



2007 Science ISAT

Grades 4 and 7

Science ISAT

- Aligned to the Illinois Assessment Framework
- All multiple-choice items
- 2, 45 minute sessions
- 80 items



Science ISAT

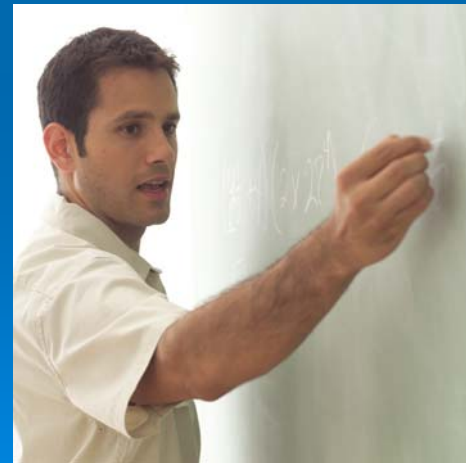
- All science categories assessed equally- 10% per Standard
- 11A Science Inquiry, 11B Technological Design, 12A Life Science, 12B Environmental Science, 12C Chemistry, 12D Force and Motion, 12E Earth Science, 12F Astronomy, 13A Safety, Ethics, 13B History of Science, Technology in Science

Science Content Category Table

Grade	4	7
State Goal 11	20%	20%
Standard 11A – Scientific Inquiry	10%	10%
Standard 11B – Technological Design	10%	10%
State Goal 12	60%	60%
Standard 12A – Living Things ³	10%	10%
Standard 12B – Environment and Interaction of Living Things	10%	10%
Standard 12C – Matter and Energy ⁴	10%	10%
Standard 12D – Force and Motion	10%	10%
Standard 12E – Earth Science ⁵	10%	10%
Standard 12F – Astronomy	10%	10%
State Goal 13	20%	20%
Standard 13A – Safety and Practices of Science	10%	10%
Standard 13B – Science, Technology, Society ⁶	10%	10%
Total	100%	100%

Test Item Development

- Illinois teachers write and review test items
- Items written in June 06, reviewed in August 06, pilot-tested in March 07
- Item data analyzed
- Some selected for 2008 ISAT



ISAT and IAF

- All test items on the 2007 ISAT will align to the Framework
 - 30-Norm referenced Standard 10 items
 - Same items taken in other states for national comparison
 - 50-Criterion referenced items
 - Illinois-developed and only used in Illinois
 - Both contribute to the ISAT score

Science and NCLB



- All states must assess science by 2008
- IL already had science assessments at grades 4, 7 and 11
- Science is **not** used for AYP
- Science will **not** be tested in every grade between 3 and 8 and will **not** be counted towards AYP unless USDE changes the law

2007 Reports



More about the Science score for [FirstName] [LastName]

The student scored overall at the **Exceeds Standards** level in Science.

Multiple-Choice Results for Science

The table below shows how the student performed (number correct) on the multiple-choice items for standards assessed in science. The total number of items and the average number correct for the school, district, and state are also displayed.

Science Standards Assessed	Number Correct	Number of Items	Average Number Correct		
			School	District	State
11A, 11B: Scientific Inquiry and Technological Design					
12A, 12B: Life Science and Environmental Sciences					
12C, 12D: Matter, Energy, and Forces					
12E, 12F: Earth and Space Sciences					
13A, 13B: Safety, Practices of Science, Science/Technology/Society, and Measurement					



Item Analysis Summary - NEWTOWN ELEMENTARY

DISTRICT: NEWTOWN
RCDTS CODE: 123456789012345

GRADE: 04
TEST DATE: 03/06

SCIENCE			RESPONSE ANALYSIS (% CORRECT)		
Results from Multiple-Choice Items	# of Items	Assessment Objective	SCHOOL	DISTRICT	STATE
State Goal 11: Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems. Standards 11A, 11B: Scientific Inquiry and Technological Design	15 15 1 6 1 1 3 3	 11.4.01 11.4.02 11.4.03 11.4.04 11.4.05 11.4.06			
State Goal 12: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences. Standards 12A, 12B: Life and Environmental Sciences	45 15 1 2 1 2 1 1 2 3 1 1	 12.4.01 12.4.02 12.4.03 12.4.04 12.4.05 12.4.07 12.4.08 12.4.09 12.4.12 12.4.13			
Standards 12C, 12D: Matter, Energy, and Forces	15 1 2 1 1 1 1 1 1 2 1 3	 12.4.14 12.4.15 12.4.16 12.4.17 12.4.18 12.4.21 12.4.24 12.4.25 12.4.26 12.4.27 12.4.28			



