

VT Science Considerations for Distance Learning

(Resource Link Below)

As we grapple with the public health measures needed to be in place to limit the spread of COVID-19, we're faced with how to support the diverse needs of all learners when students are not in school. Districts and educators should consider:

- Unequal access to technology;
- Diverse affective/emotional responses to home lives and the pandemic;
- Responsibilities learners hold as part of their homes and communities;
- Access to safe and supportive learning spaces; and
- Access to peers and/or adults to support learning and sense-making.

The following resources and solutions should not be considered as “school as usual,” simply delivered in a virtual environment. Instead, they are compiled resources and curricula that can help support student science learning during these unique circumstances.

Things to Consider:

- **The physical and emotional well-being of students, educators, families, and communities are the priority at this time.** Families in poverty may be experiencing additional concerns including regular access to meals, utilities, health services, or shelter. Students receiving special education services may face particular challenges in accessing resources that they need. An initial reaction may be to “fill the day” with academic activities, but we should consider how we can support meaningful, purposeful learning while prioritizing social-emotional and health needs.
- **Leveraging the assets of home-based learning, rather than trying to recreate school, can provide meaningful science learning experiences that connect to students’ home lives, interests, and identities.** Consider how to give students agency to pursue science learning that is relevant to them.
- **What makes sense in this context may not be best practices normally.** Educators should consider how to make the best of difficult circumstances and be clear about how recommendations during school closures in response to the pandemic compare to teaching and learning with students in the classroom.
- **Efforts will need to adapt as this situation unfolds.** Right now, Vermont has closed schools for the remainder of the school year.
- **Given the wide range of opportunities learners will have, grading work should be approached with caution.** Many students will not have consistent access to digital devices or the internet at home, or they may have to share devices with others in the households
- **Try to ensure that learning recommendations are not limited by access to technology.** Student learning should not be solely dependent on access to devices and the internet. Encourage approaches that can be pursued without technology and/or asynchronously to set students up for success.

- Recognize that students and family members may be available to play different roles in learning when at home. Consider a menu of options (coming soon!) for science learning experiences that allow for different types and levels of engagement.

Features of Supportive Resources

Consider how materials or approaches you are suggesting can be used to:

- Support **flexible scheduling and limited technology access**.
- Engage students in **meaningful science explorations, investigations, and/or sense-making**.
- Encourage students to engage in **activities that already happen in their homes with materials that families already have** (especially so families do not need to purchase additional supplies).
- Help students make **explicit connections to their interests and identities**.
- **Invite family members to be a partner** in students' learning
- Provide students with **choices for how they engage, what they investigate, or how they demonstrate learning**.
- Support students in **self-reflection** related to content and process to support their science learning.
- **Exercise sensitivity** when referencing the current pandemic as a possible phenomenon to investigate.

Learning experiences should look more like...	Learning experiences should look less like...
Flexible goals and structures for learning ● extended time for learning and reflection ● use of commonly available materials ● purposeful selection of learning targets ● allowing students to explore their interests ● meaningful, manageable tasks and projects ● opportunities to learn without the use of devices or the internet	An attempt to recreate school at home ● assuming a strict “school day” schedule ● requiring special materials (e.g., lab or materials not commonly found at home) ● pacing with the planned scope and sequence ● assigning readings to stay “caught up” ● packet of worksheets and busy-work ● all learning experiences happen virtually
Purposeful teacher-student interactions ● optional opportunities to connect with teachers and peers virtually and at a variety of times ● teachers providing coaching, feedback, and encouragement ● encouraging students to engage in learning and reflection with their families and communities ● encouraging self-reflection on what students learn and how they learn it	Teacher-centered instruction ● virtual lectures/classes that all students synchronously attend ● teachers delivering information and assignments ● teacher instruction and feedback as the primary mode of facilitating learning
Authentic science learning in the home setting ● connecting science phenomena and problems to household activities, like cooking, fixing things, or gardening	Assignments to “get through” content ● emphasizing memorizing science content or “checking off” tasks on lists ● asking students to solve contrived or hypothetical problems, or complete design projects that value form over function

• asking students to identify relevant problems in their lives and engage in design cycles to address them • allowing students to deeply explore phenomena or problems of interest through investigation to build understanding and practice over time	• trying to cover content through a volume of activities or skipping from topic to topic
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VT SCIENCE RESOURCES FOR DISTANCE LEARNING