

# SECOND GRADE

# UNIT EIGHT GEOMETRY & FRACTIONS



Lucky to Learn  
**MATH**



# Why?

This is the hands-on, standards-aligned, collaborative, and engaging shapes & fractions unit you've been looking for! This resource can also be used as a supplement to other math programs.



**Is your current math curriculum dull and lifeless?**

This unit is so engaging! It has hobby - themed lessons to pique student interest, while also ensuring they master the math.

**Looking for resources that are easy to prep?**

The lesson plans include icons to help you choose which activities to use during the day, and teaching slides that guide you & your students through the lesson.

**Wanting your students to love math?**




The math block routine will scaffold and guide students to gain deep levels of understanding, feel successful, and love math!

# PERFECT FOR

Name \_\_\_\_\_

## JUMP INTO DRAWING

Directions: Use the spaces below to practice drawing each 3D shape with your teacher.


<b>CONE</b> 	<b>CUBE</b> 	<b>CYLINDER</b> 
--	--	--

LESSON 8.8  
3D SHAPES

## BINGO

to practice

square with 2 solid shaded lines.



LESSON 8.11  
PARTITION SHAPES

## EQUAL PARTS OF THE SUN

Directions: Color the picture using the code below.

6 equal parts	blue
8 equal parts	yellow



**MATH BLOCK**

**NUMBER TALKS**

LESSON 8.10  
3D SHAPES

## SOLAR SYSTEM BUMP

Directions: You and a partner will each get 10 counters or cubes. You will take turns spinning. On each spin, place your counter on the matching 3D shape. If your opponent already has a counter there, you may "BUMP" it off the spot. If your own counter is there, you can add another. 2 counters LOCKS your spot on the planet. The first player to get rid of all their counters wins!












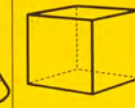










Venus	Neptune	Saturn	Mars
Jupiter	Earth	Uranus	

**SUPPLEMENTAL PRACTICE**

LESSON 8.9  
3D SHAPES

## SPACE SHAPES BINGO

Directions: As a group, take turns pulling a card from the pile. Anyone who has that shape on their BINGO card covers it with a counter. First person to get 5 in a row wins!

<b>B</b>	<b>I</b>	<b>N</b>	<b>G</b>	<b>O</b>
				
				
				
				

**INTERVENTIONS**

# WHAT'S INCLUDED?

- Teaching slides
- Lesson plans
- Warm-ups
- Math chats
- Mini lessons
- Collaborations
- Worksheets
- Differentiation
- And SO much more!



# SKILLS INCLUDED

Aligned to CCSS & TEKS



## GEOMETRY & FRACTIONS

### UNIT OVERVIEW

	2D SHAPES			
<b>WEEK ONE</b>	<ul style="list-style-type: none"> <li>Identify 2D shapes</li> <li>Attributes of 2D shapes</li> <li>Construct 2D shapes</li> <li>Composing 2D shapes</li> <li>Classify and sort 2D shapes</li> <li>Symmetry</li> </ul>	<table border="1"> <tr> <td><b>CC:</b> 2.G.1</td> <td><b>TEKS:</b> 2.8a 2.8c 2.8d</td> </tr> </table>	<b>CC:</b> 2.G.1	<b>TEKS:</b> 2.8a 2.8c 2.8d
<b>CC:</b> 2.G.1	<b>TEKS:</b> 2.8a 2.8c 2.8d			
	3D SHAPES			
<b>WEEK TWO</b>	<ul style="list-style-type: none"> <li>Identify 3D shapes</li> <li>Attributes of 3D shapes</li> <li>Construct 3D shapes</li> <li>Classify and sort 3D shapes</li> </ul>	<table border="1"> <tr> <td><b>CC:</b> 2.G.1</td> <td><b>TEKS:</b> 2.8b 2.8d</td> </tr> </table>	<b>CC:</b> 2.G.1	<b>TEKS:</b> 2.8b 2.8d
<b>CC:</b> 2.G.1	<b>TEKS:</b> 2.8b 2.8d			
	FRACTIONS & PARTITIONING SHAPES			
<b>WEEK THREE</b>	<ul style="list-style-type: none"> <li>Partition shapes into equal parts</li> <li>Fractions: halves, thirds, and fourths</li> <li>Fractions of a whole</li> <li>Fractions of a set</li> </ul>	<table border="1"> <tr> <td><b>CC:</b> 2.G.2 2.G.3</td> <td><b>TEKS:</b> 2.8e 2.3a 2.3b 2.3c 2.3d</td> </tr> </table>	<b>CC:</b> 2.G.2 2.G.3	<b>TEKS:</b> 2.8e 2.3a 2.3b 2.3c 2.3d
<b>CC:</b> 2.G.2 2.G.3	<b>TEKS:</b> 2.8e 2.3a 2.3b 2.3c 2.3d			
	AREA & PERIMETER			
<b>WEEK FOUR</b>	<ul style="list-style-type: none"> <li>Concept of perimeter</li> <li>Concept of area</li> <li>Review of 2D shapes</li> <li>Review of 3D shapes</li> <li>Review of fractions</li> </ul>	<table border="1"> <tr> <td><b>CC:</b> 2.G.1 2.G.2 2.G.3 2.OA.4</td> <td><b>TEKS:</b> 2.8 2.3 2.9f</td> </tr> </table>	<b>CC:</b> 2.G.1 2.G.2 2.G.3 2.OA.4	<b>TEKS:</b> 2.8 2.3 2.9f
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# UNIT MATERIALS

