

Preparing a Lesson

1

The *Objective* sidebar clearly indicates the focus of each lesson.

2

The *Preparation* sidebar identifies materials that need to be obtained and activities that should be performed in advance. Its handprint icon appears beside the components of the lesson that require preparation.

3

The *Alternative* sidebar and *Safety* sidebar (not shown) contain icons that appear beside headings as needed. These sidebars provide ways to expedite or simplify activities or add caution for the teacher when materials or activities could trigger student allergies or health conditions.

4

The *Extension* sidebar offers ideas to extend certain parts of the lesson.

5

The *Worldview* section connects mathematical concepts to biblical teaching that the teacher can share with students.

6

Introduction contains activities or discussions that will elicit students' interest in the topic.

7

Directed Instruction gives sequential instructions to teach the concepts of the lesson and a guide for how students should complete their pages. This section also provides additional activities to enhance the lesson.

1.3 Attributes

Getting Started

1 OBJECTIVE

- Students will examine objects in a group and name attributes that identify the group as a set. They will identify objects that do not belong in a set.

2 PREPARATION

- Gather enough seashells for each student to have at least one shell. (*Directed Instruction*)

3 ALTERNATIVE

- Rocks can be used if shells are not available. (*Directed Instruction*)

4 EXTENSION

- Materials*
- Seashells

- In today's lesson, students sorted shells. Have students choose one shell. Then, have them draw a picture or write a few details about the shells they chose in their math journals. When students have finished, have them place their shells where everyone can see them. Select a student to share his or her drawing or details and another student to identify the shell in the group based on the details or drawing. Repeat the exercise.

Worldview 5

Share with students that God created the animals in the oceans according to their kinds. (Genesis 1:21a). Ten times in this first chapter of Scripture, for each category of living being, the Bible emphasizes that there are different *kinds* (or sets—the topic of today's lesson) and that they are “good” (1:21b). This attention to detail communicates God's infinite care for all of life and for each person. Give students an example of how you experienced God's love this morning. Encourage them to share their experiences also. Thank God because He cares about every detail in their lives.

Introduction 6

Direct a language-thinking activity naming three objects, two of which belong together in a set because they are alike in some way and a third that does not belong. Challenge students to identify the items that do not belong to the set. Remember that answers can differ depending on the attribute being used. Explain that an attribute is a characteristic or a way to describe a group. (Note: Answers may vary as some groups have more than one possible attribute.)

- Car, boat, truck (**Cars and trucks travel on land; a boat travels on the water.**)
- Toothbrush, knife, fork (**A toothbrush is not used for eating; a knife and fork are used for eating.**)
- Glasses, goggles, swimming pool (**Glasses and goggles are for the eyes; a swimming pool is not.**)
- Computer, cell phone, calculator (**Cell phones and calculators are small; a computer is large.**)
- Ball, balloon, marble (**Balls and marbles are spheres; a balloon is not a sphere.**)
- Zebra, horse, cow (**Horses and cows are farm animals; zebras are wild animals.**)

Directed Instruction 7

1 Have students sit in a circle. Place a handful of seashells in the center. Discuss where shells come from. Have volunteers describe how the shells differ. Ask a student to name an attribute of one of the shells. (**Possible answer: It is white.**) Ask another student to name a different attribute. (**Possible answers: It is round; it is sharp; it is flat; it is spiral.**) Have the two students sort the shells by those attributes. Ask the volunteers how they decided which shells to sort by color. Which shells did you sort by shape or by kind? Would some of the shells fit in either set? (**Answers will vary.**) Repeat this activity several times by asking students to sort the shells another way. Have students return to their seats.

2 Direct students' attention to the first student page. Ask them to look at the boats in the two circles and to find an attribute that is the same for the boats in the first set. (**They are all large ships.**) Then, ask students to find an attribute for the boats in the second set. (**They are all small boats.**) Encourage students to look at the pictures under the circles. Have students find an attribute in the boats below the circles that would be the same as the ones in the circles and then draw a line from each boat to the appropriate circle. Read the directions for Exercise 2 and have students complete the page.

3 Have students turn to their second page. For this activity, have students look at the label for each row of animals and mark off the animals that do not belong in the given set. For example, in Exercise 3, point out the word *fins* and explain that the animals in this set should have fins. Ask students which animals in the row do not have fins. (**the horses**) Direct students to make an *X* on the horses. Read the labels aloud for Exercises 4–6 and have students complete the exercises. After students have finished the page, lead a discussion about different attributes that could have been used to label each set. Encourage students to look closely at the animals in Exercise 3 and to suggest other attributes that could be used to sort this set. (**Possible answers: number of legs, color, where the animals live**) Discuss the other exercises and then collect the pages for assessment.

4 Have students sit in a circle once more. Encourage them to look around the circle and see how they are different from one another. Just as shells have different attributes, people have different attributes. Suggest an attribute, such as hair length, and ask students to stand up and to group themselves into sets. Once this has been done, suggest a different attribute, such as shoe color, for students to use to sort themselves into new sets. Repeat this activity a few times using different attributes. To end the activity, ask volunteers to suggest an attribute that everyone shares. (Answers will vary.) Have all students stand together. Explain that one attribute they all share is that God loves them. He sees every student, every characteristic that they share, and every detail that makes them unique.

Lesson Review 8

Remind students that the word *attribute* refers to a characteristic or a way to describe a group. Then ask them to name one thing they learned from today's lesson. (Possible answers: Sorting requires close attention to see what is the same or different about items in a set. Sets can be formed in different ways.)

Notes

ENRICHMENT

• Play a sorting game. Separate students into groups of four or five and give each group a different set of objects to sort, such as keys, shells, or pasta. Each group must sort its objects. Students should raise their hands to signal when they are finished. Ask the group to tell you how the objects are sorted (for example, silver keys and gold keys, or big ones and little ones). Ask students to sort their objects another way. The goal is for each group to sort its objects in as many ways as possible.

8

Lesson Review offers specific questions or activities to assess students' understanding of lesson content.

9

The *Enrichment* sidebar lists activities that will challenge those students who have clearly understood the concepts presented and are ready to learn more. The activities in the *Recovery* sidebar (not shown) can be used for differentiated learning instruction or to supply extra practice for students who would benefit from more opportunity to learn the concepts taught.

10

Readable reductions of each student textbook page are large enough for the teacher to read the text and the answers to the exercises.

10

Name _____

Attributes 1.3

1. Sort the boats by size. The first one is done for you.

2. Circle the striped fish to put in the aquarium.

© Mathematics Grade 1

Make an X on the animals that do not belong in the set.

3. fins

4. legs

5. fur

6. shell

8 eight