

# Overview of the Assessment Sourcebook

Assessment and instruction are interwoven strands in the fabric of mathematics education. The primary purpose of assessment is to promote learning, so assessment may be referred to as the glue that holds curriculum and instruction together. As a result, the various instructional methods used in Scott Foresman–Addison Wesley Mathematics are supported by different assessment methods. This overview is a brief introduction to the kinds of assessment available in this Assessment Sourcebook, including both formal and informal types of assessment.

## Formal Written Tests

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A variety of formal written tests are provided to assess students' mastery of important mathematics concepts and skills.

### Materials Provided

Blackline masters (starting on page 1)

- **Diagnosing Readiness** in Grades 1–6 to assess students' understanding of mathematical concepts developed in the previous grade level.
- **Chapter Tests** for use with all individual chapters in the student text. In Grades K–2 there are two forms of the Free Response and the Multiple Choice chapter tests. In Grades 3–6, these tests are called Mixed Formats because they contain free-response, multiple-choice, and writing in math questions. There are two forms for each chapter test.
- **Cumulative Tests** provided for use after Chapters 3, 6, 9, and 12.
- **A bubble-form Answer Sheet** to allow students to practice answering test questions on a separate response sheet.

## **Journal Writing**

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Journal Writing encourages students to use mathematical language as they reflect on what they are learning. It also provides an opportunity for you, the teacher, to gain insight as to how students approach problem-solving.

### **Materials Provided**

(starting on page viii)

- Tips for assessing and responding to journal entries
- Ideas for Journal Prompts

## **Portfolio Assessment**

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Portfolio Assessment provides a way of tracking a student's growth and progress over time. A portfolio should include many types of assessment.

### **Materials Provided**

(starting on page xiii)

- Tips and ideas for compiling and managing mathematics portfolios
- Inside My Mathematics Portfolio (blackline master) serves as a table of contents for the portfolios
- A Mathematics Portfolio Assessment Sheet (blackline master) to record how student portfolios track growth in various areas

## **Performance Assessment**

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Performance tests give a way to assess students' qualities of imagination, creativity, and perseverance. By using performance assessment, you can evaluate how students

- reason through problems,
- make and test conjectures,
- use number sense to predict reasonable answers, and
- utilize alternative strategies.

### **Materials Provided**

(starting on page xviii)

- Performance Assessment tasks to be used after each chapter
- Notes that identify the mathematical concepts and skills needed
- A four-point Scoring Rubric

## **Basic-Facts Timed Tests**

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Basic-Facts Timed Tests provide students with the opportunity to review and practice basic facts

### **Materials Provided**

(starting on page 25)

- Tips for administering the tests
- Tips on adjusting time limits
- Additional materials
- Basic-Facts Timed Tests to be used before each chapter

## **Journal Writing**

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In a mathematics journal, students have the opportunity to explore their thoughts about a particular mathematics topic, to construct and crystallize their understanding of mathematical concepts and procedures, and to explain their ideas about mathematics. As a result, mathematics journals can provide an enormous amount of information about student thinking and are a valuable component of a comprehensive assessment program.

### **The Purpose of Journal Writing**

Journals can be used to reflect, summarize, or generalize about mathematics lessons. They can also be used as a vehicle to apply mathematical concepts or skills. Some other reasons to incorporate journal writing into your mathematics assessment program include

- improving students' skills in communicating their mathematical thinking,
- encouraging application and transfer of previous knowledge to new situations,
- helping students improve creative writing skills,
- helping students explore their thoughts about mathematics,
- providing you with information about students' prior knowledge and what they do or do not understand,
- building and deepening student understanding of mathematical concepts, and
- helping students review and restate just-learned information.

### **Opportunities for Journal Writing**

Journal writing can be incorporated as a natural extension of daily lessons. A few of the opportunities provided throughout the program are listed below.

- Have students respond in their journals to the *Writing in Math* questions presented in most lessons.
- Have students keep a list of new vocabulary that appears in each lesson. Suggest that they include a definition or an example.
- After Problem-Solving lessons, suggest that students write about ways in which the skills and strategies they are learning apply to their everyday lives.

