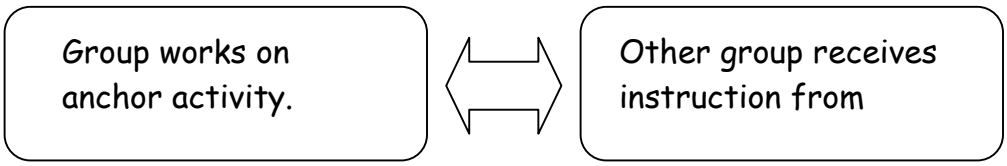
Option: Using an Anchor Activity

The purpose of an anchor activity is to reinforce, deepen, and extend students' understanding of the concepts presented in a unit. It provides meaningful tasks for students to work on while the teacher is working with another group or when the student has completed an assignment. Using anchor activities creates a productive work environment and is an efficient use of students' time. An anchor is to be completed over a period of time—anywhere from a week to a grading period. A student does the work independent of the teacher either individually or with a partner. It is important that all work in an anchor activity "count" and that students do not perceive it as busy work. The work may include:

- long-term projects
- selected games
- journal writing
- commercial kits
- learning centers/packets
- selected websites
- creating games, books, etc.
- books related to math

The following is a suggested sequence for implementing an anchor activity:

1. Introduce the anchor at the beginning of a new unit with all the resources needed readily available.
2. Teach the whole class to work independently and quietly on the anchor activity.
3. Provide time for practice of activity and procedures.
4. Begin small group instruction by alternating groups.



In summary, anchors work best when:

- expectations are clear.
- tasks are taught and practiced beforehand.
- students are held accountable for on-task behavior and completing work.

Grade 2 Unit 2 Anchor Activity

The following anchor activity presents students with tasks and games involving geometry to be done individually or with a partner throughout the unit. The anchor is tiered and suggests activities that are related to on and above grade level indicators. Games may be introduced to the whole class, then placed in a math center for students to play when finished with assigned classwork.

Hot Math Topics

Some cards suggested below may be used by either group. Generally, Hot Math Topics *is sequenced from least difficult cards to most difficult cards. Direct students to respond to task cards and explain their reasoning in a math journal. Read the introduction for more suggestions on management.*

Hot Math Topics: Spatial Sense and Measurement, Gr. 2

Indicator	Task Cards
2.2.1.1	1, 8, 10, 14, 15, 23, 31, 33, 35, 49, 55, 64, 65, 70, 71, 85
2.2.3.1	27, 90
2.2.1.2	20, 30, 37, 44
2.2.4.1, 2.2.4.2	34, 60, 78

Hot Math Topics: Geometry, Spatial Sense, and Measurement, Gr. 3

Indicator	Task Cards
2.3.4.2	1, 75
2.3.3.1	3, 13, 60
2.3.1.1	5, 30, 40, 55
2.3.1.2	12, 27
2.3.3.3	12, 27, 63

Hot Math Topics: Spatial Sense, Gr. 1

Indicator	Task Cards
2.1.1.1	7, 11, 15, 20, 24, 41, 44, 50, 52, 61, 65, 72, 75, 81, 85, 93
2.1.1.2	10, 12, 27, 49, 52, 79, 88, 91, 93, 97
2.1.4.1	43, 45
2.1.3.1	7, 29, 32, 53, 54, 59, 68, 81, 95, 96
2.1.5.1	62

20 Thinking Questions, Grades 1-3

The questions from *20 Thinking Questions* are written as lessons, but may be used in centers for independent practice after students have had similar instruction using manipulatives. Teachers may choose to photocopy the question page on card stock. For follow-up, select questions from "Questions for Discussion" and "Journal Reflection" at the end of each lesson. Ask students to respond in their math journals. Students may choose one question card, since they cover a similar topic.

Indicator	*20 Thinking Questions…*	*Question*
2.2.1.1, 2.2.3.1, 2.2.1.2	*Linkercubes*	*17: Can you find all 12 shapes?*
2.3.1.2	*Rainbow Cubes*	*4: How many different shapes can you make? (2.3.1.1)* *10: How many different cubes can you build?*
2.3.2.1	*Geoboards*	*1: Can a triangle have two right angles?* *4: How many different right triangles can you make?*

Navigating Through Geometry in Prekindergarten-Grade 2
The tasks from *Navigating Through Geometry* are written as 5E lessons. The lessons offer a variety of learning experiences, both independent and cooperative.

2.2.1.1 "Name That Block"
Students identify the attributes of 2-D and 3-D figures by identifying blocks, describing blocks, and participating in a scavenger hunt.

2.2.1.1 "Cutting Corners"
Students explore sides, vertices, and congruency of smaller shapes that can be created from larger shapes.

2.2.4.2 "Cut Outs"
Students make predictions about lines of symmetry using paper cutting.

2.2.3.1 "Skeletons"
After visualizing edges and vertices of 3-D figures, students create 3-D shapes using toothpicks, clay, and/or gumdrops.

2.3.1.2 "Rolling Net"
Students relate 3-D objects to their 2-D counterparts. The term "net" is defined, and students explore 3-D objects and draw their related nets.

The Super Source Grades K-2
Tasks from *The Super Source* books include an introduction by the teacher, an "on their own" section, and a "thinking and sharing" section. There is also an extension section to each lesson.