Item Analysis Summary - NEWTOWN ELEMENTARY

DISTRICT: NEWTOWN
RCDTS CODE: 123456789012345

GRADE: 04
TEST DATE: 03/06

SCIENCE			RESPONSE ANALYSIS (% CORRECT)		
Results from Multiple-Choice Items (cont.)	# of Items	Assessment Objective	SCHOOL	DISTRICT	STATE
State Goal 12: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences. (cont.) Standards 12E, 12F: Earth and Space Sciences	15				
	1	12.4.33			
	2	12.4.34			
	1	12.4.36			
	1	12.4.38			
	2	12.4.40			
	1	12.4.46			
	2	12.4.47			
	2	12.4.48			
	1	12.4.49			
	2	12.4.50			
State Goal 13: Understand the relationships among science, technology and society in historical and contemporary contexts. Standards 13A, 13B: Safety, Practices, Science/Technology/Society, and Measurement	15				
	2	13.4.01			
	1	13.4.02			
	1	13.4.03			
	1	13.4.04			
	1	13.4.06			
	1	13.4.07			
	1	13.4.08			
	2	13.4.10			
	2	13.4.14			
	3	13.4.15			



Item Analysis Summary - NEWTOWN MIDDLE

DISTRICT: NEWTOWN
RCDTS CODE: 123456789012345

GRADE: 07
TEST DATE: 03/06

SCIENCE			RESPONSE ANALYSIS (% CORRECT)			
Results from Multiple-Choice Items (cont.)	# of Items	Assessment Objective	SCHOOL	DISTRICT	STATE	
State Goal 12: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences. (cont.) Standards 12C, 12D: Matter, Energy, and Forces (cont.)	1	12.7.64				
	2	12.7.65				
	2	12.7.68				
	1	12.7.69				
	Standards 12E, 12F: Earth and Space Sciences	15				
		1	12.4.31			
		1	12.4.34			
		2	12.4.47			
		1	12.7.78			
		1	12.7.80			
		2	12.7.82			
		1	12.7.87			
		1	12.7.88			
		1	12.7.92			
	2	12.7.98				
1	12.7.99					
1	12.7.100					
State Goal 13: Understand the relationships among science, technology and society in historical and contemporary contexts. Standards 13A, 13B: Safety, Practices, Science/Technology/Society, and Measurement	15					
	15					
	1	13.4.02				
	2	13.4.13				
	1	13.7.01				
	2	13.7.02				
	1	13.7.03				
	2	13.7.04				
	1	13.7.06				
	1	13.7.09				
	1	13.7.10				
	1	13.7.11				
	1	13.7.12				
	1	13.7.13				