### **Getting Started with Journal Writing**

- Discuss the purpose of each mathematics journal entry and the audience for which it is intended. Students should know before beginning an assignment whether or not their entries will be shared with peers.
- Have students begin each assignment with a 3–5 minute brainstorming session. Then have students free-write about the assignment. During this time, students should jot down ideas, impressions, computations, drawings, or problems they are having with the assignment.
- Allow limited-English-speaking students to first write in the language in which they feel most comfortable. If students are fluent in two languages, encourage them to write in English.
- Include opportunities for students to express their thoughts about assignments in writing.

### **Assessing Journal Writing and Providing Feedback**

When reading student journals, it's important to provide constructive feedback. You may choose to write comments and suggestions right in the journal or on removable note-pad paper. Include questions you have about the entry, and ideas you have about other topics the student might consider. Encourage the student to reply in his or her next entry.

If journal entries are destined for inclusion in the display portfolio, you might wish to have a formal revision stage in the journal writing process in which students revise their entries.

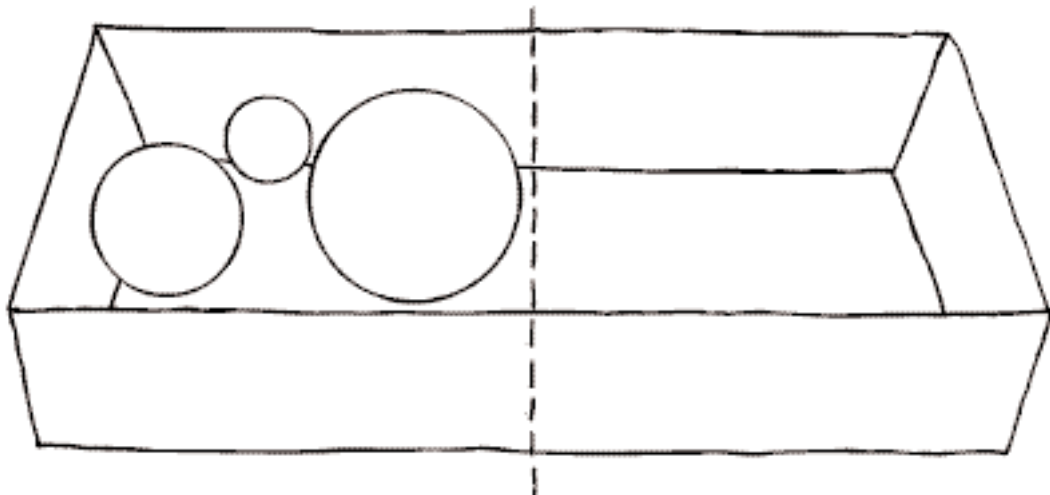
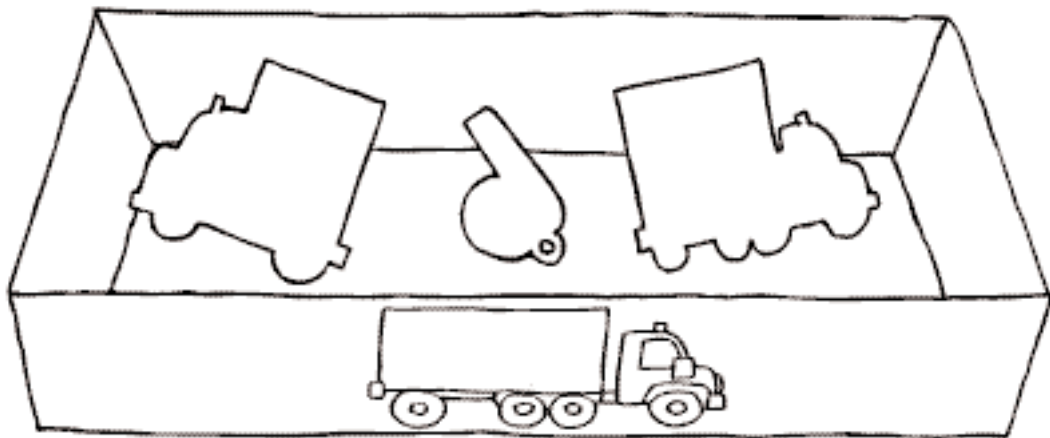
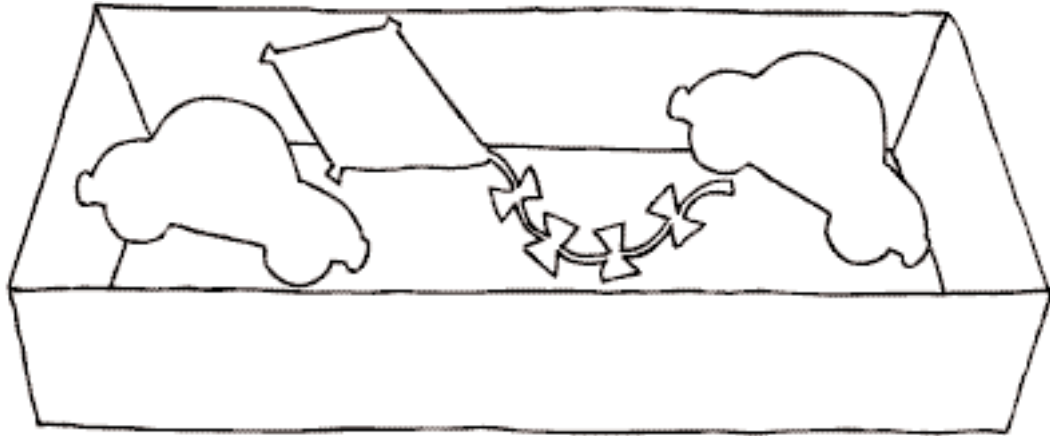
### **Ideas for Journal Prompts**

