New Computer Science Standards and Preparing for 2025-2026

CAREER OPPORTUNITIES
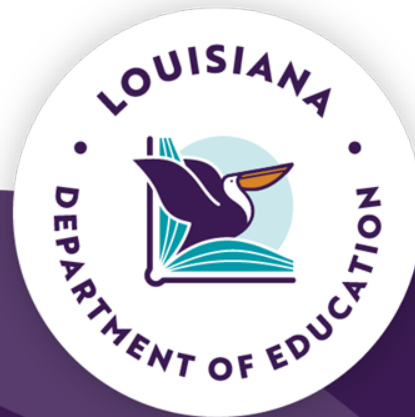
February 2025
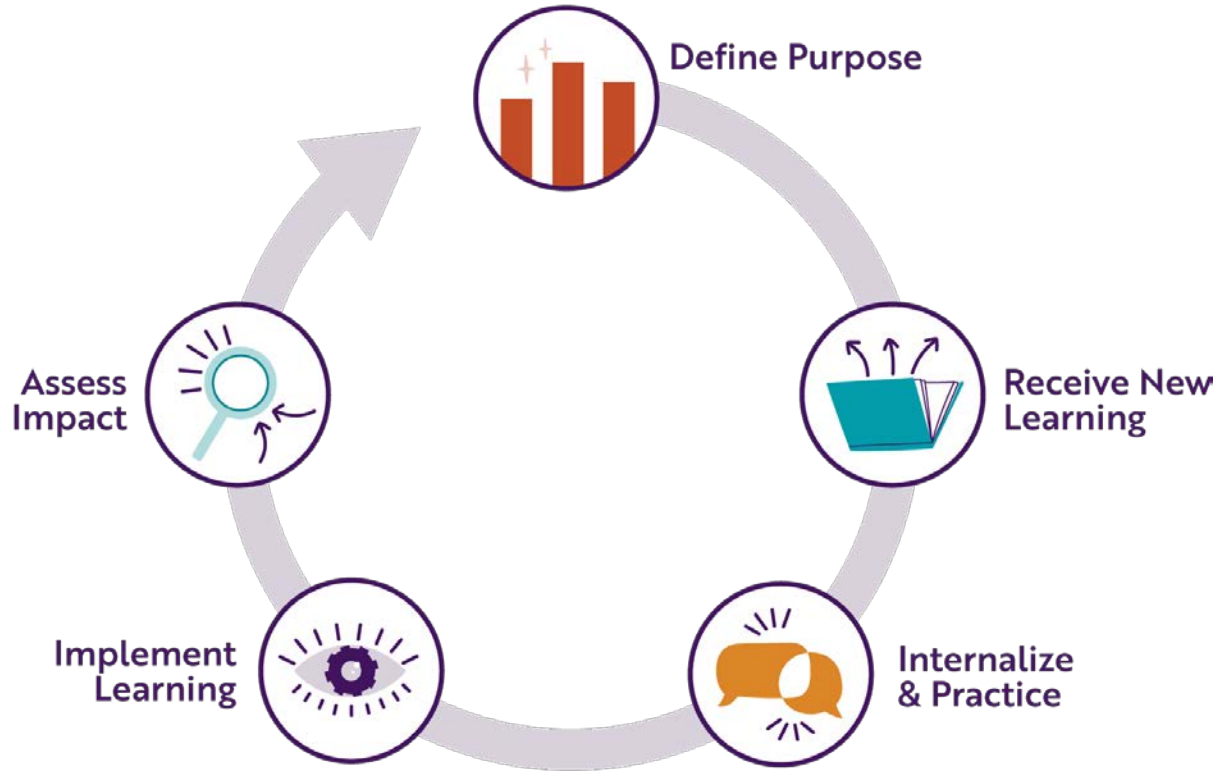
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Louisiana's Education Priorities

☑ **Early childhood** leading to kindergarten readiness

☑ **Literacy** instruction aligned to the Science of Reading

☑ **Math** instruction from foundational to advanced skills

☑ Opportunities ensuring a **meaningful high school experience**

☑ An effective **teacher for every student**

☑ Expand **educational choice** for students and families

Professional Learning Cycle

- Define Purpose
- Receive New Learning
- Internalize & Practice
- Implement Learning
- Assess Impact

Agenda

- 9-12 Louisiana Student Standards for Computer Science

- Louisiana K-12 Computer Science Education Plan

- Problems of Practice Activity

- Next Steps

Define Purpose

Objectives

Today we will:

- examine the 9-12 Louisiana Student Standards for Computer Science;

- describe and discuss the Louisiana K-12 Computer Science Education Plan; and

- utilize the Computer Science Landscape Analysis Tool to consider plans for school system next steps in computer science implementation.