**IS IT 2D OR 3D?**

**2D SHAPES**  
 vertices: triangle, square  
 sides: rectangle

2-dimensional shapes are flat. They have sides and vertices.

**3D SHAPES**  
 vertices: pyramid, cube  
 edges: rectangular prism

3-dimensional shapes are solid. They have faces.

**3D SHAPES IN REAL LIFE**

<b>CONE</b>	
<b>CUBE</b>	
<b>SPHERE</b>	
<b>CYLINDER</b>	
<b>PYRAMID</b>	
<b>RECTANGULAR PRISM</b>	

Anchor charts

**Binder cover**

Lucky to Learn **MATH**  
 UNIT 8 **GEOMETRY**  
 SHAPES & FRACTIONS IN OUTER SPACE

Lucky to Learn **MATH**  
 UNIT 8 **GEOMETRY**  
 SHAPES & FRACTIONS IN OUTER SPACE

**MATH CHAT EXPECTATIONS**

- 1 BE RESPECTFUL**  
Treat everyone in our classroom with respect- including yourself. All answers are valid and we all learn from mistakes.
- 2 THINKING TIME**  
When a problem is shown, we won't shout about it yet. We will use silent thinking time to solve the problem on our own.
- 3 TRY YOUR BEST**  
Use quiet thinking time to try your best and solve the problem. Do not give up! Our goal is to learn.
- 4 STRATEGIES**  
When you think of a way to solve the problem, thumbs-up at your chest. Keep thinking of more and raise more fingers for more strategies.
- 5 LET'S CHAT!**  
Once we have had plenty of silent thinking time, share our strategies with the class and just listen. All answers are shared and talked about by everyone.

**MATH CHAT HAND SIGNALS**

	I am thinking.
	I have an answer.
	I have more than one strategy.
	I agree!
	I have a different answer or strategy.

Math Chat posters

**GEOMETRY & FRACTIONS ASSESSMENT**

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

**QUESTION 1**  
 What shape is this? How many vertices does this shape have? Draw a trapezoid.

**QUESTION 2**  
 What shape is this? How many faces does this shape have? What 3D shape has no faces, edges, or vertices?

**QUESTION 3**  
 Circle the attribute that describes this shape. polygon quadrilateral Draw a line of symmetry on this shape.

**QUESTION 4**  
 Color the pictures to match the sentence. One-half of the stars are orange. Shade the picture to match the fraction.  $\frac{3}{4}$

**QUESTION 5**  
 Write the fraction that is shown. What fraction of the set are happy faces?

**QUESTION 6**  
 Shade the picture to match the fraction.  $\frac{5}{8}$  Partition the rectangle into 4 equal parts.

Unit assessments

**RACE THROUGH THE PHASES** LESSON 8.13 FRACTIONS

**FRACTIONS WITH DOMINOES** LESSON 8.14 FRACTIONS

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

**Craftivities**

**2D shapes**  
 2-dimensional shapes are flat. They have sides and vertices.

**flat**  
 A 2D shape with 1 face such as a circle, rectangle, triangle, and square.

**side**  
 Line segments that make the outline of the shape.

**angle**  
 The corners on the shape where 2 sides meet.

**sphere**  
 A 3D shape with no faces, edges, or vertices.

**cube**  
 A 3D shape with 6 equal faces, 8 vertices, and 12 edges.

**pyramid**  
 A 3D shape with 5 faces.

Vocabulary cards

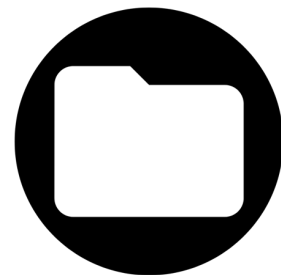
# MATH UNIT ICONS

These icons are on each piece of the curriculum to help you stay organized and help students learn the routine!

