Lesson 74

Skills:

- ☐ Understand how to write and use possessive nouns.
- ☐ Understand the meaning of an idiom.
- ☐ Make a simple machine using a lever.
- ☐ Learn a new sight word.
- ☐ Make direct comparisons using a measurable attribute: weight.
- ☐ Make a prediction.
- ☐ Use a chart to record information.
- ☐ Recall subtraction facts.
- ☐ Identify edges and vertices.
- ☐ Draw a congruent shape.
- ☐ Practice locomotor skills and body positions.
- ☐ Apply scripture to daily life.

Materials:

- Pipe cleaners
- Balance scale (Directions included to make a scale using a cylindrical container, ruler, two small containers, and play dough)
- Small rocks of various sizes and weights
- Subtraction flashcards
- Sight word flashcard: pierce
- *John Deere,* by Jane Sutcliffe
- *Farmland Innovator, A Story About Cyrus McCormick*, by Catherine A. Welch
- Worksheets 73a, 74, 74a

Daily Opening Routine:

- Continue routine activities.
- Have the child count by fives from zero to one hundred. Then have him count backward.
- Read *Farmland Innovator, A Story About Cyrus McCormick*, chapters 3-4.

Language Arts/Social Studies/Science/Bible:

- Read *John Deere.* The author states, “And to think that it all began with a broken saw blade and a good idea.” Have the child write a paragraph describing how John’s idea has influenced and benefited the farming industry.
  - Remind him that a paragraph is made of several sentences that tell about the same subject. It has three main parts: the topic sentence, the body sentences, and the closing sentence. The topic sentence tells what the paragraph is about. The body sentences tell the details that support the topic. The closing sentence restates the topic sentence and concludes the paragraph.
  - Have the child share his thoughts first. What is the main idea? The topic sentence should introduce the paragraph in an interesting way. What details should be used in this paragraph? Help him choose descriptive words to make his paragraph interesting. Then allow him to write it.
  - Have the child read his paragraph aloud. Make sure the ideas flow logically. If any sentences are out of order, draw an arrow to the place in the paragraph where they would fit better. Then check for correct punctuation in each sentence and a capital letter at the beginning of each sentence. Also check for correct spelling. If anything is incorrect, have the child draw a line through the error and write the correction above or next to it. Have him recopy his paragraph on another sheet of paper.
  - Have the child draw an illustration for his paragraph.

- Discuss the idiom on page 11: Strike while the iron is hot. Have the child explain how this idiom got its meaning.
- Tell the child that today he will review possessive nouns.
  - Ask the child, "What does *possess* mean?" (*To possess something means to own or have something*.)
  - Ask, "What do possessive words show?" [*Possessive words show that a noun (a person, place, thing, or idea) owns something.*]
  - Ask, "How do you make a noun possessive?" (*To make a noun possessive, add an apostrophe s at the end of the word. If the word already ends in an s, just add an apostrophe*.)
  - Read this sentence: John Deere's tractor was a great invention. "What is the possessive noun?" (*Deere's*) "What belongs to John Deere?" (*the tractor*)
  - Read each sentence to the child. Have him restate it using a possessive noun.
    - The crops belonging to the farmer are growing well. (*The farmer's crops are growing well.*)
    - The farmers living in Vermont moved to Ohio. (*Vermont's farmers moved to Ohio.*)
    - John has a factory that builds one thousand plows a year. (*John's factory builds one thousand plows a year.*)
- Use a flashcard to introduce the new sight word *pierce.*
- Worksheet 74, part A: Have the child write the words and only lift the pencil at the end of the words. He should write all the letters in the word and then go back to dot letters. Remind the child to use proper spacing between words.
- Worksheet 74, part B: Have the child read the words aloud.
- Worksheet 74, part C: Have the child read about a lever and a wedge. Have him write the names of levers and wedges you have around your home.
- Worksheet 74, part D: Have the child write what each idiom means. If he is not familiar with the idiom, research the meaning online.

  Answers:

  1. *Give it a shot: try*
  2. *Speak your mind: say what you really feel*
  3. *A piece of cake: very easy*
  4. *Be in hot water: be in trouble*
  5. *It cost an arm and a leg: it was expensive*
  6. *It's in the bag: it's a certainty*
  7. *Get cold feet: be nervous*
  8. *Pig out: to eat a lot*
  9. *Get your act together: behave properly*
  10. *Out of the blue: unexpected, with no warning*
- Worksheet 74, part E: Have the child write a sentence listing the levers you have in your home. Then have him write a sentence listing the wedges you have in your home. Check the child's sentences for proper spelling and punctuation including a comma between the items listed.
- Worksheet 74, part F: Have the child read each sentence and rewrite it using a possessive noun.

