Guidance on Teaching Mathematics in the 2020-2021 School Year

The 2020-2021 school year will look different than any school year before it. The following guidance empowers educators to bridge the gap between face-to-face classroom instruction and a remote environment. Highly effective mathematics classrooms, whether students are 100% physically present, 100% digitally present or anywhere in between, adhere to the same strategies. For the upcoming school year, mathematics instruction should remain grounded in research related to best practice in how best to help kids learn. This guidance has been delineated into four categories. Each category has a short description followed by recommendations for our currently disrupted educational landscape that includes resource links.

The end of the 2019-2020 school year was a challenging, yet innovative time that resulted in some unfinished learning for students, but also led to the identification of some promising practices for educational systems that will aid them as they move swiftly towards the future. The guidance below draws on some of the promising practices our state and national communities have identified, in hopes of supporting teachers in engaging students in grade level content while accelerating their unfinished learning from the prior school year.

For a complete list of resources, see below.

Social-Emotional Learning:

Establish a process of managing emotions, setting and achieving positive goals, feeling and showing empathy for others, establishing and maintaining positive relationships, and making responsible decisions.

Recommendations:

- Ensure that time is purposefully dedicated to building a community of learners, even if some/all students are connecting to the classroom remotely
- Focus on developing relationships (teacher and student, student and student), especially if some students can't participate physically
- Build a safe environment where students can make mistakes and grow as individuals and a group through shared community norms, whether in remote or in physical classrooms
- Incorporate Culturally Responsive Teaching by making meaningful connections between what students learn in school and their cultures, languages, and life experiences

Standards:

Intentionally structure learning around grade-level mathematics standards, with emphasis on critical understandings of the grade.

Recommendations:

- Focus on essential content in grade bands and grade levels by using the Utah Major Work documents
- Identify skills to master of the essential content using the Mathematics Core Guides
- Promote coherence within and across grade levels through the use of the Utah Major Work documents, Utah Mathematics Core Guides, and the Achieve Coherence Map
- Begin the year with grade level content and address lost learning through *targeted pre-teaching* support throughout the year.

Assessment:

Leverage ongoing asset-based assessments in determining the content and instructional supports students receive.

Recommendations:

- Check for understanding and provide ongoing meaningful feedback in face-to-face and remote instruction
- Use concept-based formative assessments (e.g., Formative Assessment Tools, RISE benchmark modules, Grades 1-2 Mathematics Assessment Items, mini-assessments, daily challenges, local assessments) rather than comprehensive assessments focused on the entire breadth of content from the previous year to leverage students' understanding targeted around the upcoming or current unit
- Use digital tools such as Nearpod, Flipgrid, or Desmos for immediate responses and in-the-moment formative assessments
- Use assessment to guide acceleration rather than remediation; avoid tracking students

Instruction:

Commit to effective, evidence-based mathematics instructional practices for all students, regardless of the instructional environment.

Recommendations:

- Plan instruction to engage in Effective Teaching Practices, even in remote instruction circumstances
- Leverage the tools that your LEA, UEN and USBE have identified in planning instructional environments that are interactive, collaborative and offer both synchronous and asynchronous learning opportunities
- Let evidence of student learning drive decision making for math classrooms through consistent PLC engagement focusing on establishing instructional norms that supports every student in learning and centered around the Major Work for each grade level
- Engage students in a multi-tiered system of supports, with particular focus on students that have limited synchronous access to teachers, to ensure all students have access to grade level content

General Technology Resources in Utah:

- **UEN Learn @ Home**
    - **Principles for Remote Learning**
    - **Reimagine Teaching Webinar Series**
    - **Reimagine Teaching Educator Stipend**
    - **UEN Learn @ Home: Mathematics**

- **STEM Action Center Mathematics Software Grant**
    - **Promising Practices in Maths Software Guidance Document**

- **Digital Teaching and Learning Grant Program**

- **Statewide Contracts for all Utah Educators:**
    - **Nearpod**
    - **Canvas**
    - **Zoom (access forthcoming)**

Resources by section: *Starred resources have been linked in the recommendations above

Social-Emotional Learning:

- *What is Social Emotional Learning (SEL)?
- *Extending Classroom Management Online
- *Bringing a Culturally Responsive Lens to Math Class
- SOCIAL AND EMOTIONAL LEARNING (SEL) COMPETENCIES
- Key Considerations for Promoting Culturally Relevant SEL During COVID-19
- Draft of Great School Social Emotional skills and elementary math for teachers
- Culturally Responsive Teaching: What You Need to Know

Standards:

- *Major Work of the Grade Documents
- *Core Guides
- *Coherence Map
- *Learning in the Fast Lane by Suzy Pepper Rollins

Assessment:

- *Utah Formative Assessment Tools
- *Formative Assessment in Distance Learning
- *Achieve the Core Mathematics Assessments
- *Formative Assessment in Distance Learning
- *RISE benchmark modules
- *Grades 1-2 Mathematics Assessment Items
- *Nearpod
- *Flipgrid

- *Brilliant-Daily Problems
- *Desmos Classroom Activities

Instruction:

- *NCTM Principles to Action
- *10 strategies for online learning during a coronavirus outbreak
- *When to Teach Online Classes Live and When to Let Students Learn on Demand
- *Teacher Learning Team Cycle
- How Not to Start Math Class in the Fall – 2020
- CCSSO COVID 19 Response
- English Learners and Distance Learning: Math Language Routines

General Resources

- *TNTP Learning Acceleration Guide: Use this guide to plan for restarting school and accelerating student learning.
- Moving Forward - NCSM and NCTM Joint Statement
- Instructional Considerations for the 2020-21 School Year