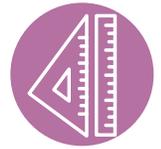


Classroom Math Materials Safety

GUIDANCE FOR IN-PERSON LEARNING



Research indicates that by giving students visual representations and putting objects in their hands, they develop a concrete mental image of math concepts. Teachers are encouraged to provide opportunities to use hands-on materials every day in a math classroom. Combined with the auditory and visual pieces, this kinesthetic approach reinforces foundational knowledge and creates the building blocks allowing students to understand how math actually looks and works.

To gain a deep understanding of mathematical ideas, students need to be able to integrate and connect a variety of concepts in many different ways. The effective use of manipulatives can help students connect ideas and integrate their knowledge, so they gain a deep understanding of mathematical concepts. Students developing this hands-on disposition to mathematical problem solving goes well beyond the math classroom. These direct problem-solving skills are transferable and applicable to other subject areas and to life outside of school.

Considerations

- Safety is always a high priority. Student well-being and adult well-being, including staff and families, must also be supported.
- Collaboration and discourse are at the heart of student-centered learning; however, face-to-face interactions need to accommodate health guidelines established by the district; online interactions may need additional support to establish safe spaces for discussion.
- Social-emotional connections are critical to fostering sensemaking; however, creating and supporting relationships requires different structures in online environments.
- In-person learning with students freely sharing objects or materials poses the highest risk of spreading infection.

COVID-safe practices

- Frequently touched surfaces should be cleaned daily and more frequently when possible.
- Reduce the sharing of materials by encouraging students to bring their own items when feasible. These may include calculators, rulers, scissors, and writing utensils.
- When possible, assign a set of manipulatives (e.g., connecting cubes, algebra tiles) to each student for the school year. If sets must be shared, ensure there is time for cleaning between student use.
- Consider the use of disposable materials to reduce sanitation needs.
- When appropriate, consider using online manipulatives.
- Any materials that must be shared should be cleaned before and after student use.



- All students should wash their hands before and after activities or tasks that require manipulative materials.
- Teach and reinforce handwashing with soap and water for at least 20 seconds and increase monitoring to ensure adherence among students and staff.
- If soap and water are not readily available, hand sanitizer that contains at least 60% alcohol can be used (for staff and older children who can safely use hand sanitizer).
- Enforce social distancing, the use of cloth face coverings, and hand hygiene.
- Provide adequate spacing of students and staff.
- Include in instructions and routine safety practices. Consider traffic flow when distributing materials or other movements. Minimize the number of students that need to move.
- Modify grouping practices. For example, one student could perform the investigation and share the observations with other students that remain at the currently recommended distance of six feet.

RESOURCES:

- [Research on the Benefits of Manipulatives](#)
- [Using Hands-on Materials and Manipulatives to Deepen Students' Levels of Mathematical Understanding](#)
- [Using Math to Make Sense of Our World: Pandemics, Viruses, and Our Actions Webinar](#)
- [Supporting the Continuation of Teaching and Learning during the COVID-19 Pandemic](#)
- [Tools for Maths Teachers](#)

