## COMPOSTNG SHAPES <br> 2D \& 3D




Make Learning Fun!
Original song and
video to introduce and
reinforce the skill.


Name:

## Madeline

 Date:
## I Can Compose 2D Shapes

Directions: Compose a new shape from 2D shapes. Trace your shape. Write down the shapes you used in your composition.

Create a composite ship $\quad . \operatorname{mn} \ldots$ shapes.

\# of Shape I: $\qquad$ \# of Shape 2 :
\# of Shape 3: $\qquad$

Create a composite shape using 4 different shapes.
\# of Shape I: $\qquad$ \# of Shape 2: $\qquad$ \# of Shape 3:
\# of Shape $4:$

Name:

## Composite Shape Quiz

Look at the composite shape. Write the names of the 2 D shapes in each composition and how many of each shape there are.
I.

$\square$

$\qquad$
 :-_-----


Look at the composite shape. Determine whether the description of the shape is TRUE or FALSE.

| Circle
I Square I Hexagon 2 Triangles
4.

| Half-circle 3 Triangles
I Rectangle
I Trapezoid
$\qquad$


I Cylinder I Rectana
2 2

TRUE or FALSE? $\qquad$ TRUE or FALSE? TRUE or FALSE? $\qquad$
6. What 3 D shapes make up this composition?


What 3D shape is below the cylinder?
Y $\qquad$
<
7. What 3D shapes make up this composition?


What 3D shape is beside the rectangular

2D \& 3D
I. Pedagogy
2. Lesson Plans
3. Vocabulary Cards
4. Song
5. Extra 2 D and 3 D shape cutouts for instruction
6. Anchor Chart: Composing Shapes
7. Model Day I Guide
8. Composing 2D Puzzle Guided Practice
9. I Can Compose 2D Shapes Worksheet

IO. Guided Practice Day 2
II. Mini-book
12. Composing 2D Shapes Worksheet
13. Cut and Compose Guided Practice half-sheet
14. Composite Shapes Stations Workshop
15. Anchor Chart: Positional Words
16. Positional Words \& 3D Shapes Worksheet
17. Day 6 Model Task Cards
18. Day 6 Guided Practice Task Cards

I9. 3D Composition Breakdown Cut and Paste Worksheet
20. Day 7 Model Task Cards
21. Day 7 Guided Practice Task Cards
22. 3D Composite Shape Scoot
23. 2D Composite Shape Center Game
24. 3D Composite Shape Center Game
25. Problem Solver
26. Quiz

## Composing Shapes

The next step in geometry, after students have mastered identifying shapes and their attributes, is composing shapes. Composing shapes is an exciting next step in the learning process for first graders. This standard activates their critical-thinking skills, their ability to analyze, and their puzzle-solving skills. Students will utilize and activate their analytical skills to not only create but also break down composite shapes in $2 D$ and $3 D$. This is a tactile unit that is fun and engaging for our first graders! It gets their creativity flowing while also addressing the standards. The unit will begin with $2 D$ composite shapes. Students will learn what a composite shape is and how to create a creative composite shape using $2 D$ tangrams.

Students will then progress into analyzing composite 2D shapes and breaking down the individual shapes within the composite. This will lead students to start thinking about how they can construct a composite shape from 2 D shapes. Students will then engage with 3D composite shapes. They will learn positional phrasing to help them describe and break down 3D composite shapes. The unit will challenge students to build composite 3D shapes but also understand how they are built.

Students will gain an understanding of 2 D and 3 D composite shapes.
Students will not only learn to create composite shapes but also how to identify the shapes that make up a composite. Students will grow their logic and reasoning skills through this engaging and rigorous unit.

## Composing Shapes

Day I: Introduce Composing 2D Shapes - exploration
*You will need 2D pattern blocks or tangrams for this unit*
Mini Lesson: Introduce the purpose of the lesson today: to compose 2D shapes from 2D shapes.

- Introduce the unit vocabulary, reviewing 2D Shapes specifically.
- Watch the Composing Shapes Song.
- Explain that today students will be composing shapes using 2D shapes.
- Introduce the "Composite Shapes" Anchor Chart.
- Model using 2D shapes, tangrams, or cutouts, to form the shapes on the Model Day I guide. Narrate as you compose the shapes on the guide. Be sure to vocalize the shapes you are using to add to the puzzles.

Guided Practice: Place students into pairs. Pass out a "Composite 2D Puzzle" to each pair. Instruct students to work together to compose their puzzles using their 2D shapes. Have each pair share their completed puzzle and describe what 2D shapes they used.