  Answers:

  1. *The lever's fulcrum was a rock.*
  2. *George's money was in his backpack.*
  3. *The jacket's zipper is broken.*
  4. *Check the child's sentences for proper spelling and punctuation including a possessive noun.*
- On page 28, Catherine A. Welch states that Cyrus didn't listen to advice. In chapter four, she describes how Cyrus didn't give credit to others when it was due. Jane Sutcliffe writes on page 30 that John listened to the suggestions of others. How did Cyrus' actions cause him frustrations in his business relationships? How did John's choices help him turn suggestions into an improved plow? The unit verse says, *Listen to advice and accept discipline, and at the end you will be counted among the wise* (Proverbs 19:20). How can you apply this verse in your life?

- Help the child make a balance scale to demonstrate the use of a lever.
  - Gather the following materials:
    - Cylindrical container: can of soda, paper towel tube, Pringles can, etc.
    - Sturdy ruler
    - Two small containers: margarine tubs, Tupperware®, paper bowl, etc.
    - Play dough (recipe included in the Appendix)
  - Put play dough under the cylindrical container so that it stays in place on a table.
  - Use glue or play dough to attach one small container to each end of the ruler.
  - Put a small amount of play dough in the middle of the ruler, and stick it to the cylinder so that the ruler is balanced.
- Have the child gather rocks to compare and number each rock.
- Have him choose two of these rocks and predict which is heavier.
- Have the child make a chart on a sheet of paper and record his prediction.

Items to compare		Predict which item is heavier	Which is heavier?

- Have the child place one rock in each container on the balance scale and see which is heavier. (*The container that drops lower has the heavier item.*) Have him record the results on the chart.
- Continue with the remaining rocks.
  - How many of his predictions were correct?
  - Have him choose his favorite rock. Compare the weights of each rock to his favorite rock.
  - Have him arrange the rocks on a table in order from lightest to heaviest.
- Place one rock in each container on the balance scale. Adjust the position of the fulcrum until the lever is balanced. What does he discover? (*To balance the scale, the heavier side must be a shorter distance from fulcrum*.)
- How can he apply this knowledge to a see-saw on the playground? What should he do when he is opposite someone who weighs more than he does? (*The heavier person should move closer to the fulcrum of the see-saw.*)

Math:

- Have the child take pipe cleaners and bend them into the shapes shown on worksheet 73a.
- Ask the child to choose a shape to describe, but do not let him tell you the shape. Have him give clues to the shape. For example: this shape has four edges, this shape has four vertices, all four edges are the same length, it has no curves. Answer: a square. Continue to describe shapes and guess. Switch roles and describe a shape for your child to guess.
- Play "War" with subtraction fact flashcards.
  - Divide the flashcard pile in half so that each player has the same amount of cards.
  - Each player takes one card from the top of the stack, turns it over, says the difference, and compares its value to the other player's card.
  - The lower-numbered card wins and takes both cards. Place these in a pile beside the person who won them.
  - Play until the original stack of cards is gone. Then each player shuffles the cards in his winning pile. Continue playing until one player has lost all cards. The player with all of the cards wins.
  - NOTE: In case of a tie, place a second card down. The winner takes all four cards.
- Worksheet 74a, parts A and B: Have the child read the words and then read about angles.
- Worksheet 74a, part C: Have him answer the questions.

  Answers:

  1. *4 inches*
  2. *8 sides*
  3. *The inside of a shape is called the interior.*
  4. *square, rhombus, rectangle, trapezoid, parallelogram*
  5. *90 degrees*
  6. *obtuse angle*
  7. *Congruent means the figures are the same shape and the same size.*
  8. *The pentagon should be the same size and shape as the given pentagon.*

- Worksheet 74a, part D: Play a game to practice identifying the number of edges and vertices on plane shapes.
  - Each player chooses a coin to use as a game piece.
  - The first player uses a paper clip and pencil to spin a number. Then he moves his coin that number of spaces.
  - Player 1 says the shape and the number of edges or vertices shown on the space where he lands.
  - If he is correct, he stays on the space until his next turn.
  - If he is incorrect, he must return to start.
  - Repeat the steps for the next player.
  - The first player to reach the end is the winner.

