

## The Most Significant 2023 NC Science Standards Change

In 2023 there were several changes made to the [NC K-12 Science Standards](#). The most consequential was reinstating support for teaching the [Scientific Method](#). The boilerplate (introductory) words to each of the fifteen (15) NC Science Standards were changed per below (with the green parts identifying the differences)...

### *Prior* —

“The North Carolina 2023 K-12 Science Standards are intended to foster conceptual understanding and help develop scientifically literate students. The standards provide foundational knowledge and practices within each grade band and course. ~~The Disciplinary Core Ideas (DCI) and the Scientific and Engineering Practices (SEP), outlined in A Framework for K-12 Science Education, informed the development of the standards.~~

“The standards are organized within 1 strands which articulate vertical alignment. As students progress from one grade to the next, the depth of knowledge and level of sophistication increases. The North Carolina 2023 K-12 Science Standards maintain the respect for local control of each Public School Unit (PSU) to design the specific curricular and instructional strategies that best deliver the standards to their students.

“Note: These standards and objectives are not intended to be the curriculum, nor do they indicate the whole of a curriculum which will be written by a local public-school unit (PSU) or school. The standards for this course have been developed to serve as the framework which will guide each PSU in the development of the curriculum for K-12 Science - Kindergarten”

### New —

“The North Carolina 2023 K-12 Science Standards are intended to foster conceptual understanding and help develop scientifically literate students. The standards provide foundational knowledge and practices within each grade band and course. The standards are organized within 11 strands which articulate vertical alignment. As students progress from one grade to the next, the depth of knowledge and level of sophistication increases.

“Engaging in science encourages students’ curiosity, interests, and prepares them for the broadest range of postsecondary opportunities, be it college, career, or military service. The 2023 K-12 Science Standards are designed to allow students to become active participants in science - building their understanding of the natural world through observations and investigations.

“The scientific method provides a common framework for introducing the traditional experimental design and hypothesis-testing process. The methodologies or approaches utilized by scientists can vary depending on the nature of their research questions and available tools. Steps that all scientists follow when conducting scientific investigations usually involve asking questions, the collection and analysis of relevant data, the use of logical reasoning, opportunities to communicate and collaborate with others, and the development of explanations.

“The Science and Engineering Practices (SEP) are embedded in the standards to support a greater emphasis on how students develop science knowledge and the durable skills within the NC Portrait of a Graduate. While one practice is identified in each objective, teachers should utilize other practices to support students’ progress towards mastering the standards.

“The North Carolina Science Standards maintain the respect for local control of each Public School Unit (PSU). These standards and objectives are not intended to be the curriculum, nor do they indicate the whole of a curriculum which will be written by a PSU or school. The K-12 Science Standard Course of Study has been developed to serve as the framework for a well-planned science curriculum which provides opportunities for investigations, experimentation, and technological design.”

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### *My Brief Comments —*

The new words regarding the [Scientific Method](#) are **excellent**. The addition of these words is to the credit of DPI and SBE, as this new emphasis will be beneficial to **all** NC K-12 students.

Deleting the repeated references to the progressive *Framework* is long overdue. The continued reference to the SEP is superfluous.

We now need more specificity in the NC Science Standards regarding **Critical Thinking**. Not only is there an intimate connection between a Critical Thinking analysis (comprehensive and objective) and the Scientific Method (a universal problem-solving procedure), but this is what is promised in NC’s [Portrait of a Graduate](#).

Using the same cooperative spirit — working for the best interest of NC K-12 students — we should be able to fix this major **Critical Thinking** deficiency in short order.

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