Information about the TASC Science Exam

- TASC Test Blueprints (9 pgs.) **http://www.tasctest.com/resources.html**
- TASC Item Specifications (116 pgs.) **http://www.acces.nysed.gov/hse/tasc-test-and-item-specifications**

Domain/ Reporting Category	Subdomain/Core Idea	Subdomain %	Domain %
Earth and Space Sciences	ESS1 Earth's Place in the Universe	12%	30%
	ESS2 Earth's Systems	12%	
	ESS3 Earth and Human Activity	6%	
Life Sciences	LS1 From Molecules to Organisms: Structures and Processes	15%	50%
	LS2 Ecosystems: Interactions, Energy, and Dynamics	15%	
	LS3 Heredity: Inheritance and Variation of Traits	12%	
	LS4 Biological Evolution: Unity and Diversity	8%	
Physical Sciences	PS1 Matter and Its Interactions	6%	20%
	PS2 Motion and Stability: Forces and Interactions	6%	
	PS3 Energy	5%	
	PS4 Waves and Their Applications in Technologies for Information Transfer	3%	

- Readiness Assessments 4 & 5

TASC Blueprints (example)

Domain/ Reporting Category	Subdomain/ Core Idea	Standard/ Performance Expectation	Standard Description	TASC Emphasis for Forms GHI
Life Sciences *continued*	HS-LS3 Heredity: Inheritance and Variation of Traits	HS-LS3-1	Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.	High
		HS-LS3-2	Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.	Medium
		HS-LS3-3	Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.	Low
	HS-LS4 Biological Evolution: Unity and Diversity	HS-LS4-1	Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.	High
		HS-LS4-2	Construct an explanation based on evidence that the process of evolution primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment.	Low
		HS-LS4-3	Apply concepts of statistics and probability to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.	Low
		HS-LS4-4	Construct an explanation based on evidence for how natural selection leads to adaptation of populations.	Low

TASC Item Specifications (example)

Domain	Life Sciences
Subdomain	LS4 Biological Evolution: Unity and Diversity
Standard	LS4-1. Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.
Emphasis Level	High
Evidence Statements	The examinee will demonstrate understanding that evolution is the change of species over time. The examinee will demonstrate understanding that Earth's present-day species developed from earlier, distinctly different species. The examinee will demonstrate understanding that the theory of evolution is the central unifying theme of biology. The examinee will demonstrate understanding that the theory of evolution is well documented by extensive evidence from a wide variety of sources. The examinee will demonstrate understanding that evolutionary theory provides a scientific explanation for the molecular and structural similarities observed between the diverse species of living organisms and the fossil record of ancient life-forms. The examinee will demonstrate understanding that many thousands of layers of sedimentary rock provide evidence for the long history of Earth and for the long history of changing life-forms whose remains are found in the rocks. The examinee will demonstrate understanding that fossils are evidence that a great variety of species existed in the past. Recently deposited rock layers are more likely to contain fossils resembling existing species. The examinee will demonstrate understanding that billions of years ago, life on Earth began as simple, single-celled organisms. The examinee will demonstrate understanding that about a billion years ago, increasingly complex multicellular organisms began to evolve. The examinee will demonstrate understanding that evolutionary change is distinguished from the changes that occur during the lifetime of an individual organism. The examinee will recognize that species evolve over time.

Looking at the Readiness Assessments 4 & 5

(42 unique questions)

