

# Predict and Check

Grade 2

Activity 216

Relevant Chapters in the *Digi-Block Comprehensive Teacher's Guides*:

Book II: 3-4, Finding Sums, pp.71-75

3-7: Finding Differences, pp.87-94

Book III: 2-3, Finding Sums, pp.54-57

2-6: Finding Differences, pp.68-71

## Overview

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Student pairs take turns as Predictor and Checker as they solve addition and subtraction problems.

## Objectives

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**Thinking Skills:** Students develop strategies for predicting sums and differences of 2-digit numbers.

**Mastery Skills:** Students learn to make accurate predictions and to check predictions with blocks and algorithms.

## Materials

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Each pair of students needs:

- "Predict and Check" Activity Sheet
- Place value mats with digit cards
- 8 blocks-of-10
- Access to single blocks

## Class Introduction

(15-20 minutes)

Provide pairs of students with the place value mats, digit cards, and blocks. Write a selection of addition and subtraction problems on chart paper, such as:

$$36 + 25$$

$$48 - 32$$

$$52 + 27$$

$$62 - 24$$

$$28 + 16$$

(NOTE: Adjust the problems to the level at which most of the students are working. Write only addition or only subtraction problems if necessary. Include 3-digit numbers if students are ready.)

Have pairs of students pick one problem from the set. Tell students that they may use the blocks to help them predict the exact answer to the problem.

- Remind them that they may represent the addends with blocks, but not combine them.
- For subtraction, they show the larger number only.

Have them set the digit cards to tell how many there will be when the problem is solved. When every pair has displayed a prediction, continue.

Beginning with the first problem, have the students who chose to solve it share, and explain how they arrived at, their prediction. Some strategies may include:

- Model each addend with blocks to "see" them and think about how they will look when they are combined and packed.
- Model the minuend with blocks and mentally take away or separate the subtrahend.
- Completely visualize the blocks and the result of combining or separating them
- Focus on the digits in each addend and apply understanding of the base ten code to combine or separate them.

Next, have them check their predictions with "blocks and numbers." Have students actually combine or separate the blocks and record what they did, relating their algorithm to the block procedure.

Continue, until predictions of the remaining problems are shared and checked.

### Activity

(20 minutes)

Give each pair of students the "Predict and Check" activity sheet. Tell students that they will solve the problems in each space, taking turns being the Predictor and the Checker. Have blocks, place value mats, and digit cards available for student use.

- The student who goes first is the Predictor. He or she picks any problem on the sheet, predicts its sum or difference and then records the prediction.
- The second student, or Checker, uses blocks to verify the prediction. The Checker records what he/she did with the blocks on the activity sheet.
- If the prediction and actual sum are the same, student pairs switch roles and move on to another problem.
- If the prediction and actual sum are different, students discuss their answers and identify where and why they came out differently. Discourage Predictors from erasing their answers. Explain that such differences are learning opportunities not mistakes!
- Continue until student pairs have 3 turns each as Predictor and Checker.

As students are working, be sure that the Predictors have "think time" as they come up with their answers. Rehearse diplomatic ways for Checkers to state that a prediction is incorrect. "I got a different answer" or "Let me show you how I did it" work well.

### Closure

(10 minutes)

After students have completed the activity sheet, have them reflect on their work. Ask questions, such as:

- **How did you decide which problem to pick first?** (Students may say they picked the "easy" ones first. Have them explain how they knew a problem would be "easy.")
- **How did you make your predictions? Did you use blocks, picture the blocks in your mind, or study the numbers?**
- **Were any of your predictions different from the actual answers? How and why were they different?**

### Assessment

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As students are working, observe and note:

Do they-

- Make predictions that demonstrate understanding of the base ten code?
- Rely mostly on modeling with blocks, on visualizing the blocks, or on studying the numbers as they make predictions?
- Predict accurately?
- Use blocks to accurately model addition and subtraction problems?
- Accurately record their work on the activity sheet?

### Extension

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- As a daily warm-up, write 3 or 4 problems of varying level of difficulty on the board. Have students choose two problems and predict their answers. Share prediction strategies. Check predictions together, having students model problems with blocks and having them record their thinking with numbers.

Names \_\_\_\_\_  
& \_\_\_\_\_

## Predict and Check

$$45 + 28$$

Prediction: \_\_\_\_\_

Check:

$$73 - 22$$

Prediction: \_\_\_\_\_

Check:

$$53 - 36$$

Prediction: \_\_\_\_\_

Check:

$$62 + 18$$

Prediction: \_\_\_\_\_

Check:

$$68 - 28$$

Prediction: \_\_\_\_\_

Check:

$$53 + 24$$

Prediction: \_\_\_\_\_

Check: