

Purposeful Practice

Educators recognize the important role practice plays within a balanced program. Purposeful practice allows students to clarify, refine, consolidate, and apply new learning through a variety of experiences. In *Addison Wesley Mathematics Makes Sense*, purposeful practice is offered in every lesson to suit a range of learner needs.


At K to 2

Teacher Guide **Practice** suggestions for each core lesson include

- **Reinforcement** for all students
- **Extra Support** for students who may face ESL challenges, or need more experiences with early concepts, problem solving, or applying procedures
- **Extension** for students who are ready to take concepts further

Lessons also regularly include **Numbers Every Day**, and **Activity Banks**. These additional ideas for activities provide hands-on practice.

At grades 1 and 2, the Student Book provides a mechanism for students to record a selection of their mathematics practice.



Practice

Reinforcement
Have children use Snap Cubes to make a pattern. Children copy the patterns onto Student page 8. Direct children to complete the patterns on Student page 8. If you are using black and white Student pages, make an overhead transparency of page 8. Colour two responses for each pattern (beads—blue, red, blue, red; crescent moons—yellow, green, green, yellow; green, green, blue—purple, purple, red, purple, purple, red; stars—orange, pink, blue, orange, pink, blue) and have the third response blank. Have children copy the colours from the transparency onto their Student page, and then ask them to complete the patterns.

Extra Support: ESL
Children can practice and apply their sorting skills at the Mathematics Centre (Paper-Plate Garden, page 7). Have children use concrete materials to identify and describe their patterns.

ESL learners will benefit from choral chanting to name patterns. Have children chant together, repeating the attribute words (e.g., red, blue, red, blue, red, blue).

Extension
Give children an assortment of materials and encourage them to find many ways to make a pattern. Ask them to record their patterns on a sheet of paper.

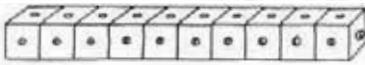
Assessment for Learning

What to Look For	What to Do
<p>Evidence that children</p> <ul style="list-style-type: none"> • identify and describe a pattern • copy patterns accurately • use key words such as <i>pattern</i> and <i>repeat correctly</i> <p><i>It is quite observational and focuses reporting on Assessment Master 2.2, Ongoing Observations Checklist, Setup. To gather information about children who are having difficulty, use Assessment Master 2.1, Diagnostic Conference for Selected Children.</i></p>	<p>Consider conducting one-on-one conferences with children who are unable to describe patterns to determine whether the problem is understanding or communication. Some children may need additional review and practice in identifying attributes. Provide guided experiences, working with simple concrete materials to identify the repeating part of a pattern and to copy the pattern using one-to-one correspondence. Model using a think-aloud strategy.</p>


Name: _____ Date: _____

Copy a Pattern

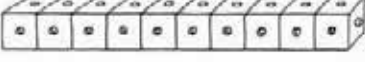
Use cubes to make a pattern.
Copy the pattern.



Make another pattern.
Copy the pattern.



Choose a friend's pattern.
Copy the pattern.



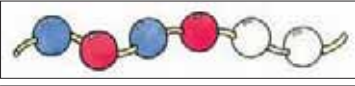



FOCUS
Children use Snap Cubes or blocks to make a pattern. Then they copy the pattern by colouring the blocks on the page.

HOME CONNECTION
On a pattern book at home with your child. See how many things you can find that have patterns (swatches, socks, tags, clothes). Ask your child to describe the patterns.

Name: _____ Date: _____

Colour Patterns

Colour to show a pattern.

FOCUS
Children identify the colour patterns and complete the pattern shown.

HOME CONNECTION
Make colour patterns using different colour crayons or markers, such as green, green, yellow, yellow, green, green, yellow, green, green, yellow. Have your child describe the pattern and tell what comes next.

Students naturally solve mathematical problems daily.
Purposeful practice authenticates our classroom instruction.

– Jeananne Thomas, Program Author

At Grades 3 and up

Each lesson in the Student Book provides one to two pages of **Practice**.

This exercise set includes patterning and visual estimation, as well as reinforcement and problem-solving opportunities.

One question in each Practice is identified as an **Assessment Focus**: it provides a good barometer of students' level of conceptual understanding.

Practice

1. Find the perimeter of each region.

a) b)

c) d)

2. Copy and complete this table. What patterns do you see? Explain.

km	1	2	3	4	5	6	7	8	9	10
m	1000									

3. Which figure in each pair has the greater perimeter? How do you know?

a) vs

b) vs

4. Which garden will take the most fencing to surround it? How do you know?

5. The perimeter of a square field is 1 km. How long is each side? How do you know?

6. The perimeter of a rectangular field is 8 km. How long might its sides be?

7. Which unit of length would you use to find the perimeter of each item? Explain your choice.

a) a playing card b) the province of Alberta
c) a school gym d) a flower garden

8. Is each a precise measurement or an estimate? Explain.

a) The coastline of Prince Edward Island is about 1110 km long.
b) Ms. Diaz bought 20 m of fencing for her garden.

Retreat

To find the perimeter of a figure, you need to know the lengths of its sides. For which figures do you need to know only 1 side? 2 sides? More than 2 sides? Use words, pictures, or numbers to explain your ideas.

Numbers Every Day

Number Strategies
Write each fraction as a decimal.
 $\frac{1}{10} = 0.1$, $\frac{3}{10} = 0.3$
 $\frac{10}{10} = 1.0$, $\frac{10}{10} = 1.0$
Write each decimal as a fraction.
0.5, 0.02, 0.75, 0.4

ASSESSMENT FOCUS | Question 4

In each lesson, **Numbers Every Day** reinforces students'

- Number Sense
- Calculator Skills
- Mental Math

Discover

To find the area of a figure, you can count the number of square units. The area of this patio is 6 square units.

To find the area of a rectangle, you can count the square units or multiply. $4 \times 3 = 12$. The area of this rectangular patio is 12 square units.

Practice

1. Estimate which figure has the greatest area. Then find the area of each figure in square units.

a) b) c) d)

2. Order the figures in question 1 from least to greatest area.

3. Write a multiplication sentence to find the area of each rectangle.

a) b) c) d)

Numbers Every Day

Number Strategies
Multiply.
 $6 \times 7 = \square$
 $5 \times 3 = \square$
 $3 \times 4 = \square$
 $2 \times 8 = \square$

Measuring Area in Square Centimetres

This triangle is drawn on 1-cm grid paper. Here is one way to find the area.

Count the whole squares. There are 7 whole squares.

Put half-squares together to count as whole squares. There are 4 half squares. 4 half squares = 2 whole squares.

For parts of squares that are not half squares: if the part is greater than $\frac{1}{2}$ a square, count it as 1 square. If the part is less than $\frac{1}{2}$ a square, ignore it. There are about 2 more squares.

Area: $7 + 2 = 9$ cm².

Numbers Every Day

Mental Math
Divide.
 $48 \div 6 = \square$
 $54 \div 9 = \square$
 $63 \div 7 = \square$
 $40 \div 8 = \square$

Calculator Skills
Write each number as the product of two numbers. 20, 24, 30, 36.
(For example, $12 = 2 \times 6$)
How many different ways can you do this?

Share

Use the area of one figure to estimate the area of another? Grid lines line up with rectangle?

Use a 1-cm grid to measure area in square centimetres.

The **Teacher Guide** provides

- Answers and sample responses to **Practice** questions
- Answers and strategy suggestions for **Numbers Every Day**
- Extra Practice** masters to support specific student needs

Also available at grade 3 and beyond: A **Practice and Homework Book** with two pages of additional support for each lesson in the Student Book