Louisiana's Vision for Computer Science

Louisiana's vision for K-12 Computer Science Education is to increase **digital literacy** skills through engagement with a **progression of computer science concepts and experiences** which prepare all students for success in society and future **career opportunities**.

DIGITAL LITERACY

PROGRESSION OF COMPUTER SCIENCE CONCEPTS & EXPERIENCES

CAREER OPPORTUNITIES

Preparing Standards Implementation
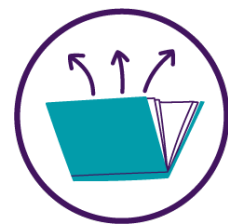
Key goals of the standards

- Apply analytical and critical thinking skills to real-world situations;
- Demonstrate digital literacy and digital citizenship skills; and
- Utilize technology skills as employable citizens to meet present and future workforce needs.

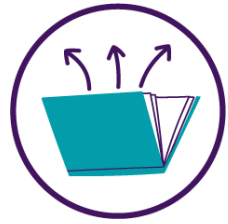# 9-12 Louisiana Student Standards for Computer Science
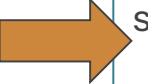
Louisiana's Computer Science Framework

Core Concepts	Core Practices
1. Computing Systems	1. Fostering responsible cyber citizenship
2. Networks and the Internet	2. Collaborating around computing
3. Data and Analysis	3. Recognizing and defining computational problems
4. Algorithms and Programming	4. Developing and using abstractions
5. Impacts of Computing	5. Creating computational artifacts
	6. Testing and refining computational artifacts
	7. Communicating about computing

Examples: Algorithms and Programming

By the end of grade 5	By the end of grade 8	By the end of grade 12
Create clearly name variables representing different data types and perform operations on variable's values.	Evaluate and use naming conventions for variables to accurately communicate the variables' meaning to other users and programmers.	Assess variables, then classify the scope and type of variable.
Create, use, and apply an algorithm to complete a task. Compare the results of algorithm usage trials and refine the algorithm.	Evaluate algorithms in terms of efficiency, correctness, and clarity.	Design algorithms that can be adapted to express an idea or solve a problem.

Louisiana K-12 Computer Science Education Plan

Louisiana K-12 Computer Science Education Plan

- The plan is designed to provide a comprehensive computer science education for all students in Louisiana and is guided by six key actions.

- Included with the six key actions are corresponding state and system actions to meet the goals of the plan.

LOUISIANA DEPARTMENT OF EDUCATION

Office of Teaching and Learning

Louisiana K-12 Computer Science Education Plan
Comprehensive Action Plan

Introduction

"In Louisiana, the fastest growing industry is Professional, Scientific, and Technical Services which is composed of much of the technology industry. Software developers and network administrators are among the ten fastest-growing occupations in the state requiring a college education, yet the state is producing fewer than half of the graduates needed to fill computer science-related jobs. Successful completion of rigorous post-secondary computer science programs requires a thorough foundation at the elementary and secondary education levels. It is in the public interest that a comprehensive computer science education initiative be undertaken to ensure Louisiana has citizens who have the expertise to perform the technology skills embedded in most professions, who can meet the ever-increasing workforce demands in the technology sector, and who can envision and grow the next generation of technological advances." (Computer Science Education Act, 2022)

Planning for Next Steps in the Computer Science Education Plan

Key Action 3	State Actions and Supports	School System Actions
Provide guidance for a computer science course sequence for high school students ensuring alignment to postsecondary entrance and eligibility for the Taylor Opportunity Program (T.O.P.S) for students.	Provide and support relevant Jump Start 2.0 Pathways, such as Information Technology and STEM Renaissance Computing & Cybersecurity Pathway, which offer a variety of computer science courses.	Analyze the landscape analysis and consider current course offerings and additions that may lead towards a pathway.

