How Many More?

Grade 1

Lesson 107

Relevant chapters in the *Digi-Block Comprehensive Teacher's Guides:*
    Book I: Unit 1-5: Comparing Groups of Single Blocks, pages 23 – 25
               Unit 2-7: Comparing Two-Digit Numbers, pages 53 – 55
    Book II: Unit 1-3: Comparing Groups of Single Blocks, pages 21 – 22
               Unit 2-7: Comparing Two- and Three-Digit Numbers, pages 45 – 47
               Unit 3-5: Separating Groups of Single Blocks, pages 77 – 79

Lesson Overview

Students put a number of single blocks on a number line. They use the number line to compare the number of blocks and calculate, "How many more?"

Objectives

Thinking Skills: Students use the number line as a visual reference to differentiate the equal part from the extra or "more" part when comparing two sets.

Mastery Skills: Students learn how to compare two numbers and to determine the difference between them.

Materials

Chart paper for recording comparisons

Each pair of students needs:
- 2 number lines (2 paper or 2 foam)
- Approximately 50 single blocks
- 1 set of "How Many More" cards
- 2 "How Many More" activity sheets (1 per student)

Class Introduction   (10 - 15 minutes)

When young children are looking at sets of unequal amounts of blocks (for example, 7 blocks and 12 blocks) and are asked the questions "Which is more?" and "How many more?", they often respond by saying "12 more". For this reason, this Class Demonstration starts by looking at sets of equal amounts of blocks (7 blocks and 7 blocks). Looking at equal amounts of blocks helps children see where the "how many more" part comes from.

Have two students take a number line and put 7 blocks on each of the number lines. Ask the class to identify:

Who has more? (No one. They are the same. Both have 7 blocks.)
Who has less? (No one. They are the same. Both have 7 blocks.)

Tell students that you are going to **give one student some more blocks.** Make sure that students count and watch as you give one student some more blocks.

Count and place **5 more blocks** one at a time onto one student's number line. Ask:

<u>**How many more**</u> **blocks did I put on _____'s number line?** (5 more)

How many more blocks does _____ have than _____? (5 more)

Have a student point out the part on the number lines that is the **same**. (The student should point to the 7 blocks on each number line.) Line up the number lines so the class can see that this part matches up on the number line.

Ask a student to show the "more" or "extra" part on the number line. (The student should point to the 5 extra, from 7 to 12 on the number line.)

Ask, **"How many blocks does each student have "in all"?"** Show that one student has 12 blocks all together and the other student has 7 blocks all together.

Now follow-up with a "how many more" word problem.

> **Asha has 8 blocks. Sam has 15 blocks. How many more blocks does Sam have than Asha?**

Show Asha's blocks on one number line and Sam's blocks on another number line. Repeat the question and have students whisper what they feel is the answer to you as you walk around the room.

Have a student point out the part on the number lines that is the **same**. (They both have 8 blocks that match up.) Line up the number lines so they can match these up.

Have a student point out the part that Sam has **more**. (The student should point to the 7 blocks extra at the end of Sam's number line, from 8 to 15.) Students should see that the answer to "how many more" is **7.**

Repeat with several more examples until the students feel comfortable. If necessary, repeat the initial lead-up by starting with an equal number of blocks on both number lines.

Activity   (10-15 minutes)

Students work in pairs. First, they shuffle the cards and lay them face down. They each take a card from the top of the deck and build the number indicated on the cards. Each student builds on his or her own number line. They compare the two numbers to determine:
- Who has more?
- How many more?

Students record the numbers for each round and their answers for each comparison on their activity sheets.

Make a class chart of comparisons. Have each pair of students put two numbers that they compared on the chart. Record **how many more** for each pair of numbers.

Assessment

As students work in pairs, observe the following:
- Do students work collaboratively?
- Do students build each number with blocks?
- Do students recognize who has more?
- Can students find the answer to "how many more" using the materials?
- Do students avoid common errors such as:
  o Saying that the greater number is the answer to how many more?
  o Miscounting the extra part?

Extension

❑ Help students make connections between "how many more" and "how many less" types of questions. Repeat the activity by having students determine who has less and how many less.
❑ Present some "how many more" word problems to solve:
  o Marcos has 14 blocks. Samantha has 21 blocks. Who has more? How many more?
  o Mia has 9 blocks. Leon has 20 blocks. Who has more? How many more?
  o Bea has 24 blocks. Ling has 15 blocks. How many more blocks does Bea have than Ling?
  o Olivia has 13 blocks. Noah has 30 blocks. Who has more? How many more?
  o Anika has 15 cookies. Her brother has 8 cookies. How many more cookies does Anika have than her brother?
  Tai has 20 green marbles and 8 red marbles. How many more green than red marbles does Tai have?