Periodically during the school year give students a journal prompt and encourage them to write about the subject provided. This activity will provide opportunities for students to communicate their mathematical thinking as well as reinforce their writing skills. Some suggested journal prompts include:

- Today in math I learned...
- My math goals for this year are...
- The math I learned today can be used to...
- You should go back and check your math work because...
- When I need help with my math homework, I...
- My favorite math lesson is...
- I can use a number line to...
- If I had a hundred (thousand, million) dollars, I would...
- All squares are rectangles but not all rectangles are squares because...
- If I were one centimeter tall, I would...
- It is important to read data from a graph because...
- It is important to figure some math problems in your head because...
- Subtraction is the opposite of addition because...
- To find the mean (average) of five numbers, I would...
- It is faster to count to 100 by 10s rather than by 5s because...
- Using coupons at a grocery store can save on the family budget because...
- Since I know that 36 divided by 9 is 4, I can find the quotient of 3,600 divided by 900 by...
- $\frac{1}{2}$  is greater than  $\frac{1}{4}$  because...
- When I think about all the possible numbers between 3 and 4, I know that there are...

Name \_\_\_\_\_

## Chapter 1 Performance Assessment



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**Directions** See Guiding the Activity in Teacher Notes on page 2 for test directions.

## Chapter 1 Performance Assessment

### Teacher Notes

**Skills and Concepts** This activity requires children to:

- identify top, middle, and bottom.
- identify same and different.
- identify one or more attributes of an object.
- sort objects by using one or more than one attribute.
- identify sorting rules for a group of objects.

#### Materials

- red crayon or marker
- blue crayon or marker
- pencil

#### Guiding the Activity

- Draw a circle around the middle box.
- Draw a red X on the top box.
- Draw a blue X on the bottom box.
- In the top box color the objects that are the same.
- In the middle box color the objects that belong in the box.
- In the bottom box draw an object on the right that belongs with the objects on the left.

#### Answers

The middle box has a circle around it, the top box has a red X on it, and the bottom box has a blue X on it. The 2 cars in the top box are colored, the 2 trucks in the middle box are colored, a circle is drawn on the right in the bottom box.

### Scoring Rubric

4	<b>Full Achievement</b> The child identifies the relation of objects to surrounding objects in different positions and identifies, compares, and sorts objects based on different attributes correctly.
3	<b>Substantial Achievement</b> The child identifies the relation of objects to surrounding objects in different positions and identifies, compares, and sorts objects based on different attributes with minor errors.
2	<b>Partial Achievement</b> The child needs help to correctly identify the relation of objects to surrounding objects in different positions and to identify, compare, and sort objects based on different attributes.
1	<b>Little Achievement</b> The child makes an attempt but needs assistance to complete the steps of the activity.
0	<b>No Achievement</b> The child does not complete any steps of the activity correctly.