

**Core Focus**

- Division: Calculating with two-digit numbers, making estimates, and using the think-multiplication strategy
- Geometry: Comparing angles using non-standard units and measuring as fractions; identifying prisms and comparing prisms to pyramids; and exploring the relationship of perimeter with area, and solving word problems

**Division**

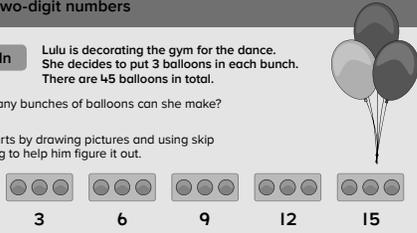
- In this module, students continue making sense of various division facts using two-digit numbers divided by a one-digit number, with and without regrouping.
- Students will use what they know about multiplication facts to use the think-multiplication strategy on division problems.

**12.3** Division: Thinking multiplication to divide two-digit numbers

**Step In** Lulu is decorating the gym for the dance. She decides to put 3 balloons in each bunch. There are 45 balloons in total.

How many bunches of balloons can she make?

Kyle starts by drawing pictures and using skip counting to help him figure it out.



In this lesson, students use the think-multiplication strategy to solve division word problems.

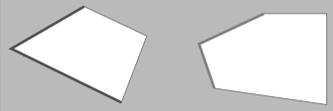
**Geometry: Angles**

- Students compare the magnitude of angles using non-standard units. The angles of the vertices of pattern blocks are used as non-standard units.

**12.6** Angles: Comparing using non-standard units

**Step In** Look at the amount of opening between the two shaded sides of the shape on the left below.

Compare it to the amount of opening between the two shaded sides of the shape on the right below.



Which pair of sides has the greater amount of opening between them? How could you check?

In this lesson, students compare angles using non-standard units.

**Ideas for Home**

- At the store ask your child division questions such as, "I need 60 cookies for a party. There are 15 cookies in each box. How many boxes do I need?" Encourage your child to think  $15 \times ? = 60$  to figure out the answer.
- A corner of a book matches a corner of an orange pattern block. Have your child use a corner of a book to investigate angles at home that are greater, and angles that are less in scale.

**Helpful videos**

View these short one-minute videos to see these ideas in action.

[www.bit.ly/OI\\_3](http://www.bit.ly/OI_3)

[www.bit.ly/OI\\_5](http://www.bit.ly/OI_5)

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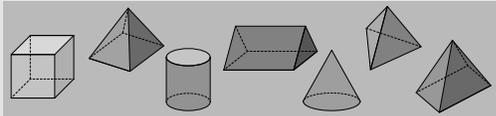
Module 12

Geometry: 3D objects

- In Grade 2, students learned about **polyhedrons** and **pyramids**. In Grade 3, they learn about **prisms**, which are polyhedrons that have two identical faces joined together by squares or non-square rectangles.

**12.8 3D objects: Identifying prisms**

**Step In** Which of these objects is a prism? How do you know?



Which objects above are prisms? How do you know?  
Identify two different prisms in the classroom. How are they different? How are they the same?

An object that has two identical faces joined together by squares or non-square rectangles is called a **prism**.

In this lesson, students identify prisms by their features and compare them to objects that are not prisms.

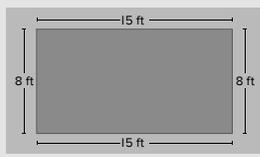
Geometry: Perimeter

- Perimeter is the distance measured around a shape. Seeing that the word *rim* appears in the middle of *perimeter* can remind students that perimeter means the outside of the shape.

**12.10 Perimeter: Introducing perimeter**

**Step In** Jack is building a fence to make a chicken coop. This is his plan.

What is the total length of the fence? How could you figure it out?



I could add the side lengths, or I could add the length and the width and double the total.

In this lesson, students count the units of length around the edge of irregular polygons to determine their perimeters.

Ideas for Home

- With your child, look around your house and your neighborhood for examples of pyramids and prisms.

Glossary

- Polyhedrons** are 3D objects with straight edges and flat faces. 
- Pyramids** are polyhedrons with many triangular faces that all meet at one point (apex), and the triangular faces on a pyramid come together at one flat surface. 
- Prisms** are polyhedrons that have parallel faces connected by squares or non-square rectangles. 

- A **perimeter** is the boundary of a shape and the total length of that boundary.

For example, the perimeter of this rectangle is 20 inches.