Test Preparation for Students



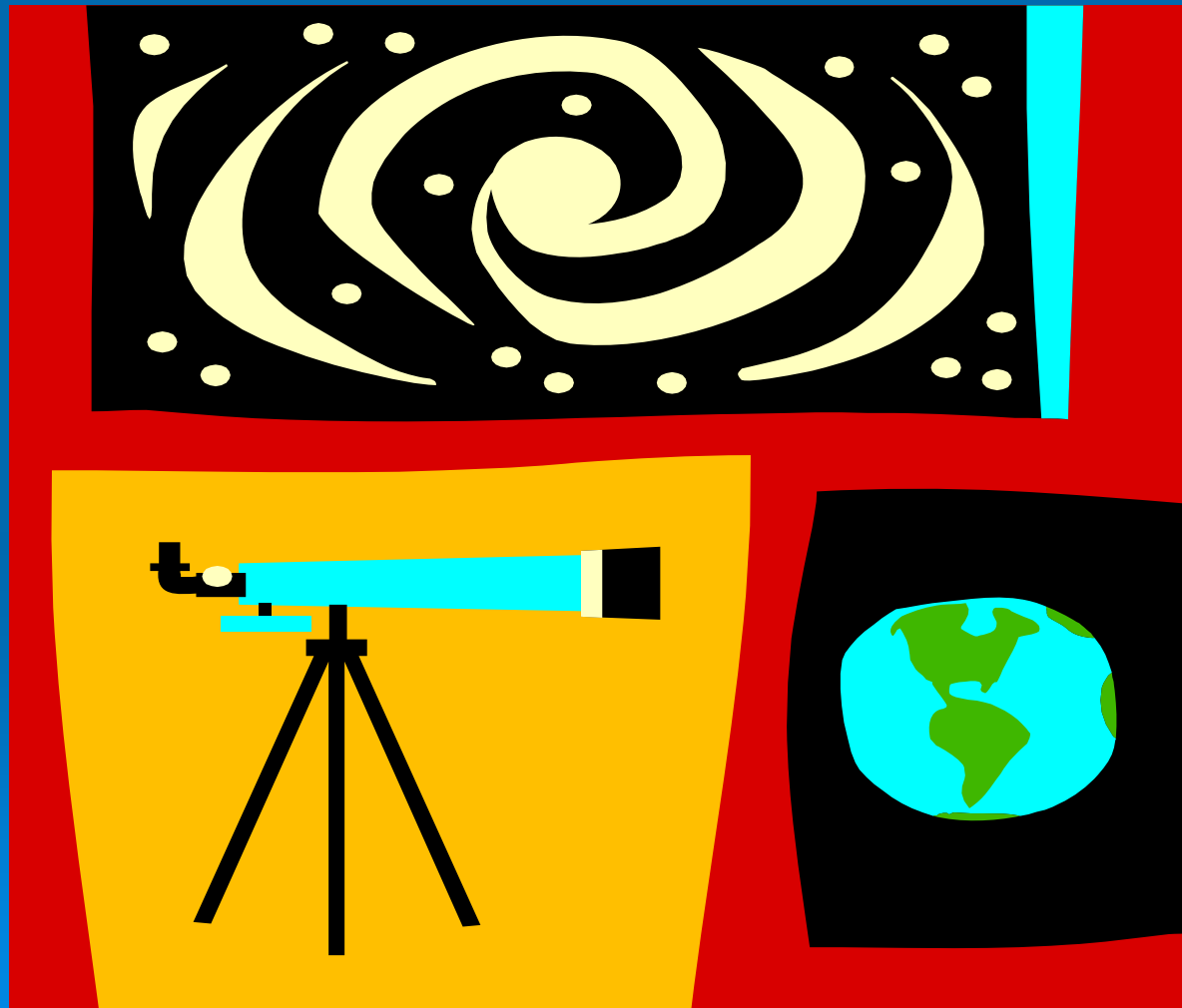
- Illinois Learning Standards used throughout the year
- Integrate test-taking skills into regular classroom instruction
- Students should be familiar with testing formats and timed tests

Testing Policies and Prohibitions



- Must be administered uniformly across the state
- Read and use Test Administration Manual
- Read the Professional Testing Practices for Educators
- Supervise students during testing
- Do not help students with test items
- Do not read any part of the science test to students unless it is in their IEP. If it's in the IEP—test separately.


Sample Items



28

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What does the school nurse use to measure body temperature?

-  **A** Thermometer
- B** Ruler
- C** Stopwatch
- D** Balance

Aligns to 13.4.15 on Science Framework

“Identify basic scientific instruments and their functions (e.g., ruler, balance, graduated cylinder, clock, stopwatch, thermometer, microscope, telescope).”

What property of light waves can be observed as light waves pass from one medium to another and change speed?

- A** Diffraction
-  **B** Refraction
- C** Reflection
- D** Separation

Aligns to 12.7.57

“Understand that light travels at different speeds in different materials. Understand that this is why light refracts—or changes direction—namely because it goes from one material in which it moves at one speed into another material through which it moves at a different speed.”