Key:	*edges*	*vertices*
circle	*0*	*0*
square	*4*	*4*
triangle	*3*	*3*
rhombus	*4*	*4*
oval	*0*	*0*
rectangle	*4*	*4*
star	*10*	*10*
trapezoid	*4*	*4*
heart	*0*	*1*
pentagon	*5*	*5*
cross	*12*	*12*
hexagon	*6*	*6*
parallelogram	*4*	*4*
octagon	*8*	*8*

Physical Education:

- Have the child learn and practice basic body positions.
  - T-Stand: He stands with his feet together and his arms straight out to the side at shoulder height, like a letter t.
  - Pike: He stands with his feet together, bends at the waist, and touches his head to his knees.
  - Tuck: He sits on the floor with his legs in front of him. He bends his knees so that they are touching his chest and his feet are "tucked" in close to his body.
  - Sit: He pretends he is sitting on a chair, but the chair is not there.
  - Straddle Sit: He sits on the floor with his legs in a v-shape in front of him.
  - Front Support: He gets in a push-up position. His arms are straight under his shoulders, supporting his upper body, and his toes are planted to keep him from sliding.
  - Straddle Stand: He stands with his feet wider than his shoulders and his arms at his side.
- Have the child make shapes with some of the basic body positions. He stands in a pike position and uses the floor as the third side of a triangle. A t-stand creates two right angles. He can create acute, right, and obtuse angles sitting in a straddle sit. Have him put his back against a friend's back and create a rectangle from a sit position.
- Play music and call out a locomotor skill (walk, run, skip, hop, jump, gallop, slide, leap). The child should move using the locomotor skill.
- Stop the music and call out a body position (T-Stand, Pike, Tuck, Sit, Straddle Sit, Front Support, Straddle Stand).
- Play the music and call out another locomotor skill. When the music stops again, give a different body position. Challenge your child to remember the body positions in order. The child must first do the previous move and then the new one. Keep adding different body positions, and see how many your child can remember.

name _____

Part A: Write the words using cursive handwriting.

knock

chicken

Zack

nickname

Part B: Read the six types of simple machines.

lever wedge screw pulley inclined plane wheel and axle

Part C: Read about a lever and a wedge.

Lever

A lever is a simple machine. It is one of the first ones ever invented. Machines help make work easier for us. A lever is a stiff bar or plank used to move or lift a load. A lever rests on a fulcrum. A fulcrum can be as simple as a rock. After the lever is placed on the fulcrum, the load is placed on the lever. Push or pull on the lever to move the load. A see saw and a crowbar are simple levers. A door and a stapler are also types of levers. Scissors are double levers.

Wedge

The wedge is a simple machine that forces objects apart by applying force to a large surface area on the wedge. The force is transferred to a smaller area on the wedge. This small area does the actual work. A nail is a common wedge. Force is applied to the wide nail head. Concentrated force is sent to the small point of the nail. The force causes the nail to pierce wood. As the nail sinks into the wood, the wedge shape at the point of the nail forces the wood apart. Everyday examples of wedges include an axe, nail, doorstop, chisel, saw, jackhammer, zipper, bulldozer, snow plow, horse plow, airplane wing, knife, fork, and the bow of a boat or ship.

Write the names of levers and wedges you have in your home.

Levers						
Wedges						

Part D: Write what each idiom means.

1. Give it a shot: _____
2. Speak your mind: _____
3. A piece of cake: _____
4. Be in hot water: _____
5. It cost an arm and a leg: _____
6. It's in the bag: _____
7. Get cold feet: _____
8. Pig out: _____
9. Get your act together: _____
10. Out of the blue: _____

Part E: Write a sentence listing the levers you have in your home. Use commas.

_____

_____

_____

Write a sentence listing the wedges you have in your home. Use commas.

_____

_____

_____

Part F: Read each sentence. Rewrite it using a possessive noun.

1. The fulcrum of the lever was a rock.

_____

_____

2. George has money in his backpack.

_____

_____

3. The zipper on the jacket is broken.

_____

_____

4. Write a sentence using a possessive noun.

_____

_____

name _____

Part A: Read the words.

