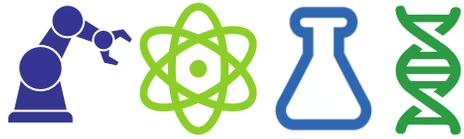


Science

Returning-to-School 2020-21



What does effective science instruction look like for fall 2020 return-to-school plans?

Effective instruction in science, like all subjects, has students engaged in inquiry – i.e., making sense of the world around them, asking questions, exploring and investigating ideas, and collaboratively creating authentic products that demonstrate standards-based learning.

- Every student deserves a well-rounded education by engaging in meaningful learning across subjects, regardless of learning environment.
- Teachers focus on deep, grade-level learning, not remediation or catch-up.
- The Wisconsin Standards for Science focus on a narrowed set of content, learned as students engage in the practices and thinking of science. There aren't "[power](#)" or "[essential](#)" standards; relevant learning centered in students' communities is the essential aspect.

What are the challenges?

With ongoing health concerns, there are many unknowns. DPI released the "[Education Forward](#)" guidance to support your work. Planning for blended learning options, at the least, will likely be necessary.

Districts will need clear safety protocols for lab equipment and student grouping but should still consider hands-on science where in-person learning is possible.

Why it Matters

Administrators:

Wisconsin [has a vision](#) that all students graduate as well-rounded citizens with the skills, habits, and understanding to be college, community, and career ready.

Effective science and social studies learning supports literacy – [video](#); [research article](#)

Teachers:

Equity means all students have access to standards-based, grade-level instruction.

[Student engagement](#) follows the same principles whether learning is in-person, physically distanced, or virtual.

Effective instruction principles (e.g., [Danielson](#)) are also the same across learning environments.

Students, Families, and Communities:

Families are more engaged through high, clear, and consistent expectations from all educators. Clear learning guides all in one place help.

Scientific literacy is essential for community decision making and policy.



What are strategies for effective science across possible learning structures?

Virtual - students:

- Use Zoom or Hangouts to discuss and make sense of a phenomenon as they model it and revise that model on a shared [Jamboard](#).
- Create a video of their learning and provide feedback to each other through [Flipgrid](#).
- [Safely](#) engage in “hands-on” labs with kits of materials sent home (or picked up) and common home/natural materials.

Physically Distanced - students:

- Use limited classroom time for hands-on investigations, peer dialogue and sensemaking, and collaborative project work, not listening to the teacher.

In-Person - students:

- Bring their own [safety](#) equipment, clean equipment, and work in groups based on local and [state](#) health department guidance.
- Engage in extensive [outdoor learning](#).

How are we meeting the needs of all students?

- Be mindful of student, family, and educator mental and physical health first.
- Find innovative approaches to support different home learning environments.
- [Universal Design for Learning](#) principles include students having voice and choice in their learning.

What are questions to consider?

- How does that strategy or lesson help us meet our vision for all students?
- Do educators receive the science-specific professional learning they need to connect their efforts to larger district/school goals?

Further Resources

Administrators:

- Danielson Teacher Framework article: [supporting teacher learning for remote learning](#)
- [Blended learning models](#)
- [Tips for principals to support distance learning](#) and [coaching](#)
- [Support educators in using scientific practices in teaching](#)

Teachers:

- [Improve student dialogue](#)
- [Use phenomena in units](#) (short video, Paul Andersen)
- [Support student modeling](#) (webinar, NSTA)
- Design [a coherent sequence of lessons](#), building toward particular understandings, to improve student learning.

Students, Families, and Communities:

- Speak up about what is working and not working in a particular learning environment. [Advocate at a school board meeting](#).
- Share your expertise in classroom environments to better engage students in local, meaningful problem-solving.

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