



INDIANA  
DEPARTMENT of  
EDUCATION

# 2024 INDIANA CONTENT CONNECTORS INTEGRATED STEM

## GRADE 4



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## Indiana Content Connectors Context and Purpose

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### Introduction

The Indiana Content Connectors for Grade 4 Integrated STEM 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.

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Indiana Academic Standards	Content Connectors
<b>Communication and Collaboration</b>	
<b>4.CC.1:</b> Collect and document evidence to share information with others in charts, tables, presentations or text.	<b>4.CC.1a:</b> Share evidence in the form of charts, tables, presentations or text.
<b>4.CC.2:</b> Communicate the solution(s) of a problem/analysis either orally, visually, or in writing, including process steps, findings or conclusions.	<b>4.CC.2a:</b> Communicate the solution to a problem by identifying steps in a process or a key finding.
<b>4.CC.3:</b> Identify and implement roles and responsibilities to collaborate in various group settings (i.e., online, onsite and/or hybrid) and situations.	<b>4.CC.3a:</b> Carry out the responsibilities for a role while working in a group setting.
<b>4.CC.4:</b> Communicate specific constraints and criteria established for an investigation.	<b>4.CC.4a:</b> Communicate a constraint (e.g., "We can only use the tape and string provided.") or criteria (e.g., "Our crane has to lift 5 paperclips.") for an investigation.
<b>4.CC.5:</b> Critique or support methods, investigations or arguments using evidence-based reasoning.	<b>4.CC.5a:</b> Use evidence-based reasoning to determine which methods are best suited for the intended outcome.
<b>Data Analysis and Measurement</b>	
<b>4.DM.1:</b> Determine appropriate measurement tools to perform measurements, calculations, and conversions (e.g., fractions, decimals, pounds, perimeter, area, kilograms to grams) defined in grade level content standards to analyze real-world scenarios.	<b>4.DM.1a:</b> Use appropriate measurement tools to record measurements (e.g., fractions, decimals, pounds, perimeter, area, kilograms to grams) defined in grade level content standards in real-world scenarios.
<b>4.DM.2:</b> Construct visual representations defined in grade level content standards (e.g., bar graphs, charts, line plots, frequency tables) to determine patterns, using digital tools when possible and feasible.	<b>4.DM.2a:</b> Determine patterns in visual representations defined in grade level content standards (e.g., bar graphs, charts), using digital tools when possible and feasible.

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<b>4.DM.3:</b> Evaluate reasonableness of observations, results, and solutions throughout processes.	<b>4.DM.3a:</b> Categorize observations, results, or solutions throughout processes as reasonable or unreasonable.
<b>4.DM.4:</b> Choose data sets and analysis methods to support the inquiry process.	<b>4.DM.4a:</b> Describe how data sets support the inquiry process.
<b>Inquiry-Based Approaches and Problem Solving</b>	
<b>4.IPS.1:</b> Plan and conduct an investigation to answer a specific question or solve a specific problem.	<b>4.IPS.1a:</b> Identify a question to answer or problem to solve; plan and conduct an investigation to answer the question or solve the problem.
<b>4.IPS.2:</b> Decompose a complex problem into smaller steps or sequences to evaluate (e.g., what should be done first, second).	<b>4.IPS.2a:</b> Decompose a problem and identify the order of steps from the beginning to the end.
<b>4.IPS.3:</b> Determine one or more viable solutions using data and information to resolve a scenario given criteria and constraints.	<b>4.IPS.3a:</b> Find one or more viable solutions using data or information to resolve a given scenario working within specific criteria and constraints.
<b>Applications and Modeling</b>	
<b>4.AM.1:</b> Apply symbols and relationships (e.g., place value, equations, operations) to represent physical or conceptual objects (e.g., letters, numbers, or displays of color may represent objects).	<b>4.AM.1a:</b> Identify symbols and relationships (e.g., operations or equations) that represent physical or simple conceptual objects (e.g., letters, numbers, or displays of color may represent objects).
<b>4.AM.2:</b> Create a model showing a subsystem as part of a larger system.	<b>4.AM.2a:</b> Identify a subsystem of a larger system using a simple model (e.g., the roots of a tree, wheels on a bike, students in a classroom).
<b>Information and Digital Literacy</b>	
<b>4.IDL.1:</b> Identify and evaluate the impact of technology when selecting tools to solve a problem in order to determine the most effective solution.	<b>4.IDL.1a:</b> Identify the effects of technology when choosing tools for problem-solving and finding the best solution.
<b>4.IDL.2:</b> Review and compile information from multiple sources to solve a problem.	<b>4.IDL.2a:</b> Gather and use information from different sources to solve problems.

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**4.IDL.3:** Describe how solutions or technologies are adapted to meet the changing needs and wants of individuals or communities.

**4.IDL.3a:** Explain how changing technology can better serve the needs and wants of people or communities.