Indicator	*The Super Source…*	*Task Title*	*Page*
2.2.5.1	*Pattern Blocks*	*Three in a Row*	*78*
2.3.1.2, 2.3.1.1, 2.3.2.1, 2.3.2.2, 2.3.4.2, 2.3.5.1	*Geoboards, grades 3-4*	*Guess My Rule* *Add a Clue*	*38* *18*
2.3.5.1	*Geoboards, grades 3-4*	*Shopping for Shapes*	*66*

Geometric Solids Station
2.2.1.1, 2.2.3.1, 2.2.1.2, 2.3.1.1, 2.3.1.2, 2.3.3.2, 2.3.3.3

<u>Overview</u>
Students will explore 3-D models and construct their own models out of clay. Using a word bank and sensory details, students will then write "Clue Cards" to describe the attributes of the 3-D model they explored. Finally, they will draw a picture of their

model on the back of the clue card. The teacher will then display the clue cards for students to use as practice materials.

Materials

Geometric solids (pre-made wooden or plastic shapes and common objects such as dice, pencils, etc.)
Modeling clay, or similar building material
Student resource sheets copied onto dark colored paper

Teacher Directions

- Set up an area of the room for your geometric solids collection and the modeling clay. Students begin by exploring the geometric solids collection. They should note 2-D shapes that they see, and think about other mathematical language they can use to describe the shape. They should also think about descriptive language they can use in connection with the shape. Model this process for the students using a **think aloud**. For example,

  "This is a cube. I see that there are 6 faces. Each face is a square. The squares are all congruent. The faces feel flat and smooth. The edges press into my fingers. The vertices are pointy."

- Show the students how they would repeat the process for the other shapes. Then, model for the students how to select one shape and try to recreate it using the modeling clay. Tell them to think about whether they would use the same words to describe their shape as they did for the model shape. Model the process using a **think aloud**. Show them that when they are finished exploring the clay shape, they should leave the clay for someone else to use after they have written their clue card.

- Students will then write a "Clue Card." Demonstrate for students how to use the word banks and their own sensory words to write a clue for a mystery shape. Students write the clues on their assignment sheets, cut out the clue, and draw their geometric solid on the back of the card. The student sheets should be copied on dark colored paper so that the drawn shape remains hidden. Be sure to emphasize to students that they should use mathematical language in their descriptions. This is particularly important for the accelerated students, who should use third grade math vocabulary.

- The "Clue Cards" are then displayed so that students can test their own knowledge of the attributes of geometric solids by reading the clue and then lifting up the card to see the answer. The important aspect of the display is that students must be able to interact with the cards. Some ways the cards may be displayed are:
  - on a bulletin board
  - on a presentation/display board
  - as a collection in "Big Book" format (similar to the "Big Books" used in language arts)

- Students can create more than one clue card. Students are not expected to complete all of the tasks in the same instructional block.

Geometric Solids Station

Directions:

1. Explore the ***Geometric Solid Collection***.
   Think about how the geometric solids in the collection are similar and different.

2. Use clay to construct your favorite geometric solid.

3. Use words from the ***Word Bank*** to record three things about your clay geometric solid on the "Clue Card" below. Make sure the clues describe your geometric solid. Do not include the name of your geometric solid in any of the clues.

Clue Card

Clue 1-

Clue 2-

Clue 3-

What is it?

4. Cut out your "Clue Card".

5. Use a pencil to make a drawing of your clay geometric solid <u>on the back</u> of your "Clue Card".

Sample Clue Cards

Clue Card #1

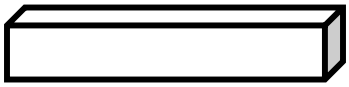
Clue 1- My geometric solid looks like a box.

Clue 2- It is made up of squares and rectangles.

Clue 3- It has eight corners.

What is it?

On the back:



Clue Card #2

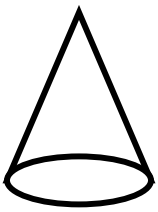
Clue 1- My geometric solid has one vertex.

Clue 2- It has a circular base.

Clue 3- This geometric solid is common at an ice cream parlor.

What is it?

On the back:

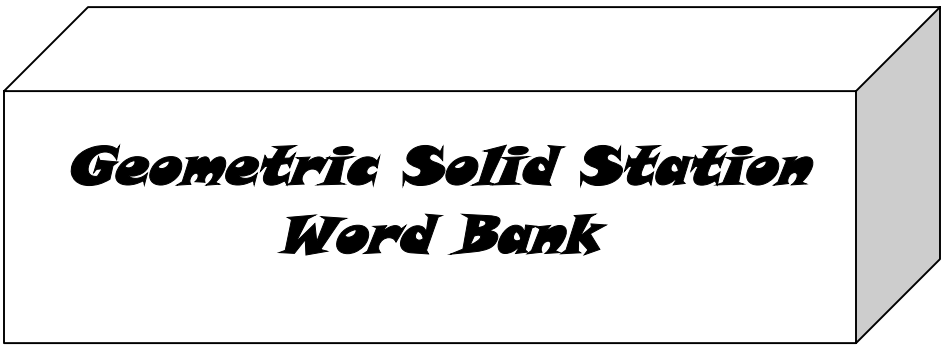


Clue Card
Directions

- Use words from the *Word Bank* to record three things about your clay geometric solid on your "Clue Card". Make sure the clues describe your geometric solid. Do not include the name of your geometric solid in any of the clues.

- Cut out your "Clue Card".

- Use a pencil to make a drawing of your clay geometric solid <u>on the back</u> of your "Clue Card".



Geometric Solid Station Word Bank

geometric solid

side

corner

line of symmetry

square

triangle

circle

rectangle

flat

edge

corner

faces

edges

vertices