



K-12 MATH HYBRID SCHEDULE RECOMMENDATIONS

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CONTENT

Highest priority should be placed on teaching the on-grade level priority standards with conceptual understanding that builds towards procedural fluency. Use non-priority standards to support priority standards where possible and use targeted formative assessments (not traditional diagnostics that rarely assess more than stamina) to scaffold and bridge student access to on-grade level content.

<https://www.davis.k12.ut.us/academics/mathematics/k12-mathematics> --> K-12 Educators --> DESK/Priority Standards

ASSESSMENT

Be creative and focus on offering opportunities for students to demonstrate understanding using non-traditional, holistic, student-centered approaches. Allow opportunities for students to reason, justify, and critically think about mathematical topics. Make sure to offer assessments that include a variety of cognitive demand and remember, if the answers are internet searchable, rethink what is being assessed. Math Diagnostics and Drill Downs Self-Paced Course Registration:

<https://forms.gle/iAFWkuGHpX4jDVZ39>

DIGITAL RESOURCES

- DSD Mathematical Task Bank:
<https://www.davis.k12.ut.us/academics/mathematics/k12-mathematics> --> K-12 Educators --> Mathematical Task Bank.
- Teacher Desmos: <https://teacher.desmos.com/>
- Flipgrid: <https://info.flipgrid.com/>
- Geogebra: <https://www.geogebra.org/>
- Brilliant: <https://brilliant.org/daily-problems/>
- Virtual Math Manipulatives:
http://www.glencoe.com/sites/common_assets/mathematics/ebook_assets/vmf/VMF-Interface.html
- NCTM/NCSM Mathematics Learning in the Era of COVID:
<https://www.davis.k12.ut.us/fs/resource-manager/view/511786d2-e9ac-4dd2-a7aa-86470eb0116f>
- Never Say Anything a Kid Can Say:
<https://www.davis.k12.ut.us/fs/resource-manager/view/0efb206a-7207-4be9-abe1-55c345d21c45>

IN-PERSON LEARNING

Building Deep Conceptual Understanding

Focus time on providing rich learning experiences with on-grade level content that are steeped in building student conceptual understandings and multiple representations. Provide a variety of depth (Rigor and Relevance quadrants C & D) in learning experiences. Be mindful of the teacher's role in access to on-grade level content for all students and address unfinished learning by keeping the cognitive demand the same or higher when providing interventions.

- Mathematical tasks (given at the beginning of a unit as a formative assessment and then revisited 2-3 times in the unit).
- Heterogeneous groups of students working together to engage with higher-level mathematical problems.
- Intentionally set digital routines as well as in-person classroom routines so that students are prepared to access learning experiences during remote learning (Canvas is the new "open your math book to p. 59"--consider using it daily for student familiarity).
- Provide timely feedback to improve student outcomes (high-quality teacher feedback is more than marking an answer correct or incorrect).

REMOTE LEARNING

Building Procedural Fluency From Conceptual Understanding

Focus time on extensions of in-person experiences and include opportunities for students to engage in metacognition and reflection about what is being learned. Assign fewer, higher-depth practice problems and include ways for students to justify their thinking and use mathematical vocabulary in context.

- Digital math programs should be limited to no more than half of remote learning time.
- Be mindful of student screen time and digital fatigue and remember math is one content area out of several. Provide a variety of content delivery methods such as reading an article, analyzing student work, watching an instructional video, listening to someone explain a concept or justify a solution to a problem. Direct instruction should be limited to 15 mins.
- Be creative and provide learning experiences that are interoperable. Examples: translations--complete a jigsaw puzzle at home and report on translations notice and wonders, slope--investigate slopes of different sidewalks in your neighborhood and report on your findings, quadratics--throw or kick a ball, what do you notice and wonder about the trajectory?, fractions--bake or build something!
- Have students brainstorm a project they can do at home that is content-related and submit a proposal for a rich distance learning experience. Have them present the completed project to the class and talk about the mathematics embedded in their learning experience.

SEAT TIME AND LEARNING OUTCOME REMINDER

"If we take out one term/semester of 10 weeks, [Australia and the US] still have more in-school time compared to Finland, Estonia, Korea and Sweden, which all outscore Australia and the USA on PISA"--John Hattie

<https://www.educationreview.com.au/2020/04/education-expert-john-hattie-weighs-in-on-the-impacts-of-distance-learning/>