

Enhancement Activities/Strategies for Gifted/High Ability Learners: Sample Math Learning Plan

Big Idea/ Topic

Represent, relate, compare and perform operations with whole numbers, initially with sets of objects

Standard Alignment

MGSEK.CC.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

MGSEK.CC.4 Understand the relationship between numbers and quantities; connect counting to cardinality.

- a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. (one-to-one correspondence)
- b. Understand that the last number name said tells the number of objects counted (cardinality). The number of objects is the same regardless of their arrangement or the order in which they were counted.
- c. Understand that each successive number name refers to a quantity that is one larger.

Advanced Research

- [Peg + Cat](#) is a television series featuring a young girl and her talking cat. On each episode of the series, the duo announces they have "a big problem" and reason out solutions to math-related problems. The website features episodes and "explore" tasks. Advanced students who enjoy math and crave additional challenges can find age-appropriate ones here.
- Gifted students are natural collectors. They love saving special things and showing off their collections. Teach students how to collect and organize data about their collections. Have students practice counting, sorting, and comparing the items in their collections. Help them research to learn more about their collection topics of interest.
- Introduce your young students to the language of coding. There are many coding websites

that have activities for students, even as young as kindergarten. Some websites with age-appropriate challenges include [Tynker](#), [Code Monkey](#), [Scratch Jr.](#), and [Code.org](#).

Communication

- Challenge your students to record videos on SeeSaw or Flipgrid where they explain how they solved a problem. Verbally explaining solution strategies will greatly help students in later elementary years when written explanations are required. The Open Middle [Domino Friends of Ten](#) challenge is a great problem with which to begin. Dominoes are a great starting point to help young students discover mathematical patterns. Have your students play the [Domino Counting Game](#) to practice counting and sorting.
- Play Number Ninja to help students think critically and practice communicating mathematically. Have one student, the Number Ninja, select a number. (Set parameters such as “a number less than 20,” or “a number on our hundreds chart,” depending on how complex you want the game to be.) The Number Ninja should secretly write it down. Decide a set number of questions that classmates will be able to ask to try to figure out the Number Ninja’s secret. If the students do not guess the number within the set number of questions, the Number Ninja gets a point. If they do, the class gets a point. This game is a great opportunity for the teacher to see what mathematical concepts students know and understand as they ask questions.
- “[Which One Doesn’t Belong?](#)” provides an opportunity for students to think creatively about numbers and mathematical visuals. Display a puzzle for students and have them make claims about which number they think doesn’t belong and support it with evidence. It is interesting for students to see how many different “correct” answers their class can generate. This is a great challenge to help students realize that sometimes problems can have more than one solution.

Critical Thinking and Critical Problem-Solving Skills

- Play the [Snail One Hundred game](#) to practice counting to 100.
- Play the [Dotty Six game](#) to practice counting and simple addition.
- Challenge your kindergarteners to solve this [Writing Digits](#) puzzle.
- Challenge your students to visualize and use logical thinking with these [Esti-Mysteries](#) and challenges from [Estimation Clipboard](#).
- What’s a Word Worth? Have students practice high-frequency words and addition with this fast-paced, easy to differentiate game. Provide students with a set of word or vocabulary cards that you want them to practice reading and/or writing. Then provide a value chart, listing a number value for each letter (such as A, B, C, D, E = 5; F G H I J = 7; K L M N O P =

8, etc.) Two players compete against each other. Each player draws a word card at the same time and starts adding to find the value of their word. The player who finds the value of their word first wins, or you can have the player whose word has a larger value win the round. The game can be differentiated to meet students' particular needs by adjusting the word cards or changing the number values.

Creative Thinking and Creative Problem-Solving Skills

- Try the Transformations activity to practice creative thinking. Have students turn images of numbers into pictures that help them recognize the numbers and remember their value. Then, have students write stories that explain their pictures. [Zero the Hero](#) is a great picture book example to inspire students.
- Make LEGO Brick Pix. Have students build pictures or patterns with LEGO blocks, then count and sort how many of each type of brick is needed to build their structure. An alternative idea is to build structures with toothpicks and marshmallows and have students sort how much of each type of material is needed to build their designs.

Awareness of Self—Student's Well-being

- The math-based game [Number Match](#) is a great way to help students think about the importance of responding to the needs of others and developing a sense of teamwork among your class.
- Train your students to have grit and persevere when challenges are tough. Advanced students have often been told, "You're so smart!" so when a challenge occurs, and they feel "not smart," they sometimes are not sure how to handle that situation. Get in the habit of praising students for hard work, rather than "being smart." Train students to realize the value that "staying in the struggle" has to the learning process. These [picture books](#) can be useful stories to help prevent math anxiety in young students. [These picture books](#) help humanize mathematics for students as well.