



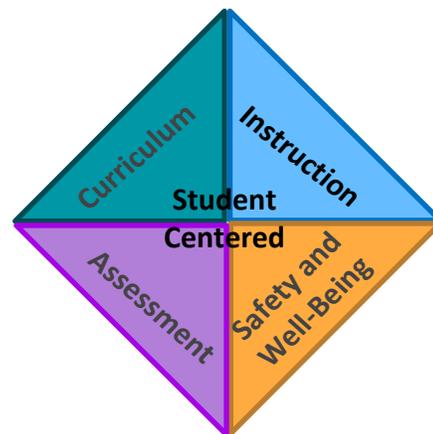
# Low-Tech to No-Tech Supports

How do we provide equitable science instruction to all students when students have limited access to technology?

Access to the NM STEM Ready! Science Standards has a focus on students' ability to engage in phenomena based instruction in order to make sense of the world around them.

## Considerations

- Maintaining a focus on high quality 3-dimensional science instruction may need to include adaptations to meet the needs of accessibility to technology.
- By prioritizing a local, placed-based phenomenon students have the opportunity to engage in their local community with the use of little to no technology.
- Ensure each student is fully engaged in the class community. Leverage research-based strategies including:
  - Students feel safe, comfortable, and part of the community.
  - Students know how to engage.
  - Pedagogical strategies support engagement.
  - Offer instruction with several asynchronous options for students to become co-creators of knowledge.
- Create a consistent plan for managing materials.



## What Does This Look Like?

- Adapting curriculum to include asynchronous options as students may only have access to synchronous session with a cellphone with limited data and options to receive documents.
- Begin the planning process with student needs at the forefront by focusing on students' cultures and place, and inclusive pedagogies to meet the needs of all students by offering specialized plans that include translations, accessible technology and physical and mental health.
- When adapting instruction to include low to no tech options for students consider:
  - Place based phenomena that includes grade level Performance Expectations bundles.
  - Send clear directions that may need to include screenshots to provide additional guidance in place of synchronous sessions.
  - Provide a consistent plan to provide and collect materials by reaching out to caregivers about options available to them.

# Low-Tech to No-Tech Supports

## What Does This Look Like? (cont.)

Considerations for different approaches as you plan:

Ensuring equity with access to instruction using low-tech to no-tech	
Instructional approaches	Low and No tech options
Demonstrating Knowledge	Create menu boards for students to select from several options that include little to no tech. Also, consider additional time to complete assignments.
Class Discussions	If students have a problem attending a video conference, consider having students join via phone conference. If students are unable to attend a synchronous session, consider alternative methods (e.g. meal pickup sites, sending photos, posting on a class discussion board, and/or by email) factoring in students ability to easily return materials and communicate understanding.
Engaging in Phenomena and Investigations	Have students leverage the world around them to explore and explain along side family members.
Check-ins and Feedback	When contacting families or caregivers the first time determine the best method and times for check-ins. Being consistent in providing personalized feedback and offering families a opportunity to share successes and challenges. Some options are phone calls, emails, using a variety of apps.

# Low-Tech to No-Tech

## Recommended Reflection Questions

Use these questions with your PLC to examine current practice and engage in forward planning.

- Who has access to science instruction and in what format? How do we adapt our current resources to reach all students?
- Is there an opportunity to focus on Science Engineering Practices and Crosscutting Concepts that could be leveraged as entry points for students and families to engage in NM STEM Ready! Science Standards?
- In what varied ways could families and or caregivers be invited to participate in science learning (keeping in mind current household demands on time)?
- What community partnerships or out of school time networks could be leveraged to provide additional support in providing science instructional materials?

## Where can we start?

### Administrators

Understand the unique needs of science teaching and learning, and ensure that science is included in discussions and decision-making.

- ★ [NGSS Overview for Principals](#)
- ★ [K–8 Science During COVID \(WestEd\)](#)
- ★ [Restart and Recovery \(CCSSO\)](#)
- ★ [Teaching K-12 Science and Engineering During a Crisis \(2020\)](#)
- ★ [Supporting equitable Home-Based Science Teaching and Learning During COVID-19](#)

### Teachers

Adhere to a three-dimensional vision of science teaching and learning by leveraging science at home.

- ★ [Phenomena, Not Just for the Classroom](#)
- ★ [Pass the Science Please: Science Talk Moves](#)
- ★ [Sample Science Menu](#)
- ★ [NSTA's Daily Do](#)
- ★ [Citizen Science](#)
- ★ [How to launch STEM investigations that build on student and community interest and expertise](#)

### Students, Families, and Communities

Connect to high-leverage science teaching and learning practices, such as phenomena, science notebooks, and science talk.

- ★ [Phenomena](#)
- ★ [Science Talk Moves](#)
- ★ [Science Notebooks](#)

## Big Questions for Low-Tech to No-Tech to ensure equitable science instruction.