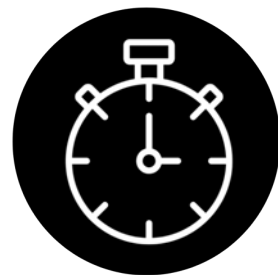
## ICON KEY



OBJECTIVE



MATERIALS



WARM UP



MINI LESSON



MATH CHAT



HANDS-ON COLLABORATION



INDEPENDENT PRACTICE



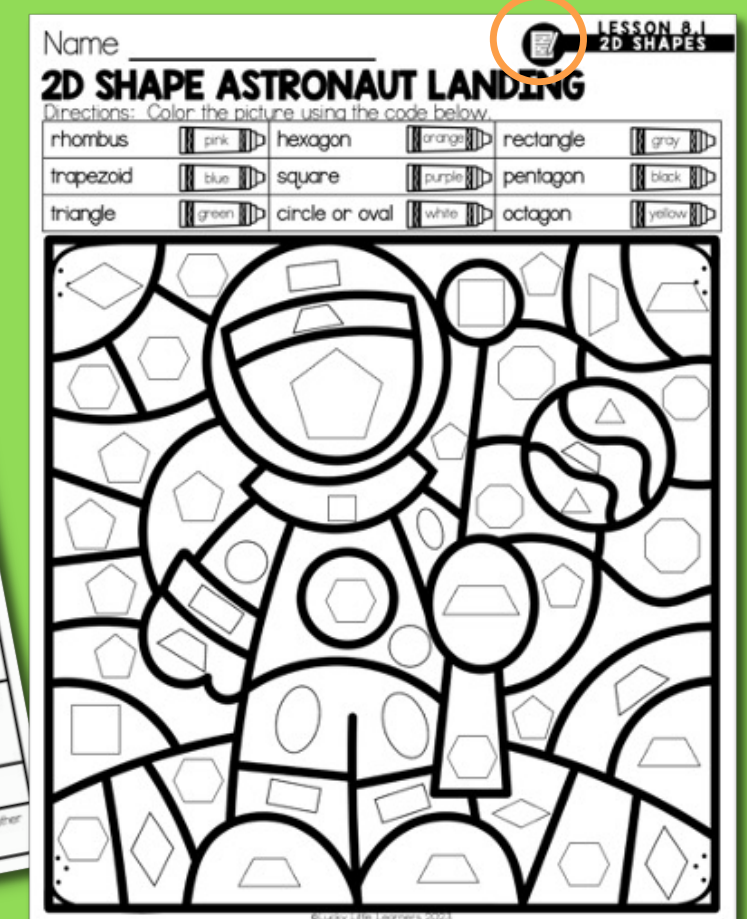
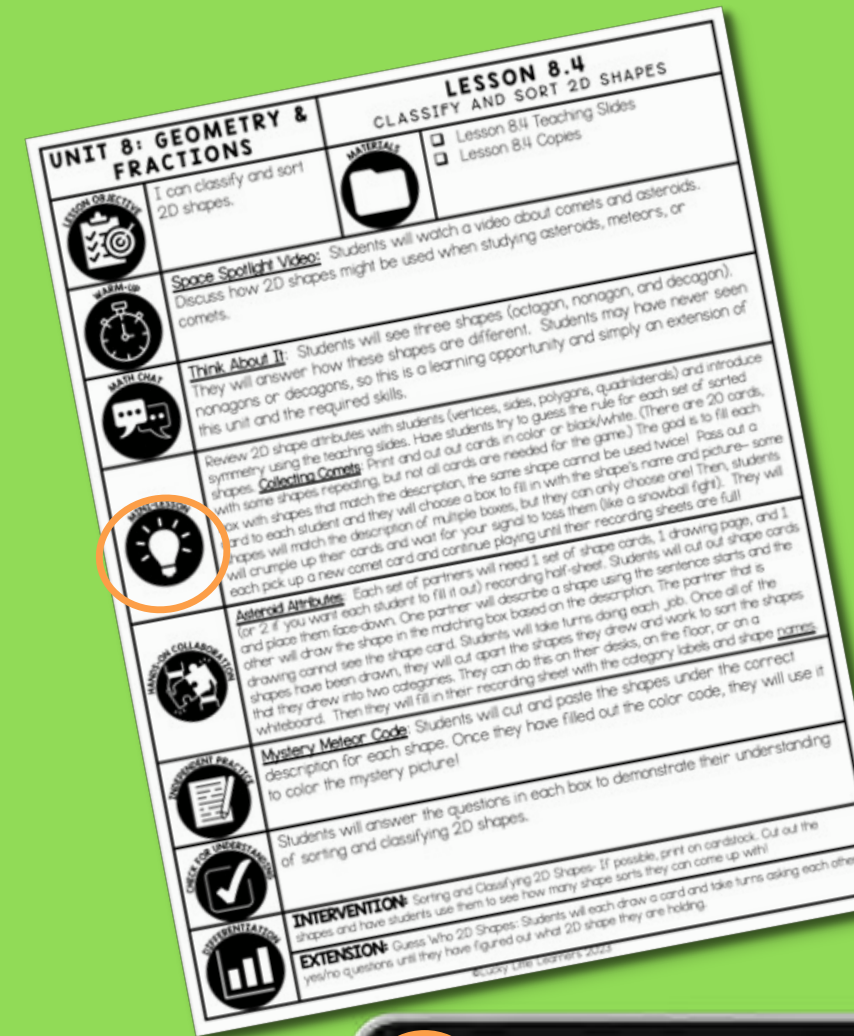
CHECK FOR UNDERSTANDING