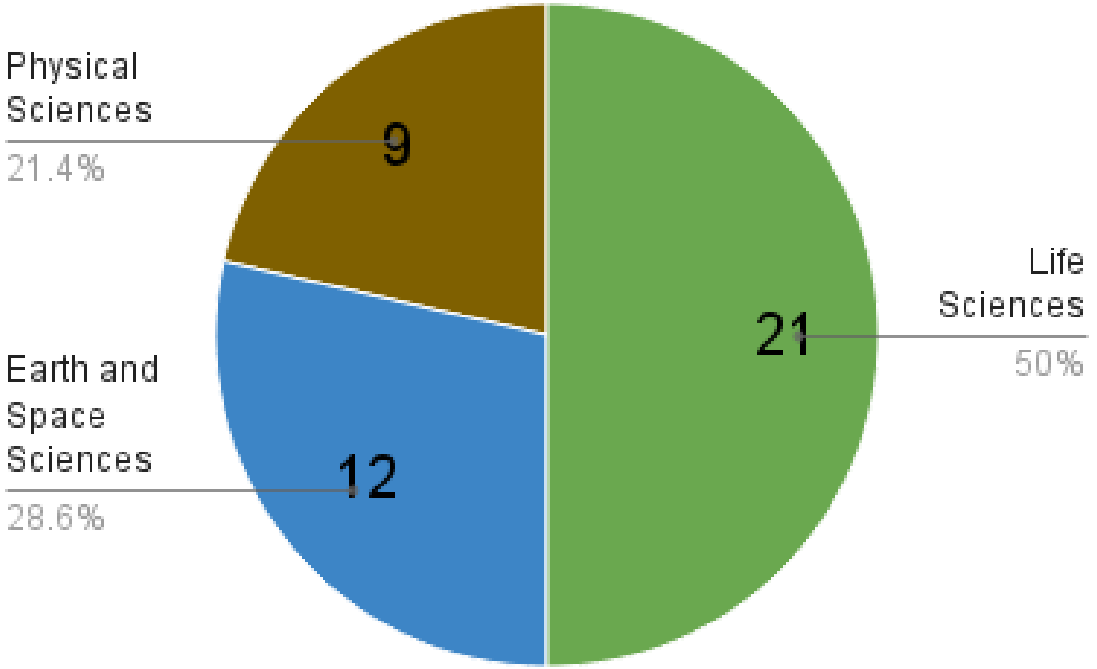
Motion and Forces

Matter and Interactions

Earth's Systems

Earth's Place in the Universe

Earth and Human Activity



Evolution

Molecules to Organisms

Ecosystems

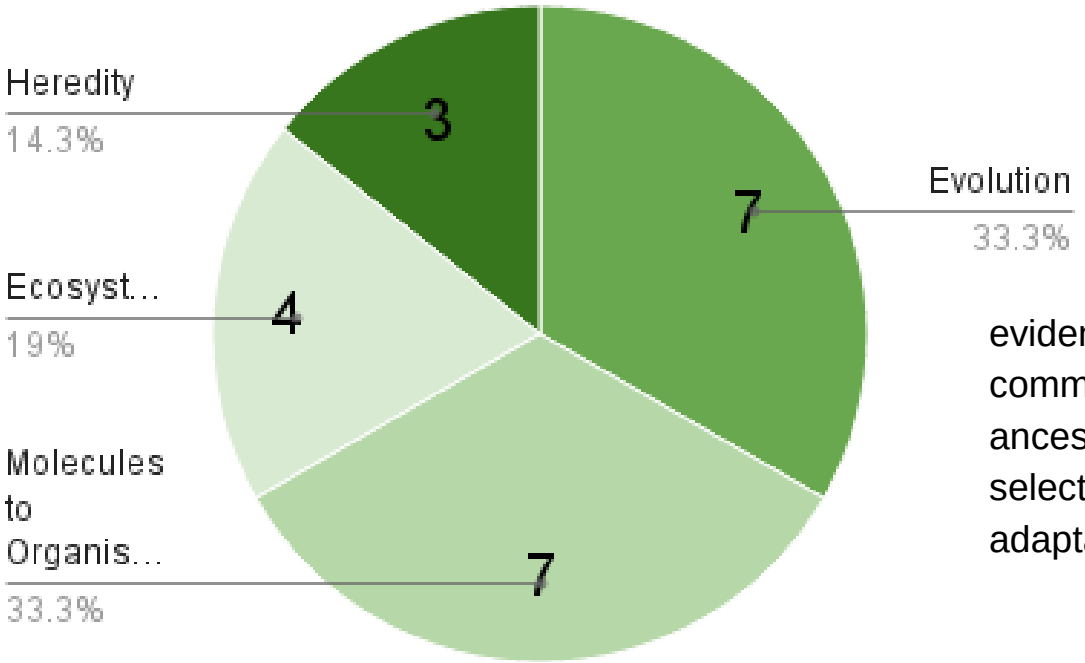
Heredity

Life Sciences: 50%

recessive & dominant traits, Punnett square

biodiversity, genetic diversity, carbon cycle, human impact, group behavior