Independent Practice: Students complete the "I can Compose 2D shapes" worksheet.
Day 2: Identify the 2D shapes within a composite

Mini Lesson: Introduce the purpose of the lesson today: to identify 2D shapes within a composite shape.

- Watch and sing the Compositing Shapes Song.
- Review the unit vocabulary and "Composite Shapes" Anchor Chart.
- Explain that an important part of understanding composite shapes is identifying which shapes are used in the composition.
- Make 3-4 composite shapes from 2D shapes. With each composite, narrate going through the shape and identifying the shapes within it. For example, if you create a hexagon with 3 triangles and a trapezoid, narrate, "This hexagon has 3 triangles and I trapezoid." Make sure you point to the shapes as you identify them.

Guided Practice: Project or display the Guided Practice Day 2 images. As a class, work together to identify the 2D shapes within each composite shape.

Independent Practice: Students complete the mini-book.
Day 3: Making Composite 2D shapes in different ways

Mini Lesson: Introduce the purpose of the lesson today: to create composite shapes using 2D shapes.

- Review the unit vocabulary cards and the Composing Shapes Song.
- Review the "Composite Shapes" Anchor Chart.
- Explain to students that today they will be looking at 2D shapes and figuring out how to create them using other shapes.
- Show students a trapezoid. Narrate as you think of potential ways to compose this shape using 2D shapes. How many ways can you create this shape? Build each composition that you narrate. Potential compositions:
- 3 triangles or 5 triangles
- I square and 2 right triangles

Guided Practice: Show students a rectangle. As a class, work together to compose a rectangle in different ways using basic 2D shapes.

Independent Practice: Students will complete the "Composing 2D shapes" cut and paste.

Day 4: Composing Shapes using the same 2D Shapes

Mini Lesson: Introduce the purpose of the lesson today: to compose different shapes using the same 2D shapes.

- Watch and sing the Compositing Shapes Song.
- Review the unit vocabulary and "Composite Shapes" Anchor Chart.
- Explain that today students will be exploring the different shapes they can compose using 2D shapes.
- Model using only triangles to compose different shapes. Think out loud, "what possible shapes can I compose using triangles?" Create 3-4 different shapes using only triangles. As you compose the new shape, trace it on paper and write down the shapes used.
- For example, if you compose a rectangle using 6 triangles, trace the composite shape and above it write " 6 triangles."

Day 4 continued...

Guided Practice: Pass out a "Cut and Compose" half sheet to each student. Students will need scissors and glue. Ask students to cut out the shapes on their half sheet and compose a new shape by gluing the cut shapes together. Instruct them that they do not have to use all the shapes. Once students have glued to create a new shape, have each student share what shape they created and what they used to create this new shape.

Independent Practice: Composite Shape Stations Workshop.

Day 5: Positional Words for 3D Compositions *You will need 3D shape blocks for this unit*
Mini Lesson: Introduce the purpose of the lesson today: to use positional words to describe the composition of a composite 3D shape.

- Watch and sing the Composing Shapes Song.
- Review the unit vocabulary and "Composite Shapes" Anchor Chart.
- Introduce the "Positional Words" Anchor Chart.
- Explain to students that when working with 3D shapes we have to know positional words to help us describe composite 3D shapes because they don't just lay flat the way 2D shapes do.
- Using your 3D shape blocks, demonstrate each positional phrase on the anchor chart. Be sure to narrate which positional words you are demonstrating.

Guided Practice: Create 3-4 composite 3D shapes and, as a class, describe the composite shape using the positional words.

Independent Practice: Students complete the "Positional Words and 3D shapes" worksheet.

## Day 6: Creating Composite 3D Shapes

Mini Lesson: Introduce the purpose of the lesson today: to create composite shapes using 3D shapes.

- Review the unit vocabulary cards and the Composing Shapes Song.
- Review the "Composite Shapes" Anchor Chart and the "Positional Words" Anchor Chart.
- Explain to students that today they will be making composite shapes using 3D Shapes.
- Use the Day 6 Model Task Cards. Each task card has a description of a composite 3D shape. Follow the directions and create the composite shape correctly.

Guided Practice: Have students work in pairs or small groups. Make sure each pair or group has a set of 3D shape blocks. They should all have: 2 cubes; I rectangular prism, I cone, I cylinder, and I sphere. You will read out a description from the Day 6 Guided Practice cards. As you read out the description, students will work together to create the composite shape. Circulate to check for understanding after each round.

