material, uranium-238 for ancient rock.
- Index fossil: short time range, wide geographic range.
- New York specifics: Devonian marine fossils in western NY record a shallow inland sea; the Finger Lakes are glacially deepened north-south stream valleys.

Space systems

- Seasons: caused by the 23.5-degree axial tilt changing noon Sun altitude and daylight hours — not by distance. Opposite seasons in the two hemispheres is the killer counter-argument.
- Noon Sun altitude = 90 minus the angular distance between your latitude and the subsolar latitude.
- Eclipses: rare because the Moon's orbit is tilted about five degrees; they need a node alignment as well as the right phase.
- Kepler: equal areas in equal times means fastest at perihelion, slowest at aphelion.
- Redshift rising with distance = expanding universe. 2.7 K cosmic microwave background = cooled relic radiation.
- H-R diagram: upper right = luminous and cool = giants; lower left = hot and faint = white dwarfs.
- Sun-mass star: red giant, planetary nebula, white dwarf. Elements heavier than iron come from supernovae and neutron-star mergers.

Weather and climate

- Small temperature-dewpoint spread = near saturation = fog, dew, or cloud likely.
- Closely spaced isobars = steep pressure gradient = stronger wind.
- Cold front: steep uplift, narrow band of storms, then cooler and clearer. Warm front: gentle uplift, wide band of steady precipitation.
- Occluded front: triangles and semicircles on the same side of the line.
- Northern Hemisphere low: counterclockwise and inward, rising air; high: clockwise and outward, sinking air.
- Rain shadow: air dries rising over the range, then warms and dries further descending the lee side.
- Greenhouse effect: shortwave in, longwave absorbed and re-emitted downward. Ice-albedo feedback amplifies Arctic

warming.

Human sustainability

- Paving a watershed: less infiltration, more runoff, higher and faster flood peaks.
- Over-pumping an aquifer: falling water table, dry shallow wells, possible permanent subsidence.
- Ocean acidification: dissolved carbon dioxide lowers pH and reduces carbonate ions for shell builders.
- Nature-based defence (marshes, dunes) regenerates itself; engineered defence (seawalls, pumps) needs maintenance.
- Liquefaction risk: loose saturated sediment amplifies shaking and can lose strength entirely.
- Reservoirs lose storage to sedimentation and starve downstream deltas.

Answering clusters

- Read every stimulus in a cluster once, properly — four or five questions depend on it.
- Answers within a cluster build on each other; finish a hard cluster rather than abandoning the context.
- Constructed-response answers go in the booklet, multiple-choice on the separate answer sheet. Pen, except pencil for graphs and drawings.
- Answer the question actually asked, in one or two sentences. Never leave a blank — the cut score is well under half the credits.
- Sign the declaration on the answer sheet; an unsigned sheet cannot be accepted.

Official sources

- New York State Education Department (NYSED) — Educator Guide to the Regents Examination in Earth and Space Sciences: https://www.nysed.gov/sites/default/files/programs/state-assessment/educator-guide-earth-space-science-2024.pdf
- New York State Education Department (NYSED) — Science Learning Standards — Frequently Asked Questions: https://www.nysed.gov/standards-instruction/science-faq
- New York State Education Department (NYSED) — Regents Examination in Earth and Space Sciences — June 2026 Conversion Chart: https://www.nysedregents.org/earth_space_sciences/626/ess-62026-cc.pdf