Common Lab Equipment

1. Hand Lens



2. Dry Cell



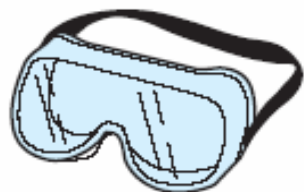
3. Gloves



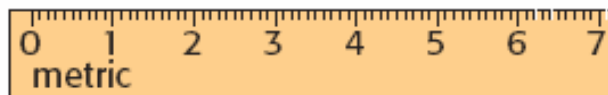
4. Magnet



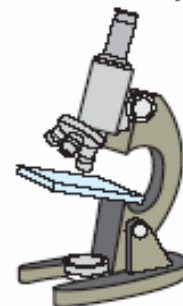
5. Goggles



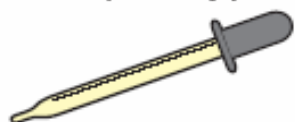
6. Metric Ruler



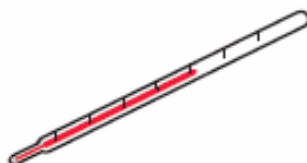
7. Microscope



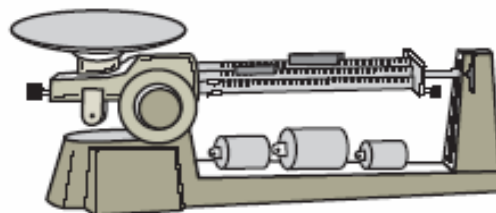
8. Eye Dropper



9. Thermometer



10. Balance



Which pieces of laboratory equipment are used for safety?

- A 4 and 8
- B 2 and 6
- C 6 and 10
- D 3 and 5

Aligns to 13.4.01

“Identify the basic safety equipment used in science, (gloves, goggles, lab coats, tongs).”

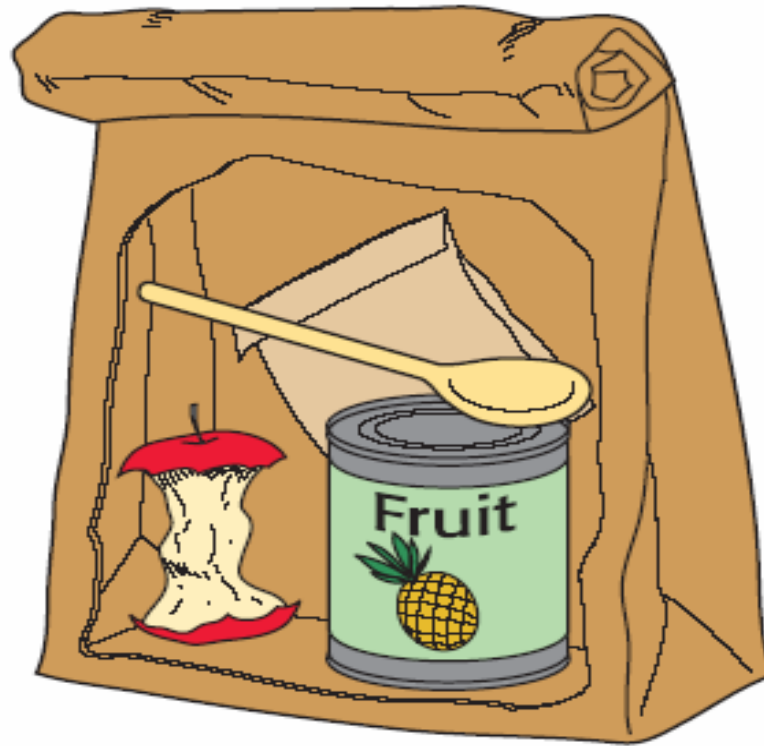
What happens when two negatively charged particles are next to each other?

- A** The particles attract each other.
- B** The particles repel each other.
- C** One particle becomes uncharged.
- D** One particle becomes positively charged.

Aligns to 12.4.19

“Understand that objects of like charge repel each other and that objects of opposite charge attract each other.”





In this student's lunch bag, which item would decompose the quickest?

- A** Fruit can
- B** Apple core
- C** Plastic bag
- D** Wooden spoon

Aligns to 12.4.31

“Identify which everyday materials decompose most slowly (e.g., plastics, glass and ceramics decompose slower than metals, wood, or food substances).”


