

# Reaching All Learners

*Addison Wesley Mathematics Makes Sense* meets diverse needs in both the Student Book and Teacher Guide. Through the Teacher Guide, the program also provides strategies for creating an inclusive learning environment while supporting individual student needs.

## From the ground up . . . the Lesson Model

A consistent lesson model simplifies the instructional design while offering a balanced approach to learning new concepts.

- **Explore** activities use a variety of groupings and types of materials; their exploratory nature allows for varying background knowledge
  - **Show and Share** highlights opportunities for students to support each other in developing new concepts
- **Connect** consolidates key concepts for all learners
- **Practice** questions cover a range of difficulty levels and learning styles

**LESSON 3 The Kilometre**

Long distances are measured in **kilometres** (km).

It takes about 15 minutes to walk 1 km.      It takes about 10 minutes to rollerblade 1 km.

Is the distance from your home to school less than 1 km, more than 1 km, or about 1 km? How do you know?

**Connect**

A chain of 800 children stretches about 1 km.

1000 metre sticks laid end-to-end would stretch 1 km.

1000 m = 1 km

**Practices**

1. Which distances would be measured in kilometres?

a) from the classroom to the library      b) from Yukon to New Brunswick

c) from the school's front door to the street      d) from your home to the next town

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Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Make a Pattern**

Use these pictures. Make two different patterns.

**FOCUS** Children make two different patterns, cutting and pasting images from *Line Master* or *Make a Pattern*.

**HOME CONNECTION** With your child, cut out pictures from newspaper pages or magazines to make a pattern (vegetables, vegetables, fruit).

10 Unit 1, Lesson 8: Make and Extend a Pattern © Pearson Education Canada Inc. Not to be republished.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**What Comes Next?**

Draw what comes next in the pattern.

Make a pattern. Ask a friend to draw what comes next.

**FOCUS** Children name and extend a pattern.

**HOME CONNECTION** With your child, use everyday items like plastic juice bottle caps or stickers to begin a pattern. Then, ask your child, "What comes next in the pattern?" Complete the pattern together.

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## Understanding the elementary-level student:

- An open, inviting design with language at an appropriate reading level
- Content pacing that fits the developmental stage of the learner
- Contexts that are meaningful across cultures — from First Nations people to our multicultural mosaic
- Opportunities to communicate responses in a variety of ways — through words, numbers, pictures, or models

All students need opportunities to apply mathematics skills and concepts in ways that are meaningful to them.

– Sue Gordon, Author

## Reaching all learners . . . through support in the Teacher Guide

In the Teacher Guide, additional activities address multiple intelligences, while teaching notes offer suggestions for supporting specific student needs.


**Mathematics Centres**

**Treasure Boxes**  
*(Appropriate for use after Lesson 1)*  
**Materials:** small boxes, small items (pegs, buttons, shells, beads)

- Place a selection of boxes (brochure size or smaller) on the Centre, each with a variety of objects inside that can be sorted.
- Ask children to show how many different ways they can sort the objects.
- Have children record two ways they sorted their treasure.

**Kinesthetic; Visual**

**Paper-Plate Garden**  
*(Appropriate for use after Lesson 2)*  
**Materials:** paper plates, stickers, markers, stamps



- Use paper plates to make a class garden of pattern flowers.
- Children can use stickers, markers, or stamps to make their patterns.
- Have children describe their patterns to a partner and then write their names in the centre of the plate.
- Display flowers on the class bulletin board or around the classroom.

**Visual; Verbal**

**Stamp Sort**  
*(Appropriate for use after Lesson 1)*

- Have children use a computer draw-and-stamp program to print a picture. Children divide their pages into two (or three or four parts) using the line tool, and then use the stamps (any set) to illustrate a sorting rule. Examples of sorting rules include fruit and vegetables or flying bugs and crawling bugs.
- Encourage children to use the line tool to label their sets.
- Ask children to print out their pages and post them at the Centre to share with the class.

**Visual; Interpersonal**

**Pattern Cards**  
*(Appropriate for use after Lesson 4)*  
**Materials:** index cards, stickers, markers, coloured paper squares

- Have children make patterns on index cards using stickers, markers, or other materials like coloured paper squares.
- Use these cards for practice activities.
- Other children can copy the pattern using manipulatives, or they can orally describe the patterns on the cards.
- Children can play a game, using five pattern cards each, and ask a partner to guess the pattern on the card.