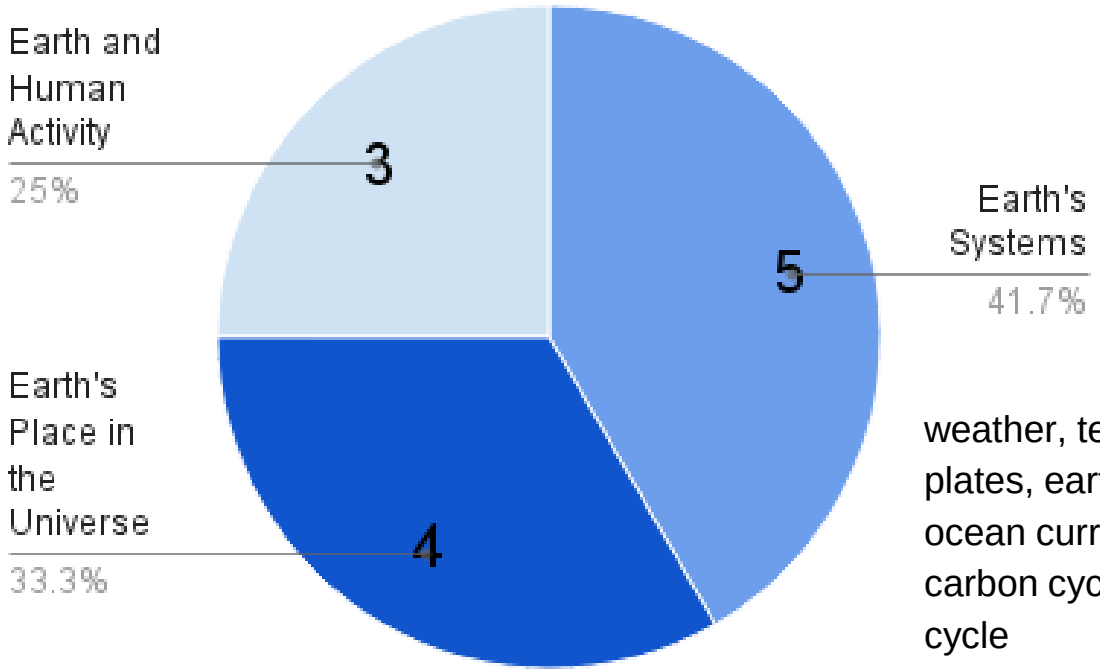
photosynthesis, cellular respiration, cell theory, cellular division, DNA, genes, chromosomes



evidence of common ancestry, natural selection, adaptation

Earth and Space Sciences: 30%

climate change, global warming, fossil fuels, alternative energy



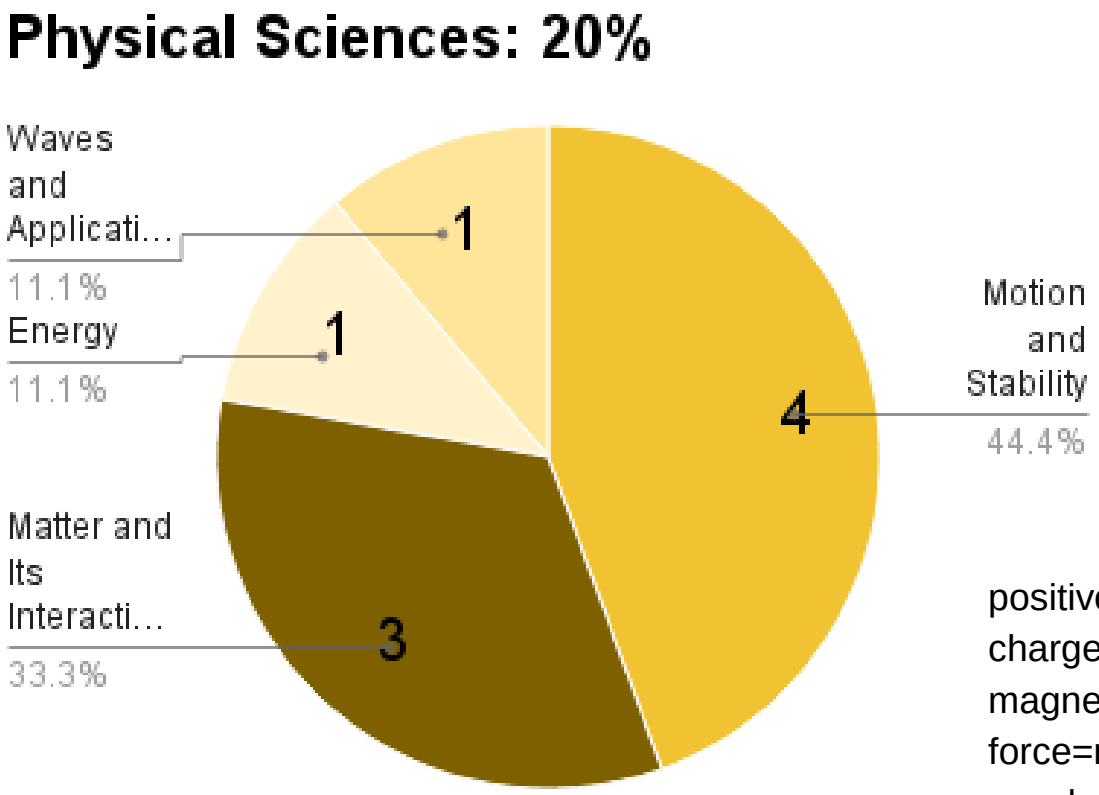
4.5 billion years, continental movement, Big Bang, motion and rotation of planets

