INDIANA DEPARTMENT of EDUCATION

2024 INDIANA CONTENT CONNECTORS

SCIENCE

GRADE 2

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Indiana Content Connectors Context and Purpose

Introduction

The Indiana Content Connectors for Grade 2 Science are the result of a process designed to identify, evaluate, synthesize, and create high-quality learning expectations for Indiana students with significant cognitive disabilities.

The Indiana Department of Education (IDOE) convened stakeholder committees to review proposed revisions to Indiana's Alternative Standards, known as content connectors. The content connectors are designed to measure the knowledge and skills of students with the most significant cognitive disabilities and are assessed with the state's alternate assessment. The content connectors are designed to ensure that all Indiana students in this population are prepared with essential knowledge and skills needed to access employment, enrollment, or enlistment leading to service.

What are the Content Connectors and how should they be used?

The Indiana Content Connectors are designed to help educators, parents, students, and community members understand the necessary content for each grade level, and within each content area domain, to access employment, enrollment, or enlistment leading to service. These content connectors should form the basis for strong core instruction for all students at each grade level and content area. The content connectors identify the minimum academic content or skills to which Indiana students need access in order to be prepared for success after graduation, but they are not an exhaustive list.

While the Indiana Content Connectors establish key expectations for knowledge and skills and should be used as the basis for curriculum, the content connectors by themselves do not constitute a curriculum. It is the responsibility of the local school corporation to select and formally adopt curricular tools, including textbooks and any other supplementary materials, that align with Indiana Content Connectors. Additionally, corporation and school leaders should consider the appropriate instructional sequence of the content connectors as well as the length of time needed to teach each one. Every content connector has a unique place in the continuum of learning, but each content connector will not require the same amount of time and attention. A deep understanding of the vertical articulation of the standards will enable educators to make the best instructional decisions. These content connectors must also be complemented by robust, evidence-based instructional practices to support overall student development. By utilizing strategic and intentional instructional practices, other areas such as STEM and employability skills can be integrated with the content connectors.

Acknowledgments

IDOE appreciates the time, dedication, and expertise offered by Indiana's K-12 general and special educators, higher education professors, representatives from business and industry, families, and other stakeholders who contributed to the development of the Indiana Content Connectors. We wish to specially acknowledge the committee members, as well as participants in the public comment period, who dedicated many hours to the review and evaluation of these content connectors designed to prepare Indiana students for success after graduation.

Grade 2 Science

Standards and content connectors identified as essential for mastery by the end of the grade level are indicated with gray shading and an "E."

Indiana Academic Standards	Content Connectors
Matter and Its Interactions	
2-PS1-1: Matter and Its Interactions Students who demonstrate understanding can: Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. [Clarification Statement: Observations could include color, texture, hardness, and flexibility. Patterns could include the similar properties that different materials share.] (E)	**2-PS1-1a:** Classify different kinds of materials by their observable properties (color, texture, hardness, flexibility, solid or a liquid). (E)
2-PS1-2: Matter and Its Interactions Students who demonstrate understanding can: Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. [Clarification Statement: Examples of properties could include strength, flexibility, hardness, texture, and absorbency.] (E)	**2-PS1-2a:** Use data to Identify a material's property that allows it to be best suited for a given purpose (e.g., absorbency of paper towel to clean up spills). (E)
2-PS1-3: Matter and Its Interactions Students who demonstrate understanding can: Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object. [Clarification Statement: Examples of pieces could include blocks, building bricks, or other assorted small objects.]	**2-PS1-3a:** Use observations to identify that a variety of objects can be built from a small set of pieces.

2-PS1-4: Matter and Its Interactions Students who demonstrate understanding can: Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot. [Clarification Statement: Examples of reversible changes could include materials such as water and butter at different temperatures. Examples of irreversible changes could include cooking an egg, freezing a plant leaf, and heating paper.]	**2-PS1-4a:** Classify changes caused by heating or cooling as reversible or not reversible.
Ecosystems: Interactions, Energy, and Dynamics	
2-LS2-1: Ecosystems: Interactions, Energy, and Dynamics Students who demonstrate understanding can: Plan and conduct an investigation to determine if plants need sunlight and water to grow. (E)	**2-LS2-1a:** Conduct an investigation to observe whether plants need water and light to grow. (E)
2-LS2-2: Ecosystems: Interactions, Energy, and Dynamics Students who demonstrate understanding can: Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.	**2-LS2-2a:** Identify a simple model that shows that plants need animals to disperse seeds (e.g., squirrel cheek pouches that transport seeds). **2-LS2-2b:** Match a description of how an animal helps plants with pollination to a model (e.g., bees have fuzzy bodies to which pollen sticks).
Biological Evolution: Unity and Diversity	
2-LS4-1: Biological Evolution: Unity and Diversity Students who demonstrate understanding can: Make observations of plants and animals to compare the diversity of life in different habitats. [Clarification Statement: Emphasis is on the diversity of living things in each of a variety of different habitats.] (E)	**2-LS4-1a:** Make observations of the diversity of plants and animals in different habitats. (E)

Earth's Place in the Universe	
2-ESS1-1: Earth's Place in the Universe Students who demonstrate understanding can: Use information from several sources to provide evidence that Earth events can occur quickly or slowly. [Clarification Statement: Examples of events and timescales could include volcanic explosions and earthquakes, which happen quickly and erosion of rocks, which occurs slowly.]	**2-ESS1-1a:** Classify Earth events that happen quickly versus slowly using provided information. [Clarification Statement: Examples of events could include volcanic explosions and earthquakes, which happen quickly and erosion of rocks, which occurs slowly.]
Earth's Systems	
2-ESS2-1: Earth's Systems Students who demonstrate understanding can: Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. [Clarification Statement: Examples of solutions could include different designs of dikes and windbreaks to hold back wind and water, and different designs for using shrubs, grass, and trees to hold back the land.]	**2-ESS2-1a:** Compare two solutions to slow or prevent wind from changing the shape of the land (e.g., different designs of dikes and windbreaks).
	2-ESS2-1b: Compare two solutions to slow or prevent water from changing the shape of the land (e.g., different designs for using shrubs, grass, and trees to hold back the land).
2-ESS2-2: Earth's Systems Students who demonstrate understanding can: Develop a model to represent the shapes and kinds of land and bodies of water in an area.	**2-ESS2-2a:** Describe and label landmarks (e.g., lake, mountain, river) on a model or map using a key.
2-ESS2-3: Earth's Systems Students who demonstrate understanding can: Obtain information to identify where water is found on Earth and that it can be solid or liquid. (E)	**2-ESS2-3a:** Identify the location of water in different states (e.g., snow, iceberg, ocean, river, lake, pond) using a map of Earth. (E)
	2-ESS2-3b: Identify sources of information likely to provide the locations of liquid water or solid ice on Earth. (E)

Engineering Design	
K-2-ETS1-1: Engineering Design Students who demonstrate understanding can: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.	**2-ETS1-1a:** Ask questions, make observations, and gather information to define a simple problem that can be solved through the development of a new or improved object or tool.
K-2-ETS1-2: Engineering Design Students who demonstrate understanding can: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.	**K-2-ETS1-2a:** Use simple sketches, drawings, or physical models of an object to identify the relationship between the shape of the object and how it functions to solve a problem.
K-2-ETS1-3: Engineering Design Students who demonstrate understanding can: Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.	**K-2-ETS1-3a:** Compare the strengths and weaknesses of two objects designed to solve the same problem.