Lesson 57

making geometric shapes on a geoboard
identifying the angles of a shape
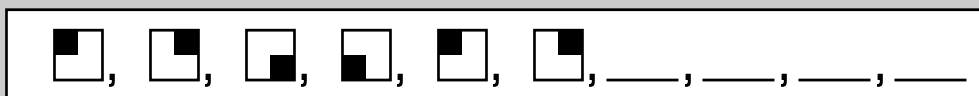
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lesson preparation

materials

1 geoboard and geoband per child

Fact Sheet A 7.2

in the morning

• Write the following pattern on a paper strip and post it on the bulletin board:

▛, ▙, ▟, ▜, ▛, ▙, ____, ____, ____, ____

Answer: ▜, ▛, ▟, ▟, ▜, ▙, ▟, ▟, ▜, ▙

• Write 84¢ on the money tag. Provide a cup of 10 dimes, a cup of 10 nickels, and a cup of 20 pennies.

• Allow time prior to The Meeting for the Student of the Day to fill in the date tag, put coins in the coin cup to match the amount on the tag, read the temperature to the nearest ten degrees, and record it on scrap paper. Assist the Student of the Day, if necessary.

• Collect homework from the previous day. Correct and review errors with the children individually.

THE MEETING

"Today _____ is Student of the Day."

calendar

• Ask the children to spell the name of the month as the Student of the Day writes the date on the bulletin board date strip.

• Ask all of the children the following:

days of the week, weekdays, days of the weekend

date _____ days ago, date _____ days from now

day of the week _____ days ago, day of the week _____ days from now

months of the year, _____th month, month before, month after

patterning

- Ask all of the children to do the following:

    identify the pattern (repeating or continuing)

    identify the shapes to complete the pattern

    read the pattern together

counting

"We will practice adding and subtracting ten and one again today."

- Ask the Student of the Day to select a number on the hundred number chart.

    "We will begin with the number the Student of the Day selected."

    "I will say add ten, subtract ten, add one, or subtract one."

    "Everyone will say the new answer together."

    "The Student of the Day will point to the answer on the hundred number chart."

- Tell children to add or subtract ten or one in random order.

- Do this 6–10 times.

    "What will we need to do to get back to (starting number)?"

    "How will we do that?"

- Ask the children to give the directions for returning to the starting number.

- Do the following 2–3 times a week:

    count by 10's to 300 and backward from 300 by 10's

    count by 5's to 100 and backward from 50 by 5's

    say the even numbers to 100 and backward from 100

    say the odd numbers to 49 and backward from 49

weather graph

- The Student of the Day writes the temperature to the nearest ten degrees on the appropriate tag and graphs the tag.

- Ask all children questions about the graph.

money

- Hold up each coin as the children count the amount of money in the coin cup.

- Ask all the children for other ways to show that amount of money. Hold up each coin as the children count to check the amount.

clock

- Ask the Student of the Day to set the clock on the half hour or hour.

- The Student of the Day shows the clock to the children and asks the following:

    time shown on the clock

    time one hour ago

    time one hour from now

    how to write the digital time

- The Student of the Day writes the digital time on a tag and posts it on the bulletin board.

lunch/attendance graph

- The Student of the Day gives the attendance and the lunch count report.
- The Student of the Day fills in the information on the bulletin board chart.

graph questions

- The Student of the Day asks 2–3 questions about any of the classroom graphs.

chart story

- Continue the chart story. Include the Student of the Day's birthday, the number of the day, the time for a special activity during the day, and the number of days until a special event or holiday occurs.

THE LESSON

Making Geometric Shapes on the Geoboard
Identifying the Angles of a Shape

"Today you will learn how to identify the angles of a shape."

- Hold up a geoboard.

    "Does anyone know what we call this?"

    "This is called a geoboard."

    "Has anyone used a geoboard before?"

    "What did you do with it?"

    "We use geobands on our geoboard."

    "They look like rubber bands, but the bands we use on our geoboard have a special name."

    "They are called geobands."

- They are really the same, but it is important that the children think of them as a math material.

    "Today we will each have a geoboard and a geoband to use."

"When we use geoboards and geobands, we will need to use them in a safe way."

"What do you think is a safe way to use a geoboard and geoband?"

"Who would like to show us a safe way to put a geoband on the geoboard?"

- If children have had previous experiences with geoboards, let them demonstrate and describe the steps for putting geobands on the geoboard and taking them off.

"I will show you a safe way many people use to put a geoband on the geoboard and to take it off the geoboard."

- Demonstrate as you say the steps.

"Put your geoband over a peg."

"Put your finger on that peg."