weather, tectonic plates, earthquakes, ocean currents, carbon cycle, water cycle

benefits/challenges of digital storage of information

explanation for water holding Earth's energy

structure of an atom, elements, states of matter, periodic table, bonding, chemical reactions

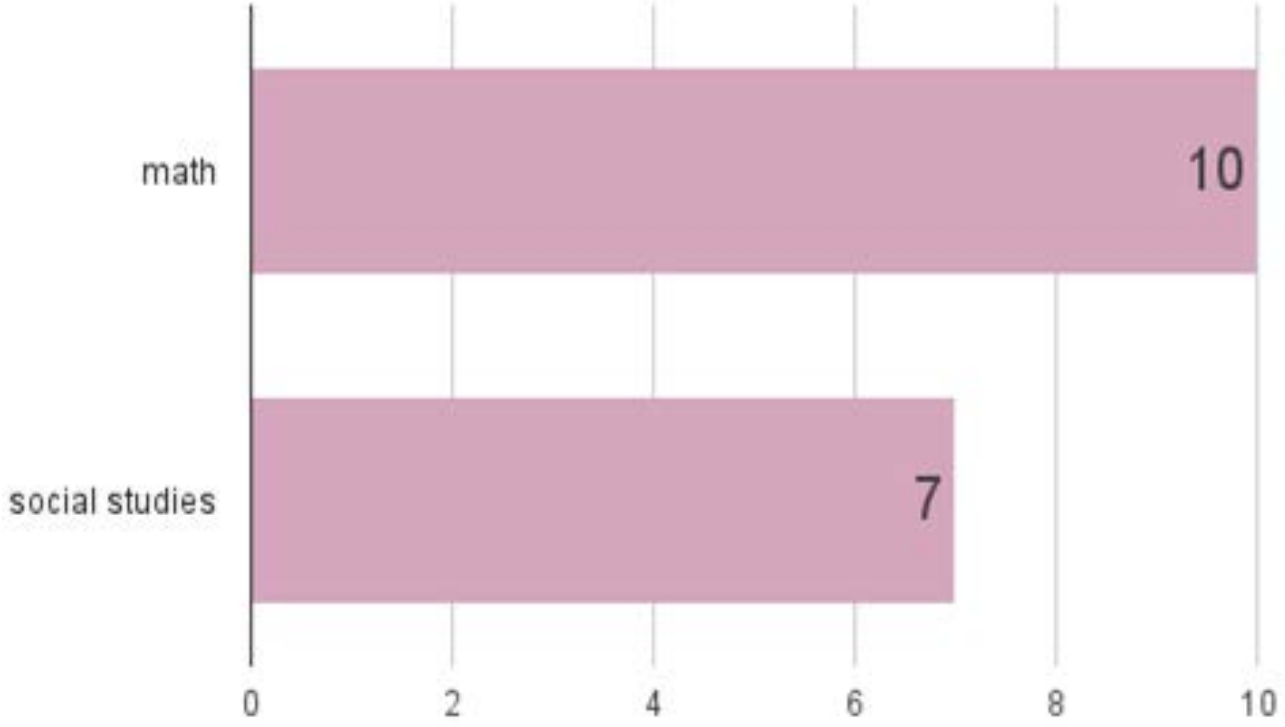


positive & negative charge, electricity, magnetism, gravity, force=mass x acceleration

Math and Social Studies Topics on Science Test

line graphs, line of best fit, tables of data, ratio, understanding and using formulas, Fahrenheit/Celsius, metric system

climate change, global warming, alternative energy, industrial revolution, reading graphs



Science Topics on Other Tests

health care (diabetes), hybrid vehicles/energy policy, technology, chemical reactions, mammalian traits, epidemiological research

Earth and space science, atoms and molecules

bacteria population growth (previous tests: health research, horsepower/RPM)