DIFFERENTIATION



BONUS



# LESSON PLANS

Clear lesson objective

List of materials

Teaching slides included for each part of the lesson

Math chat (number talk) in each lesson

Quick warm-up in each lesson

Collaborative hands-on tasks

Skill-focused mini lesson

Independent practice

Quick assessments

Materials have matching icons for routine & easy organization

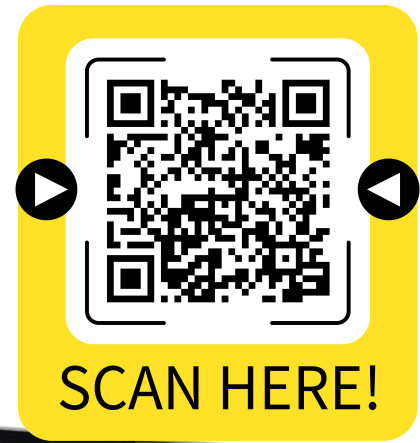
Differentiation options

UNIT 8: GEOMETRY & FRACTIONS		LESSON 8.3 CONSTRUCT 2D SHAPES	
<b>LESSON OBJECTIVE</b> 	I can construct and draw 2D shapes.	<b>MATERIALS</b> 	<input type="checkbox"/> Lesson 8.3 Teaching Slides <input type="checkbox"/> Lesson 8.3 Copies <input type="checkbox"/> Materials for Building 2D Shapes <input type="checkbox"/> Pattern Blocks <input type="checkbox"/> Colored paper
<b>WARM-UP</b> 	<b>Space Spotlight Video:</b> Students will watch a video about the constellations. Discuss how an understanding of 2D shapes could be helpful when studying the constellations.		
<b>MATH CHAT</b> 	<b>Word Problem:</b> Students will read and answer the word problem "I see 2 shapes from my telescope. Together, they have 11 sides. What shapes do I see?" <b>Possible Answers:</b> 1 octagon & 1 triangle, 1 hexagon & 1 pentagon, 1 heptagon & 1 quadrilateral		
<b>MINI-LESSON</b> 	Review 2D shape attributes. Introduce polygons to students. Determine if each constellation on the slides provided has a polygon or if it does not. <b>Creating Shape Constellations:</b> For this activity, the kids will be building the 2D shapes out of materials that you provide. They need a material to use for the sides (i.e. pretzel sticks, toothpicks, popsicle sticks, etc.) and a material to use for the vertices (i.e. mini marshmallows, gumdrops, play dough, etc.). Go through the slides to instruct students on what to build. Students will draw the shape they built on their recording sheet and write how many sides and vertices the shape has.		
<b>HANDS-ON COLLABORATION</b> 	<b>Race to the Stars:</b> Print the Star Challenge strips around the room to make stations. You may also include the pattern blocks needed for at least 2 students to complete the challenge (optional). Put students in partners or small groups (there are 10 stations total throughout the room). Have each small group start at a different station. Students cannot start until you give a signal. The first student in each group to complete the challenge (composing shapes) wins and their group writes the winner's name on their recording sheet. Have students rotate to the next station and continue until you have rotated through all 10 stations.		
<b>INDEPENDENT PRACTICE</b> 	<b>Shapes in the Stars:</b> Print both star pages (on yellow paper) for each student. Students will cut out the star and glue them together. They will lift the flaps and draw the shape on the flap showing the sides and vertices. If you would like, students can also write 2 attributes about the shape under the flap.		
<b>CHECK FOR UNDERSTANDING</b> 	Students will draw various 2D shapes and show their understanding of 2D shape attributes.		
<b>DIFFERENTIATION</b> 	<b>INTERVENTION:</b> Mystery Shapes Sort- Students will cut out the real-life objects and glue them under the clue that describes the matching shape. Students will write the name of each shape. <b>EXTENSION:</b> Shape Shifter- This is a "fortune teller" or "cootie catcher". Students will make it according to the instructions. Materials needed to be shown.		