**Visual; Social**

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**Activity Bank**

**Copy Patterns**  
**Materials:** coloured beads (buttons, counters)

- Tell children to create a pattern using a number of their choice.
- Ask children in each pair to exchange patterns and to copy each other's pattern.
- Have them describe their partner's pattern.

**Visual; Verbal**  
**Partners**

**Pattern Trains**  
**Materials:** Snap Cubes or coloured blocks

- Model a simple AB pattern and create a pattern train using cubes or blocks.
- Ask children to copy the pattern.
- Ask children to describe the pattern and explain the pattern rule.
- Arrange for a volunteer to create a pattern train and for the rest of the class to copy its pattern.

**Kinesthetic; Visual**  
**Group**

**Stickers and Stamps**  
**Materials:** stickers, stamps, index cards

- Have each child make a pattern on an index card using stickers and stamps.
- Ask children to exchange patterns and copy their partner's pattern.
- Arrange for several pairs of children to copy each other's patterns. Put the cards together to make a set. Use the cards in a matching game where children pick out one card and have to find its match by looking for the same pattern.

**Visual; Social**

**Friendship Chains**  
**Materials:** different coloured paper strips, glue

- Provide children with two different colours of paper strips.
- Discuss different possibilities before deciding on a color pattern for the friendship chain.
- Build one section of the chain following the children's negotiated pattern.
- Have children identify the pattern and then copy the pattern.
- When sections are completed, connect the sections and display the friendship chain in the classroom.

**Social; Visual**  
**Group**

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### At Grades 1 and 2

- **Mathematics Centres** provide ideas for extra support and reinforcement throughout the unit
- **Practice** suggestions for core lessons include ideas for **Extra Support** for ESL learners or students who require additional reinforcement
- **Activity Banks** for core lessons identify multiple intelligences and grouping options
- **Assessment for Learning** provides suggestions for identifying and addressing specific student needs

### At Grades 3 and up

- **Additional Activities** at the start of each unit provide ideas for extra support
- Notes in each lesson provide suggestions for **ESL Strategies**; **Alternative Explore**; **Common Misconceptions**, and **How to Help**.
- **Assessment for Learning** provides suggestions for identifying and addressing specific student needs
- **Step by Step** offers a scaffolded problem in worksheet form, featuring a question from the Practice set, provided for every lesson

## Building a Math Community

This module in your Teacher Guide gives you

- Guidelines for creating a supportive environment for learning mathematics
- Suggestions for age-appropriate activities, games, and routines that help to create positive attitudes toward learning mathematics

**REACHING ALL LEARNERS**

**Alternative Explore**  
**Materials:** grid paper, elastic bands, colour paper, grid paper (10x10)

Students use a grid and grid paper to make a design. Have students record the design on grid paper and colour it. Then, use fractions to describe their design.

**Early Finishers**  
Design a quilt that is  $\frac{1}{2}$  blue,  $\frac{1}{4}$  red, and the rest yellow. What fraction of the quilt is yellow? How many ways can you design a quilt that shows some fraction? (1/6 red, 1/6 blue, 2/3 yellow)

**Common Misconceptions**  
Students compare one part of a fraction to the other part in question 1, students compare striped squares to plain squares to find that the quilt is striped.

**How to Help**  
Encourage students that students compare one part to the whole. The denominator tells how many equal parts are in the whole.

**Numbers Every Day**  
Many students find this multiplying by 6 using quilt real pose problem. Students describe ways of determining these multiplication facts (for example, multiply by 5, then add 1 for each set, or multiply by 3 and double the answer)

the name of the fraction. For example, something divided into two equal parts is divided in to halves.

Have students use the words denominator and numerator to describe the colours in the volunteer's quilt. For example, the fraction describing the quilt has a denominator of 16. The fraction of the quilt that is grey would have numerator 4.

**Practice**  
Question 2 requires Colours Tiles or paper tiles. Question 2 and 4 require 2-cm grid paper.

**Assessment Focus: Question 7**  
Students understand that dividing one whole into equal parts results in fair shares. They understand that each brownie is divided in half and that one-half of a brownie is the same size, no matter how the halves are cut.

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