

Blueprint for the Indiana Assessment

Grade 6 Science

(Beginning 2018-19 School Year)

Blueprints serve as a foundational resource in the assessment development process. Blueprints identify the point values and relative weight of each of the Indiana Academic Standards assessed. Panels of content teachers at each grade level, representative of Indiana student populations, in partnership with the Department of Education recommended the priorities and associated point values noted within the blueprints.

The 2016 Indiana Science Standards increased the breadth and scope of the 2010 standards by adding a new component: process standards. Students are expected to identify and explain content, as well as understand how the data was collected and analyzed to reach those conclusions (scientific and engineering process). The Indiana assessment is designed to test students' understanding of science and engineering processes in conjunction with content. They are expected to integrate both into their understanding and answers.

In addition to the new content and process standards, Indiana added computer science standards to keep up with the changing technological environment our students face. These standards help prepare them to be responsible digital citizens and understand the role technology plays in modern society. Federal accountability requires that these be tested with the science content and process standards.

Overview

The columns of the blueprint highlight key features of test design including: reporting categories, Indiana Academic Standards, standard allocations, reporting category allocations and the total operational points possible.

Reporting Category: The broad content category for the standard representing a segment or domain of content approved by educators as key for reporting. Examples across content areas may include: Number Sense in Mathematics (7.NS); Physical Science in Science (4.PS); and Writing in English/Language Arts (9-10.W).

The reporting category column also includes the overall percentage of the assessment characterized by the specific category. The overall percentage of the assessment is considered 100%.

Standard: The Indiana Academic Standard noting the reporting category code and a *brief* description. The full language of the standard can be accessed [here](#).

Standard Allocation: The allocation defines the point range possible for that standard and the percentage of that standard *based on the total points for the assessment*. A standard with a range that starts at zero may not be assessed each year.

Reporting

Category Allocation: The point range possible for all of the standards in that category combined.

Total Points Possible: The range for the total number of points possible on the assessment each year. The total possible points may vary slightly year to year due to the nature of how test questions are developed for each standard. *Note: Field test items do not contribute to the operational points possible noted.*

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Reporting Category ¹	Standard	Standard Allocations ²		Reporting Category Allocation
		Point Range	% Range ¹	Total Point Range
Physical Science (16-20%)	6.PS.1 How motion is defined and described	0-3	0-5%	9-11
	6.PS.2 Motion graphs	0-3	0-5%	
	6.PS.3 Potential and kinetic energy	1-4	2-7%	
	6.PS.4 Light, sound and energy waves	0-3	0-5%	
Earth & Space Science (16-20%)	6.ESS.1 Role of gravity and inertia	0-3	0-5%	9-11
	6.ESS.2 Sun-Earth system models	1-5	2-9%	
	6.ESS.3 Compare/contrast objects in the solar system	1-5	2-9%	
Life Science (18-22%)	6.LS.1 Homeostasis	0-3	0-5%	10-12
	6.LS.2 Photosynthesis	1-4	2-7%	
	6.LS.3 Interaction of organisms in an ecosystem	1-4	2-7%	
	6.LS.4 Effect of ecosystem change on native organisms	0-3	0-5%	
	6.LS.5 Impact of invasive species on ecosystems.	0-3	0-5%	
Engineering (11-15%)	6-8.E.1 Identify the criteria and constraints of a design	1-5	2-9%	6-8
	6-8.E.2 Evaluate competing design solutions	0-2	0-4%	
	6-8.E.3 Analyze data to evaluate several design solutions	0-2	0-4%	
	6-8.E.4 Develop a prototype	Assessed in the classroom		
Science & Engineering Process Standards (15-18%)	SEPS.1 Posing questions and defining problems	0-5	0-9%	8-10
	SEPS.2 Developing and using models and tools	0-5	0-9%	
	SEPS.3 Constructing and performing investigations	0-5	0-9%	
	SEPS.4 Analyzing and interpreting data	0-5	0-9%	
	SEPS.5 Using mathematics and computational thinking	0-5	0-9%	

	SEPS.6 Constructing explanations and solutions	0-5	0-9%	
	SEPS.7 Engaging in argument from evidence	0-5	0-9%	
	SEPS.8 Obtaining, evaluating, and communicating information	0-5	0-9%	
Computer Science Standards (13-16%)	6-8.DI.1 Using algorithms to design solutions	0-1	0-2%	7-9
	6-8.DI.2 Describe parallelization	Assessed in the classroom		
	6-8.DI.3 Representing data in a variety of ways	1-2	2-4%	
	6-8.DI.4 Hierarchy and abstraction in coding	Assessed in the classroom		
	6-8.DI.5 Interact with models and simulations	Assessed in the classroom		
	6-8.CD.1 Relationship between hardware and software	0-1	0-2%	
	6-8.CD.2 Troubleshooting hardware and software problems	0-1	0-2%	
	6-8.CD.3 Describing computer systems and networks.	0-1	0-2%	
	6-8.CD.4 Differences between humans and machines	Assessed in the classroom		
	6-8.PA.1 Selecting tools to support personal productivity	1-2	2-4%	
	6-8.PA.2 Implementing solutions using code	0-1	0-2%	
	6-8.PA.3 Open-ended problem solving	Assessed in the classroom		
	6-8.NC.1 Collaboratively using technology resources	0-1	0-2%	
	6-8.NC.2 Exhibiting dispositions necessary for collaboration	0-1	0-2%	
	6-8.IC.1 Legal and ethical behaviors technology	1-2	2-4%	
	6-8.IC.2 Analyzing the impacts of technology on life	0-1	0-2%	
	6-8.IC.3 Evaluating electronic information sources	0-1	0-2%	
	6-8.IC.4 Describing ethical issues that relate to technology	0-1	0-2%	
Total Points Possible				54-56

¹Percentages are based on the total points for the test, not the points for the reporting category.

²Standards with ranges that start at zero may not be tested every year.