Independent Practice: Students will complete the "3D Composition Breakdown" worksheet.

Day 7: Identifying Composite 3D Shapes

Mini Lesson: Introduce the purpose of the lesson today: to identify the shapes within a composite 3D shape.

- Review the unit vocabulary cards and the Composing Shapes Song.
- Review the "Composite Shapes" Anchor Chart and the "Positional Words" Anchor Chart.
- Explain to students that today they will be identifying the 3D shapes within a composite 3D shape.
- Use the Day 7 Model Task Cards. Each task card has a composite 3D shape. Narrate as you identify and write down which 3D shapes are in this composite image.

Guided Practice: Show the 3D composite shapes on the Day 7 Guided Practice cards. As a class, work together to identify what 3D shapes are in the composition.

Independent Practice: 3D Composite Scoot.

Day 8: Review composite $2 D$ and $3 D$ shapes

Mini Lesson: Introduce the purpose of the lesson today: to identify the shapes in a composite shape.

- Review the unit vocabulary cards and the Composing Shapes Song.
- Review the "Composite Shapes" Anchor Chart and the "Positional Words" Anchor Chart.
- Teach the 2D Composite Shapes and 3D Composite Shapes center activity. These are created as separate centers; however, the object of the activity is the same aside from the type of composite shapes being used. These activities can be done together.

Guided Practice: Students play the 2D Composite Shapes and 3D Composite Shapes activity. You can combine the two activities into one (both bags at the same time, completing the 2D and 3D composite shapes activities conjointly) or have a station for each one (half the class completes the 2 D composite shapes activity and the other half completes the 3 D composite shapes activity, then they switch).

Independent Practice: Students will complete the Problem Solver.

## Day 9: Composite Shapes

Mini Lesson: Introduce the purpose of the lesson today: to identify the shapes within a composite 3D shape.

- Review the unit vocabulary cards and the Composing Shapes Song.
- Review the "Composite Shapes" Anchor Chart and the "Positional Words" Anchor Chart.

Guided Practice: Optional for students to complete the 2D and 3D Composite Shape activities as an additional review.

## Independent Practice: Composite Shapes Quiz






# Composite Shapes Song 

Shapes mix with shapes to make composite shapes Shapes mix with shapes to make composite shapes 2 dimensional shapes can be mixed to make new shapes Let's try a few and see what we can make


Six triangles make a hexagon
Four circles and a rectangle look like a wagon to ride on
A triangle and a square well that looks like a home
And rectangles mixed with rectangles give you rooms to roam!

Shapes mix with shapes to make composite shapes Shapes mix with shapes to make composite shapes 3 dimensional shapes can be mixed to make new shapes Let's try a few and see what we can make

A sphere and a cone make you think of ice cream rectangular prisms and cubes make tall buildings to see And a cylinder with a cone can make a tower real high See what you can make with shapes, mix them give it a try

Shapes mix with shapes to make composite shapes Shapes mix with shapes to make composite shapes
 2 dimensional shapes can be mixed to make new shapes y 3 dimensional shapes can be mixed to make new shapes

## Composite Shapes

A composite shape is a shape made from other basic 2D or 3D shapes.

2D

## Hexagon

## You can use 6 triangles to

 create a Hexagon.
## 3D Tower

This composite shape is composed of a rectangular prism, a cube, and a cone.

Rectangular Prism


Name: $\qquad$

## I Can Compose 2D Shapes

Directions: Compose a new shape from 2D shapes. Trace your shape. Write down the shapes you used in your composition.

Create a composite shape using 3 different shapes.
\# of Shape I:
\# of Shape 2:
\# of Shape 3: $\qquad$

Create a composite shape using 4 different shapes.
\# of Shape l: $\qquad$ \# of Shape 2: $\qquad$ \# of Shape 3: $\qquad$ \# of Shape 4 :

# COMOOSORTP <br> ShOpe F®c\}ORy Identify the 2D shapes in composite shapes 



By:
Date:


## What is a composite shape?



Look at the composite shape. Describe the composite shape by identifying the different 2D shapes used in this composition.

$\square$
$\qquad$

$\square$
$\qquad$

$\qquad$ $\langle>:$ $\qquad$
$\square$


Name:


## Cut and Compose

Directions: Cut out the 2D shapes. Using glue, create a new composite shape in the box.