12

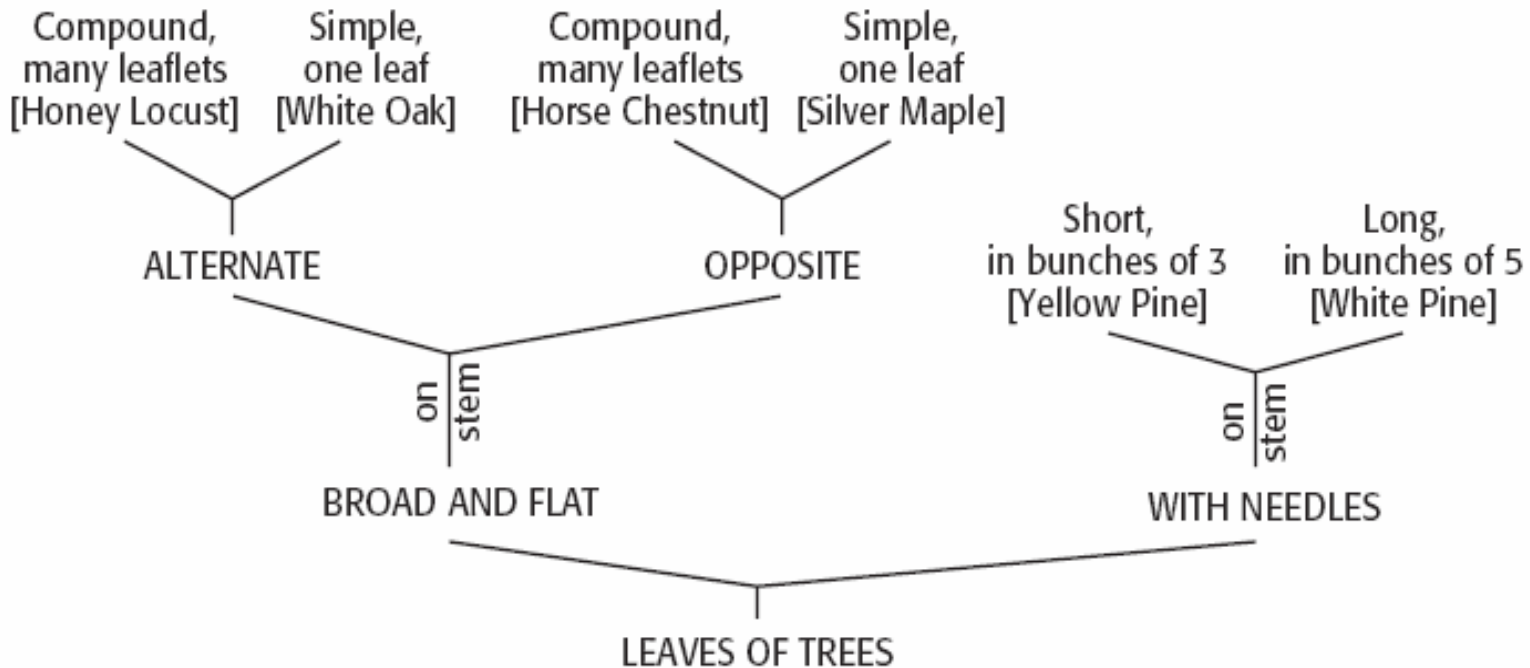
Green plants are important to animals because the plants —

- A** consume food and give off oxygen
- B** consume food and give off carbon dioxide
- C** produce food and give off oxygen
- D** produce food and give off carbon dioxide

Aligns to 12.7.25

“Understand that three important cycles for the survival of living things in earth’s ecosystems are the carbon dioxide-oxygen cycle, the water cycle, and the nitrogen cycle.”

The background of the slide features several sets of concentric circles in a lighter shade of blue, resembling ripples in water. These circles are positioned in the lower half of the slide, with one set on the left, one in the center, and one on the right.



What is the name of this plant?

- A** White Pine
- B** Honey Locust
- C** Silver Maple
- D** White Oak

Aligns to 12.7.01

“Understand how scientists classify organisms. Identify common insects, flowers, birds, reptiles, and mammals using a dichotomous key.”


16

Which is the best method for a student to identify a solution as an acid or a base?

- A** Use litmus paper.
- B** Taste the solution.
- C** Dilute in water.
- D** Heat the solution.

Aligns to 12.7.47

“Identify the basic properties of acids and bases. Know the relationship between acids, bases, and indicators (e.g., blue litmus paper changes to red when placed in an acid).”

The background of the slide features several faint, concentric circular ripples in a lighter shade of blue, resembling water droplets or raindrops, positioned in the lower right and bottom center areas.



Applying the brakes on this bicycle causes it to slow down because the brakes —

- A** produce friction
- B** use gravity to slow down the bicycle
- C** add energy to the bicycle
- D** help cool the bicycle's tires

Aligns to 12.4.26

“Identify the basic forces, such as friction, magnetism, and gravity. Identify which force is operative in a simple scenario.”

Questions?



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