

Distance Learning Support and Resources: Mathematics

March 19, 2020

The Minnesota Department of Education defines distance learning as “students have access to appropriate educational materials and receive daily interactions with their licensed teachers.” Supporting mathematics learning in the period where students are working from home provides some challenges and opportunities. MDE has provided a document to help districts set up distance learning. This resource builds on those delivery systems and applies them to distance learning in mathematics.

Instruction and assessment

Though distance learning is new for most teachers, best practices for instruction and assessment still apply. The following considerations are provided for teams of mathematics educators:

- Focus on what students must learn: What standards and benchmarks do you still need to teach and assess this year?
- Revise and retool: How can existing lessons, units, and assessments be modified for distance learning? Consider both formative and summative assessments.
- Keep it hands-on and rigorous: What learning experiences and assessments can you develop to ensure students aren't being asked to spend extensive amounts of time completing worksheets, whether on paper or online. Is there a way to use resources previously set aside that would have students engaging in experiences (projects) that are expected to last more than one class period? What provisions are needed to ensure you are getting information about student thinking rather than attempts at answer-getting? Though not exhaustive, the following sites provide opportunities for students to discuss their thinking.
 - [Which One Doesn't Belong](#) - This website provides an opportunity for all learners to discuss their thinking with visuals that have many possible reasons for choosing which one doesn't belong.
 - Two sites providing estimation activities: [Estimation 180](#) and [Esti-Mysteries](#).
 - [Turner's Graph of the Week](#) – Secondary students are given the opportunity to communicate their critical thinking and analysis through writing and discussion.
- **Be clear about “the why” for assignments:** How will you make the learning goals/targets clear for students and families?
- **Continue to give feedback:** Consider synchronous and asynchronous options for student feedback. How can evidence of student learning that we use be adapted to ensure we have the best information about student understanding?
 - For elementary grade students, is there a way for teachers to connect individually with each student?
 - For secondary teachers, is it possible to set up an interactive connection with smaller groups of students?

Selecting Resources

The following considerations should be addressed when selecting resources:

- How does this resource align with the rigor of the standards and benchmarks we are working on?
- How does this resource align with our beliefs about the learning experiences that are most beneficial for students?

The National Council of Teachers of Mathematics (NCTM) has a posted Free Resources for Teaching Math Online. They are also hosting a webinar called *Making the Shift to Online Math Instruction: Supporting PreK-16 Educators in Online Pedagogy* on March 24, 2020- 7:00 p.m. EST. Though registration for this webinar has hit capacity, it will be recorded, and a link to the recording will be added to this document as soon as it is available.

For questions, contact mde.academic-standards@state.mn.us