9-12 Computer Science Pathways

Computer science courses are a feature of the following JumpStart 2.0 Pathways:

- [Information Technology](#)

- [STEM Renaissance Computing & Cybersecurity Pathway](#)

- [STEM Renaissance Digital Design & Emergent Media Pathway](#)

- [STEM Renaissance Pre-Engineering Pathway](#)

The Computer Landscape Analysis Tool

School systems should use this tool to map the most relevant computer science data to accomplish the system actions outlined in the K-12 Computer Science Education Plan. These include:

- collecting data necessary to complete the Computer Science Landscape Analysis Tool; and
- using the K-12 Computer Science Plan and the Computer Science Landscape Analysis Tool to map out the school system's next steps for computer science.

Key Action 2

Key Action 3

Key Action 4

Landscape Analysis Tool Data

Data collected with the Landscape Analysis Tool include:

- Grades 9-12 Computer Science Certification and Training Data

- Grades 9-12 Computer Science Coursework and Enrollment Data

- Grades 6-8 Computer Science Data

- Grades K-5 Computer Science Staff With Computer Science Training Data

- Computer Science Logistical Data

Computer Science Landscape Analysis Tool

LOUISIANA DEPARTMENT OF EDUCATION

Teaching & Learning: Computer Science

Computer Science Landscape Analysis Tool

Purpose: School systems should use this tool to map the most relevant computer science data to accomplish the system actions outlined in the K-12 Computer Science Education Plan.

Step 1: Gathering School System Computer Science Data

Gather data and use the chart below to guide discussions on staffing needs at school locations to achieve the desired state based on target dates listed in step 2.

CS Landscape Analysis Tool (continued)

Step 2: Analyze data and determine action steps

The school system will implement the K-12 Louisiana Student Standards for Computer Science during the 2025-2026 school year. The chart below suggests dates starting in January 2025 to guide school systems toward full K-12 CS implementation within three years. The targeted dates aid the local CS team in creating a unique implementation timeline using computer science landscape analysis data.

Step 3: Revisit Data and Monitor Progress

Revisit the data gathered in the Landscape Analysis Tool regularly and add updated data related to teacher certification, course offerings, and system-wide progress toward identified goals. Utilize Instructional Leadership Teams (ILT) to center progress monitoring efforts and to support high-quality professional learning structures.

Problems of Practice Activity

Activity: Problems of Practice
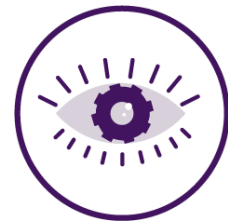
Each group will be assigned a specific scenario to consider. Use resources such as the 9-12 Course Guidance and Landscape Analysis Tool to help find solutions.

Define	**Brainstorm**
What is the core issue? What other problems surround this? What should s good solution address?	Consider possible solutions. What data should be gathered to create a solution?
Prioritize	**Action Steps**
Which solution is best? Why?	Identify key action steps to implement this solution.

Share Outs

Coming back together let's see if there are few individuals who might want to share out their group's solution!
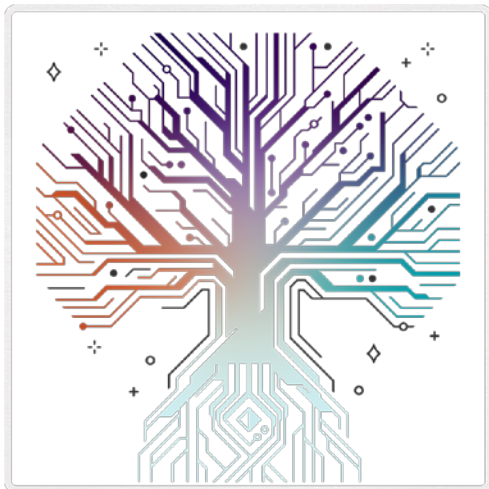
PROGRESSION OF COMPUTER SCIENCE CONCEPTS & EXPERIENCES

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Next Steps

- Form your system-level computer science implementation team and complete the Computer Science Landscape Analysis Tool.

- Examine the computer science education plan to plan for computer science implementation in your district.

- Enroll teachers in 6-12 teacher training Energize Initiative! This is 40 hours of no-cost Praxis (5652) exam preparation.

- Ongoing guidance is available to school leaders and educators through the LDOE Computer Science web page, LDOE Newsletters, and the monthly Office of Teaching and Learning Call.

Questions? Email STEM@la.gov

Thank you!

Please contact STEM@la.gov with any questions.