

Out of Sight Missing Addends

Summary

Students will learn how to use manipulatives to solve missing addends in math problems.

Main Core Tie

Mathematics Grade 1

[Strand: OPERATIONS AND ALGEBRAIC THINKING \(1.OA\) Standard 1.OA.8](#)

Additional Core Ties

Mathematics Grade 1

[Strand: OPERATIONS AND ALGEBRAIC THINKING \(1.OA\) Standard 1.OA.5](#)

Mathematics Grade 1

[Strand: OPERATIONS AND ALGEBRAIC THINKING \(1.OA\) Standard 1.OA.6](#)

Mathematics Grade 1

[Strand: OPERATIONS AND ALGEBRAIC THINKING \(1.OA\) Standard 1.OA.7](#)

Materials

Out of Sight

For each pair:

Paper cup

20 dried beans

For each student:

Sheet of paper/journal

What's Inside?

- [Picnic-themed poster laminated](#)

Several sheets of paper (number depends on how many pages you want in the journal)

3 6" x 9" pieces of brown construction paper

Markers

What's Missing

Calculator

Sunny Solutions

For each pair:

8" yellow construction paper circle

Unifix® cubes or links

For each student:

Writing paper/journal

Additional Resources

Books

- *Counting Crocodiles*
, by Jody Sierra and Will Hillenbrand; ISBN 0-15-200192-1
- *My Little Sister Ate One Hare*
, by Bill Grossman; ISBN 051788576X
- *Ten Flashing Fireflies*
, by Philemon Sturges; ISBN 1558586741
- *Seven Blind Mice*
, by Ed Young; ISBN 0698118952

Background for Teachers

These activities are designed to teach students to use manipulatives to solve addition problems while recognizing that symbols such as a square, triangle, or circle in an addition or subtraction equation represents a missing value that will make the statement true.

Intended Learning Outcomes

5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Instructional Procedures

Invitation to Learn

How many of you like to play games? Everyone take off your shoes. Close your eyes and imagine you are walking through warm sand at the beach and the ocean waves are crashing along the shore. You suddenly walk too close to the shoreline and a wave hits you. Open your eyes and see if the wave swept away any of your possessions. (Teacher walks around while their eyes are shut and take one shoe from several students. You can have the students in a circle or sitting at their desks.) Today we will be talking about missing addends in math problems and how to use manipulatives to solve the math problems.

Instructional Procedures

Out of Sight

Give each student a sheet of paper.

Pair students and provide each pair with a paper cup and a bag of 12 dried beans.

Teacher chooses the sum. Students place that number of beans on their desk.

The first student closes his/her eyes. The second student places a random number of beans under the cup. The student announces the total number of beans not covered underneath the cup, signaling his/her partner to open her eyes.

The partner writes a corresponding addition sentence, using a box for the missing addend (the number of covered beans). The student then completes the addition sentence and lifts the cup to check the answer.

Both students record their problem in their math journals.

The partners switch roles and repeat the activity as time allows.

What's Inside?

Prepare a [laminated picnic-themed poster](#) with a space for a math problem.

Have each student make a picnic basket-shaped math journal. To do this, staple several 5 1/2" x 8 1/2" sheets of paper between two 6" x 9" pieces of brown construction paper. Cut through the thicknesses to round the bottom corners. Draw desired details to make it look like a picnic basket.

Have each student sign the inside front cover of his/her book.

Use a third piece of brown paper to cut out a handle for the top of the basket.

Open the journal and glue the handle to the top of the back cover.

On each of several days, place a missing addend problem on the poster related to foods that could be inside a picnic basket.

Provide time during the day for each student to write and solve the problem in his/her math journal. Announce the correct answer at the end of the day.

Example: (written on the picnic-themed poster and in each student's journal)

What's in the Picnic Basket?

$$\begin{array}{r} 6 \text{ ham sandwiches} \\ + \quad \text{tuna sandwiches} \\ \hline 9 \text{ sandwiches} \end{array}$$

What's Missing?

Write an addition or subtraction sentence on the board, substituting a box for one of the first two numbers in the sentence.

Example: $4 + \square = 10$

Have each student write the number sentence in his/her math journal exactly the way you wrote it on the board.

Encourage students to study the equation silently and guess what is missing.

Have each student write his/her guess below the box in his/her math journal.

Have each student use a calculator to test his/her guess. If their guess is correct, they give a thumbs-up sign. If it is not correct, they try another guess. Have students put an "x" through the incorrect answer and make another guess.

After an appropriate amount of time, ask a volunteer to complete the number sentence on the board. Have each student write the correct number sentence below the first one in his/her math journal.

Present a desired number of additional problems for students to solve in a similar manner.

For an easier activity, display complete number sentences on the board, some with correct answers and some with incorrect answers. Guide students in using their calculators to check them.

Sunny Solutions

Prepare several 8" yellow construction paper circles to represent the sun.

Along the edge of each circle, write six basic facts, each with a missing addend.

Have each pair of students select a prepared circle.

One student reads a problem, the other student writes it on his/her paper.

Students use the manipulatives to determine the solution, arranging the final quantity of manipulatives beside the problem to resemble a ray of sunshine.

After each student writes the answer on his/her paper, the pair solves the remaining problems in a similar manner.

Extensions

Any of these activities can be completed as whole group or adapted to a math center for additional practice after the activity has been completed all together.

Family Connections

Have students teach their families the different activities used in class to reinforce each lesson.

Students find items around the house they can count and use to practice missing addends.

Assessment Plan

Observe how students count the manipulatives being used.

Does one partner seem to dominate the activity?

Do they count on?

Use student work pages.

Bibliography

Research Basis

Marzano, R.J., Pickering, D.J., & Pollock, J.E. (2001). *Classroom Instruction that Works*. Research and Theory Related to Practice, pg 66-71.

This section of the book states the importance of practice and how it is necessary for learning knowledge of any type. The two generalizations from the research on practice are that mastering a skill requires a fair amount of focused practice and while practicing, students should adapt and shape

what they have learned using manipulatives and hands on activities.

Authors

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