UNIT 8: GEOMETRY & FRACTIONS		LESSON 8.15 Fractions	
<b>LESSON OBJECTIVE</b> 	Describe equal parts using halves, thirds, fourths and eighths.	<b>MATERIALS</b> 	<input type="checkbox"/> Lesson 8.15 Teaching Slides <input type="checkbox"/> Lesson 8.15 copies <input type="checkbox"/> Paper towel or toilet paper rolls <input type="checkbox"/> Whiteboards & markers <input type="checkbox"/> Playdoh & scissors
<b>WARM-UP</b> 	<b>Space Spotlight Video:</b> Introduce the telescopes as the spotlight for today. Play the video to learn more about stars! Have students discuss if they have ever used a telescope and what they have seen with the telescope.		
<b>MATH CHAT</b> 	<b>Math is Fun:</b> Allow students a few seconds to look at the pictures and read the prompt. When most students have their thumb on their chest, you can have students share answers. Make sure students can defend their answer. Answer- Jon saw six-eighths of the stars.		
<b>MINI-LESSON</b> 	Use the slides to review fractions, fraction words and fractional parts. Review fractions of a set. Students will use whiteboards to draw & partition shapes and write the fraction. <b>I Have, Who Has: Fractions Review:</b> Print the 4 pages of cards. All 24 cards must be used for the game to work- this may require some students to have more than one card. The game starts with the student who holds the "I have START" card. They will say "I have start. Who has one-half of a circle?" The student with the card that shows one-half of a circle says, "I have one-half of a circle. Who has...". Playing continues until the card is read. You may need to give students time before the game to determine what shape they have. The fraction is shaded. Students must say the fraction and the shape name because some fractions are the same.		
<b>HANDS-ON COLLABORATION</b> 	<b>Viewing Sets of Fractions:</b> Students will walk around the room with a "telescope" or paper towel roll (optional) and a partner to find the task cards. You may hang some task cards around the room and some may be placed under tables or desks. This way students can look like they would look up at the stars! Students will look at each set of objects carefully. Record their answers on their recording sheet. Then fill in the riddle at the bottom by matching the letter to the fraction.		
<b>INDEPENDENT PRACTICE</b> 	<b>Telescope Type Fractions:</b> Students will cut & glue each shape to the correct fraction shaded.		
<b>CHECK FOR UNDERSTANDING</b> 	Students will color each shape or set of shapes according to the directions. Then they will write the fraction.		
<b>DIFFERENTIATION</b> 	<b>INTERVENTION:</b> In a small group, have students practice making fractions out of Playdoh. Have students build a flat circle. Then tell them an amount to cut (using scissors or Playdoh). Cut the fraction into and ask the fraction of some pieces. Example- Cut your circle into 4 equal pieces. Take away 3 pieces. Ask "what fraction of the circle is left?" Continue using: 2, 3, 4. <b>EXTENSION:</b> Give each student a copy of <u>Fraction Vocabulary Review</u> . Students will complete the crossword puzzle.		

# Weekly Email FREEBIES!

Grab a cup of coffee and take a few minutes with our weekly newsletter created just for teachers like you.



## About Lucky Little Learners



Angie Olson has many years of classroom experience teaching grades kindergarten, first, and second grade. She earned her master's degree in mathematics and has presented for a variety of conferences at the national, state, and local levels. Over the years, Angie has employed teachers to help with Lucky Little Learners. She is proud of her talented team who strives to support the teaching community with her. Lucky Little Learners has created over 25,000 resources that are available in the All Access membership. Lucky Little Learners is also a top seller on Teachers Pay Teachers.