



Considerations for Remote Instruction in Early Math (K-5) New Jersey Tiered System of Supports for Early Math

Providing remote instruction in early math requires careful planning, recognizing the need for flexibility in terms technology access as well as allowing for student choice and voice when possible or appropriate with regards to how students engage in the lesson and demonstrate their learning. The following are key considerations and suggestions to guide the development of instruction for K-5 students.

Whole Group/Class Instruction

Preliminary Steps

In preparation for instruction, it is important to communicate with caregivers and establish procedures for participating in lessons. Accordingly, teachers can do the following:

- Let parents and caregivers know what are the most important math skills that will be worked on that week, to give them a sense of where to focus their time/efforts.
- Provide a visual task list or progress tracking template that students can use to track their progress.
- Incorporate common household items as math manipulatives (coins, cheerios, goldfish crackers, beans, apples etc.).
- Provide exemplars and samples of acceptable work along with rubrics.
- Communicate which materials are needed for the lesson in advance (e.g. graph paper, lined paper, scratch paper, pencil with eraser, slates, dry erase markers and boards, manipulatives etc.).
- Recommend caregiver participation to monitor for correct responses.
- Provide guidelines for using technology and offer the opportunities to use online resources if needed. This includes the use of multiple channels to provide content background for caregivers to gain the knowledge needed to support students:
 - Email
 - Google Classroom log (for two-way question/answer communication between teacher and caregivers)
 - Posted videos
 - Posted PDFs with caregiver-friendly explanations
 - Check out NJDOE Teacher Resources for Remote Instruction page: [Guiding the Education Community Through the COVID-19 Pandemic](#)

Delivery Approach

- **Synchronous or Hybrid**
With either synchronous (live) or hybrid (live and pre-recorded) instruction, a schedule is set, and students participate in instruction via a virtual platform in real time. This can occur for an entire lesson or parts of a lesson, typically for portions of the lesson that include modeling (I do) and guided practice (we do). This instruction is typically scheduled utilizing surveys once a week with available time frames for virtual classes for parents to indicate their child's availability.
- **Asynchronous**
With asynchronous instruction, (pre-recorded) each lesson is developed and posted to enable students and caregivers to access it when they are available. This can include videos or slides with voiceovers of instructors teaching skills or concepts. There are many online options now available for recording asynchronous lessons, including Screencastify or Google Hangouts.

Instructional Recommendations

Regardless of which delivery approach is used, it is important to provide teacher-directed instructions during lessons to promote students' acquisition of specific skills. The following are recommendations to facilitate this process.

Teacher/Support Staff Collaboration

Grade-level teachers, Interventionists or other support staff can work as a team, capitalizing on their individual strengths, to create lessons that meet students' unique needs. For example, Teacher A may provide small group instruction on prerequisite/foundational math skills for all grade 1 students, while Teacher B facilitates a lesson on grade level math skills or enrichment.

Explicit Instruction and Guided Practice

When introducing a new math skill or concept, the teacher uses direct, structured instruction by modeling for students how to start and succeed on the task and giving ample time to practice. A sample task is shown below in Adding two two-digit numbers.

Step1: Add the numbers in the one's column.

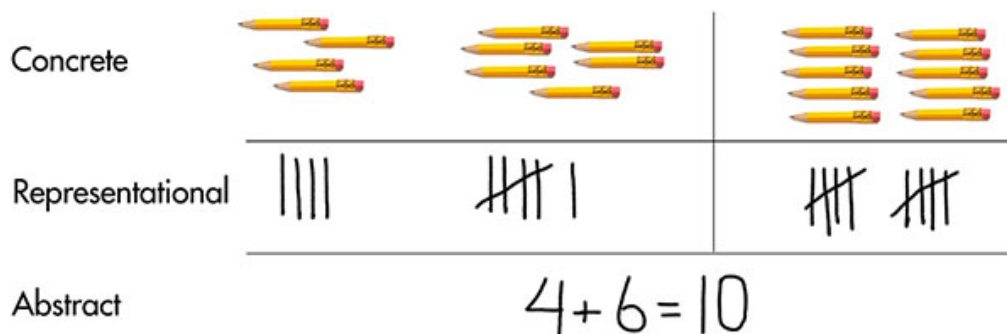
Step2: If the sum is less than 10, write the number under the one's column. If the sum is 10 or greater, write the one's digit under the one's column and write the ten's digit on top of the ten's column.

Step3: Add the numbers in the ten's column. If applicable, be sure to include the number you carried.

Step4: Write the sum of the numbers under the ten's column.

Use of Visual Representation

Visual representations help students to access and make sense of abstract math ideas. Although pictures are helpful, many young children may require concrete, hands-on materials and objects also known as manipulatives, to represent the math idea they are trying to learn or the math problem they are trying to solve. Another name for this approach is the concrete to representation to abstract approach, shown below.



It is important to check for understanding by asking questions such as: How does that picture represent the problem? Is there another way you could do that?

When possible, include alternate visual representation and discuss the similarities and differences between them. The goal is for the student to eventually understand the concepts and procedures without the use of manipulatives

Other Effective Instructional Practices include:

- Encouraging student discussions and provide enough wait time. When students can speak the math, they own the math.
- Establishing behavioral expectations
- Providing additional scaffolds and tools such as graphic organizers or graph paper to assist in organizing student work.
- Presenting and comparing multiple solution strategies
- Assessing student understanding using formative assessment and error analysis

Small Group Instruction/Intervention

Small group instruction/intervention is important for addressing the needs of students that have not yet mastered previously taught skills. Although it may be difficult to assess students in real time, teachers may recognize which students may still need additional support. Small group instruction/ intervention can be provided as described above for whole class instruction. Although it can be provided asynchronously, providing instruction

synchronously has the greater benefit of being able to provide immediate feedback to ensure that students understand skills and concepts.