"Now, carefully stretch the band to another peg."

"Test it before you take your finger off the first peg."

- Demonstrate.

"When you take the geoband off the geoboard, put your finger on one peg and carefully lift the other end of the band."

"It is important that we use our geoboards in a safe way."

- Pass out a geoboard to each child.

"What do you notice about the geoboard?"

- Allow as many children as possible to offer observations.

"Who would like to show us how to put a geoband on the geoboard?"

- Repeat the steps as a child models for the class.

"Let's all practice putting a geoband on the geoboard and taking it off."

- Pass out a geoband to each child.

- Repeat the steps with the children.

"Make something with your geoband."

- Allow time for the children to explore using the geoband on the geoboard.

"In one minute we will share what we have made."

"Hold up your geoboard for everyone to see."

- Ask several children to describe what they did with the geoband.

"Take the geoband off the geoboard."

"Now make a shape with three sides."

- Allow time for the children to make the shape.

"What do we call this shape?"   *triangle*

"Put your finger on one of the pegs where the sides meet."

> *"Now move your finger off the peg into the inside of the triangle."*
>
> *"Some people call this a corner of the triangle."*
>
> *"Mathematicians call this an angle."*
>
> *"Point to another angle in the triangle."*
>
> *"Point to another angle in the triangle."*
>
> *"How many angles does a triangle have?"*   *3*
>
> *"Now make a shape with four sides."*

- Allow time for the children to make the shape.

> *"Put your finger on one of the pegs where the sides meet."*
>
> *"Now move your finger off the peg into the inside of the shape."*
>
> *"This is one of the angles of the shape."*
>
> *"How many angles do you see?"*   *4*
>
> *"Who made a square?"*
>
> *"How do you know that your shape is a square?"*
>
> *"Hold up your geoboard for everyone to see."*
>
> *"Who made a rectangle?"*
>
> *"How do you know that your shape is a rectangle?"*
>
> *"Hold up your geoboard for everyone to see."*
>
> *"How many angles does a four-sided shape have?"*   *4*
>
> *"Carefully take your geoband off your geoboard."*

- Collect the geoboards and geobands.

> *Optional: "I will put the geoboards in the math center for you to use."*

CLASS PRACTICE

number fact practice

- Allow children to work together for 4–5 minutes on addition fact card practice.
- Pass out **Fact Sheet A 7.2**.
- Time the children for one minute.
- Review the correcting prodedure, if necessary.
- Read the examples and answers slowly.
- Collect the fact sheets for recording. Return the sheets to the children after recording.

WRITTEN PRACTICE

- Distribute **Worksheet 57A/57B**.

- Read and review each problem with the children.

- Assist children as they work.

- Correct Side A with the children.

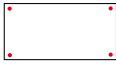- Read and review the directions for the problems on Side B.

  "Who would like to share something you learned in math today?"

- Provide 2–3 minutes for sharing. Allow as many children as possible to respond. Provide appropriate feedback and reinforcement.

Name _____   **LESSON 57A**
Date _____   **Math 2**

1. Selina has 6 dimes. Rhonda has 9 nickels. How much money does each girl have?

   Selina _____60¢_____   Rhonda _____45¢_____

   Who has more money? _____Selina_____

2. Beth is putting some numbers in order from smallest to largest. Which number in the box should she put between **43** and **67**?

 | 41 | 58 | 35 | 69 |

   _____43_____   _____58_____   _____67_____
   smallest   largest

3. Put a dot inside each angle. Count the number of angles in each shape.

   ___4___ angles   ___3___ angles   ___5___ angles

4. How much money is this? ___37¢___

5. Measure each line segment using inches.

   4 "
   1 "   1 "
   4 "

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Name _____   **LESSON 57B**
Date _____   **Math 2**

1. Albert has 7 nickels. Luis has 3 dimes. How much money does each boy have?

   Albert _____35¢_____   Luis _____30¢_____

   Who has more money? _____Albert_____

2. Nora is putting some numbers in order from smallest to largest. Which number in the box should she put between **57** and **82**?

   | 48 | 84 | 53 | 71 |

   _____57_____   _____71_____   _____82_____
   smallest   largest

3. Put a dot inside each angle. Count the number of angles in each shape.

   ___3___ angles   ___4___ angles   ___6___ angles

4. How much money is this? ___42¢___

5. Finish the number patterns.

   295, 296, 297, 298, _299_, _300_, _301_, _302_, _303_, _304_

   50, 45, 40, 35, _30_, _25_, _20_, _15_, _10_, _5_

   105, 106, 107, _108_, _109_, _110_, _111_, _112_, _113_, _114_

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