Name: $\qquad$ Date: $\qquad$
Cut and Compose
Directions: Cut out the 2D shapes. Using glue, create a new composite shape in the box.


New Composite Shape


## Composite Shapes Stations Workshop

The purpose of this workshop is to have students use one 2D shape and create composite shapes from that one type of shape. We want students to explore what compositions are possible using a specific shape. This is a fun circulation activity that gets students' creativity and critical thinking skills activated.

## Directions:

- You will need to prep the stations ahead of time. With your tangrams, you will want to divide them up by type. I box for squares, I for triangles, I for trapezoids, and I for rhombuses. While this standard does not specifically call for work with rhombuses, utilizing this shape in a station can be beneficial for students to understand compositive shapes and what they can create.
- Place each box of shapes in its own station around the room.
- Provide students with a recording sheet.
- Have students circulate in groups. Have each group start at a different station. Give students 2-3 minutes at each station, completing that portion of their recording sheet.
- Continue circulating until each group has had time at each station.
$\qquad$


## Composite Shapes Station Workshop

Directions: As you circulate shape stations around the classroom, create a shape from the 2D shapes at the station. Then, trace your shape in its matching box and record how many of that shape you used. Continue until you have circulated to all stations.



## Positional Words

Positional Words help us describe where something is. We can use positional words to describe composite 3D shapes.
above

behind
beside

in front of
under

on top of
between


Name: $\qquad$

## Positional Words \& 3D Shapes

Directions: Look at the 3D Composite shape. Help complete the statement by writing in the correct positional word to describe the composite shape.

## Word Bank:

behind above
in front of beside on top of 2.


The sphere is $\qquad$ the cubes.
3.


The cube is $\qquad$ cube.

## .

 ( The cylinder is $\qquad$ the cone.
## 5.



The rectangular prism is $\qquad$ the sphere.


The cylinder is $\qquad$ the cube. the cube.
The cone is $\qquad$ © Gulls Borhase

## 3D Composition Breakdown

Directions: Look at the 3D composite shape. Cut and paste the correct 3D shapes that make up the composite next to the composite shape.


Directions: Cut out these 3D shapes and paste them next to the composite shape they are a part of on your worksheet.


Directions: Cut out these 3D shapes and paste them next to the composite shape they are a part of on your worksheet.

$\qquad$

## 3D Composite Shape Scoot!

## Directions:

I. Place one card at each student's seat.
2. Pass out the answer sheet to each student. (You can also have them number a piece of notebook paper.)
3. Students begin answering the question at their seat and recording the answer on the corresponding sheet.
Ч. When most students are done say "scoot" and students should move to the next seat (review with students how they should rotate before beginning.) Be sure they take their answer sheets with them!
5. Continue rotating until each student has answered each question.
*These cards can also be used as Task Cards in a center.




# 2D Composite Shape Center Game 

Directions:
I. Print all the shapes and description cards.
2. Cut out and laminate.
3. Put all the cards into a large Ziploc bag.
4. Students can play this game in pairs, individually, or in small groups.
5. Instruct students that they will need to read the description and match it with its correct composite 2D shape.

$$
\begin{aligned}
& \text { 2D Composite } \\
& \text { Shape Game }
\end{aligned}
$$



Directions: Match the 2D composite shape with its correct description card.
800000000000000000
2 Rectangles
4 Triangles
1 Trapezoid
2 Rectangles
4 Triangles
1 Trapezoid
2 Rectangles
4 Triangles
1 Trapezoid

3 Triangles 1 Circle 1 Trapezoid



## 3D Composite Shape Center Game

Directions:
I. Print all the shapes and description cards.
2. Cut out and laminate.
3. Put all the cards into a large Ziploc bag.
4. Students can play this game in pairs, individually, or in small groups.
5. Instruct students that they will need to read the description and match it with its correct composite 3D shape.

# 3D Composite Shape Game 

Directions: Match the 3D composite shape with its correct description card.


Name: Date: $\qquad$

## Problem Solver

Solve the word problems. Write your answer in the box below.
I. Olivia is playing with some shape blocks. She made a composite 2D shape. Look at the shape that she made. What shapes did she use? How many of each shape?


Olivia's Composite Shape
2. Edwin is working on his homework. The homework says to build a 3D composite shape following these directions:

- I Rectangular Prism next to I Cube
- I Sphere on top of the Cube
- I Cone on top of the Rectangular Prism

Did Edwin build the composite shape correctly?


Edwin's Composite Shape

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