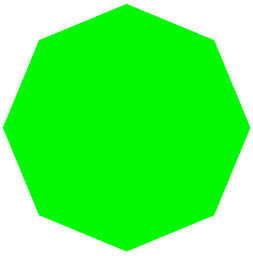
reflection	horizontal	halves	polygon	vertical
alphabetical	intersecting	measure	angle	symmetry

Part B: Read about angles.

An angle is a figure formed by two segments with a common endpoint, or vertex. The space between the two intersecting segments is measured in degrees. A right angle looks like a capital letter L. It measures ninety degrees. An acute angle measures less than ninety degrees. An obtuse angle measures more than ninety degrees. Acute comes before obtuse in alphabetical order, and a measurement less than ninety comes before a measurement greater than ninety on a number line. This will help to remember the angle names.

acute angle | right angle | obtuse angle

Part C: Answer the questions.



1. What is the perimeter of the octagon? _____
2. How many sides does it have? _____
3. What is the inside of a shape called? _____
4. List the shapes that have four vertices. _____

_____

_____

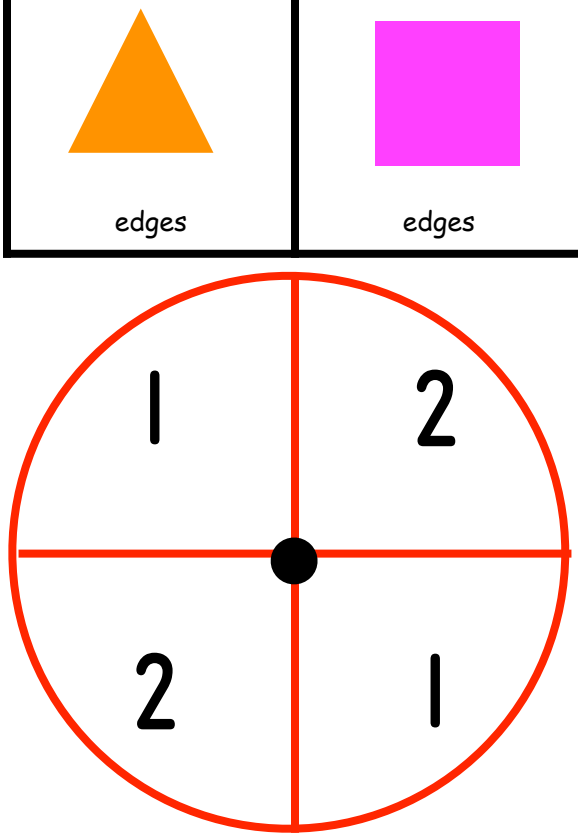
5. How many degrees does a right angle measure? _____
6. What type of angle measures more than ninety degrees? _____
7. What does congruent mean? _____

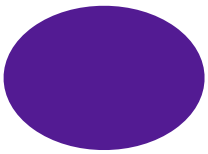
_____

8. Draw a pentagon that is congruent to this pentagon.

Part D: Play Shape Race to practice identifying the parts of shapes.

Start



edges	edges	 vertices	 edges
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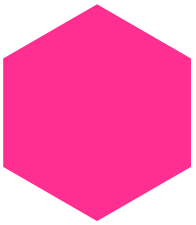
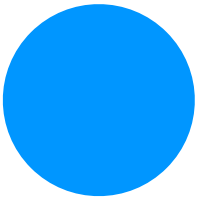
		 edges	 vertices
 edges	 edges	 vertices	
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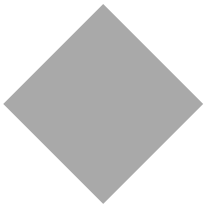
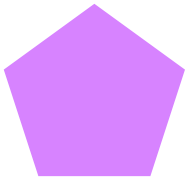
 edges	 vertices	 vertices	

Finish

Directions:

- Each player chooses a coin to use as a game piece.
- Player 1 uses a paper clip and pencil to spin a number.
  - Place an end of the paper clip on the center of the circle.
  - Place the tip of the pencil on the black dot.
  - Flick the paper clip.
- Player 1 moves his coin the corresponding number of spaces.
- He says the shape name and the number of edges or vertices.
- If he is correct, he stays on the space until his next turn.
- If he is incorrect, he must return to start.
- Repeat the steps for Player 2.
- The first player to reach the end is the winner.