

Lesson 36

Skills:

- Write a research report using a writing process.
- Learn new sight words.
- Learn about the integumentary system.
- Multiply decimal numbers.
- Calculate circumference.
- Develop large motor coordination: throw and catch a Frisbee®.

Materials:

- ❖ Frisbee®
- ❖ String
- ❖ Ruler or yardstick
- ❖ Sight word flashcards: acne, keratin
- ❖ *Sir Cumference and the First Round Table*, by Cindy Neuschwander and Wayne Geehan
- ❖ Worksheets 36, 36a

Language Arts/Science:

- ❖ Help your child edit his report.
 - Have the child read his report aloud. Make sure the ideas flow logically. If any sentences are out of order, draw an arrow to the place in the report where they would fit better.
 - If he would like to add a detail have him write a caret, ^, where the word should be inserted. Write the word above the caret.
 - 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 it and write it correctly above or next to it.
 - Each paragraph should be indented at the beginning.
 - Have the child identify words that could be more specific and substitute a synonym for these words. Encourage him to use compound or complex sentences.
- ❖ Use flashcards to introduce the sight words: acne, keratin.
- ❖ Play a game to practice alphabetizing words.
 - Use the sight word flashcards. Give each player three sight word flashcards.
 - Place the flashcards face up in a row in front of each player. The flashcards must remain in the order in which they were dealt.
 - Make a draw pile with the remaining flashcards. Turn the top flashcard face up beside the draw pile to form a discard pile.
 - The goal is to get the flashcards in alphabetical order from left to right. If the three flashcards are not in alphabetical order, the first player draws a flashcard from the draw pile or the discard pile. Trade this flashcard for one of the three flashcards, and place the new one in the same position as the flashcard chosen to discard.
 - The discarded flashcard is placed on top of the discard pile. The next player may take the top card from the discard pile or the top card from the draw pile.
 - Players continue taking turns until one player has his three flashcards in alphabetical order.
- ❖ Worksheet 36, part A: Have the child read the words and write the number of syllables in each word.

Answers:

epidermis: 4

collagen: 3

melanin: 3

barrier: 3

follicles: 3

perspiration: 4

integumentary: 6

bacteria: 4

conjunction: 3

continually: 5

dermatologist: 5

approximately: 5

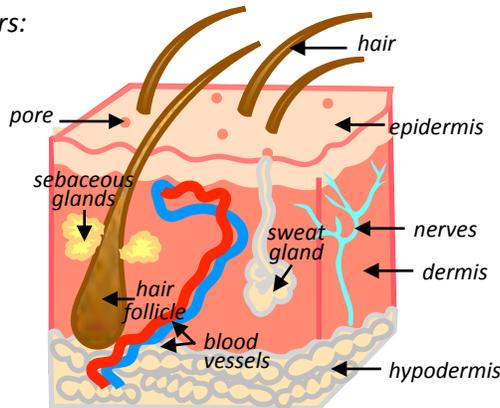
- Have the child write the words in alphabetical order.

Answers:

- | | | |
|--------------------------|-----------------------|-------------------------|
| 1) <i>approximately</i> | 2) <i>bacteria</i> | 3) <i>barrier</i> |
| 4) <i>collagen</i> | 5) <i>conjunction</i> | 6) <i>continually</i> |
| 7) <i>dermatologist</i> | 8) <i>epidermis</i> | 9) <i>follicles</i> |
| 10) <i>integumentary</i> | 11) <i>melanin</i> | 12) <i>perspiration</i> |

- ❖ Worksheet 36, part B: Have the child read about the integumentary system.
- ❖ Worksheet 36, part C: Have the child label the parts of the integumentary system.

Answers:



Math:

- ❖ Worksheet 36a, part A: Have the child read through the examples and then multiply decimal numbers.

Answers: 1) 22.5036 2) 3.6972 3) 718.942 4) 528,644.3554

- ❖ Worksheet 36a, part B: Have the child read the information, follow the directions, and answer the questions.

- The circumference is the distance around a curved object. It is not called the perimeter. A piece of string can be used to measure the circumference of the circle. Then place the string on a ruler to determine the circumference. The circumference of the circle is about 6 1/4 inches.
- A diameter is a line segment across a circle, passing through the center. It must touch the edge of the circle. The formula for calculating the circumference is $C = \pi d$. (Circumference equals pi times diameter.) Pi is a Greek letter used to represent a mathematical constant. It is the ratio between a circle's circumference and its diameter. It is a long decimal number often rounded to 3.14.

- ◆ Have the child draw a red diameter on the given circle. 
- ◆ Have the child measure the diameter: 2 inches.
- ◆ Have the child use the formula to calculate the circumference of the circle.

$$C = \pi d$$

$$C = (3.14) \cdot 2 \quad (\text{Substitute 3.14 for pi and 2 for the diameter.})$$

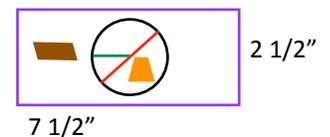
$$C = 6.28 \text{ inches} \quad (\text{Write the final answer with a label.})$$

- A radius is a line segment from the center to the edge of a circle. Have the child draw a green radius on the circle. 
- Have the child draw a purple rectangle around the circle. It should measure seven and one-half inches long by two and one-half inches wide. Check your child's drawing for accuracy.

- ◆ Perimeter = $7.5 + 7.5 + 2.5 + 2.5 = 20$ inches

- ◆ Area = $7.5 \times 2.5 = 18.75$ square inches

- Have the child draw an orange trapezoid in the interior of the circle.
- Have the child draw a brown parallelogram in the exterior of the circle.



- ❖ Worksheet 36a, part C: Have the child calculate the circumference of the circles.

Answers:

- | | | |
|---------------|------------------|-------------------------|
| 1) 25.12 feet | 2) 147.58 inches | 3) 1,767.82 centimeters |
|---------------|------------------|-------------------------|

- ❖ Read *Sir Cumference and the First Round Table*.

Physical Education:

- ❖ Play Frisbee®.
- ❖ Review how to properly hold and throw a Frisbee®.
 - The backhand grip is most-commonly used.
 - The thumb is on top of the disk, the index finger is along the rim, and the other fingers are underneath.
 - Stand sideways with the front foot toward the target.
 - Step toward the target, and throw the disk in a forward motion across the body.
 - Release the disk parallel to the ground. Tilting it results in a curved throw.
 - Snap open the wrist to make the Frisbee® spin.
 - Follow through toward the target when releasing the disk.
- ❖ Teach the child how to catch a Frisbee®.
 - The sandwich catch traps the disk between both hands.
 - ◆ One hand is held at chin level, and the other hand is held at stomach level.
 - ◆ As the Frisbee® approaches, move the hands together and sandwich the Frisbee®.
 - The thumb-down catch is used for catching the Frisbee® at waist level or above.
 - ◆ The hand is shaped like a C with the thumb pointing toward the ground.
 - The thumb-up catch is used for catching the Frisbee® below waist level.
 - ◆ The hand is shaped like a C with the thumb pointing up.
- ❖ Have the child calculate the circumference of the Frisbee®.



name _____

Part A: Read the words. Write the number of syllables in each word.

epidermis _____

follicles _____

conjunction _____

collagen _____

perspiration _____

continually _____

melanin _____

integumentary _____

dermatologist _____

barrier _____

bacteria _____

approximately _____

Write the words in alphabetical order.

1) _____

2) _____

3) _____

4) _____

5) _____

6) _____

7) _____

8) _____

9) _____

10) _____

11) _____

12) _____

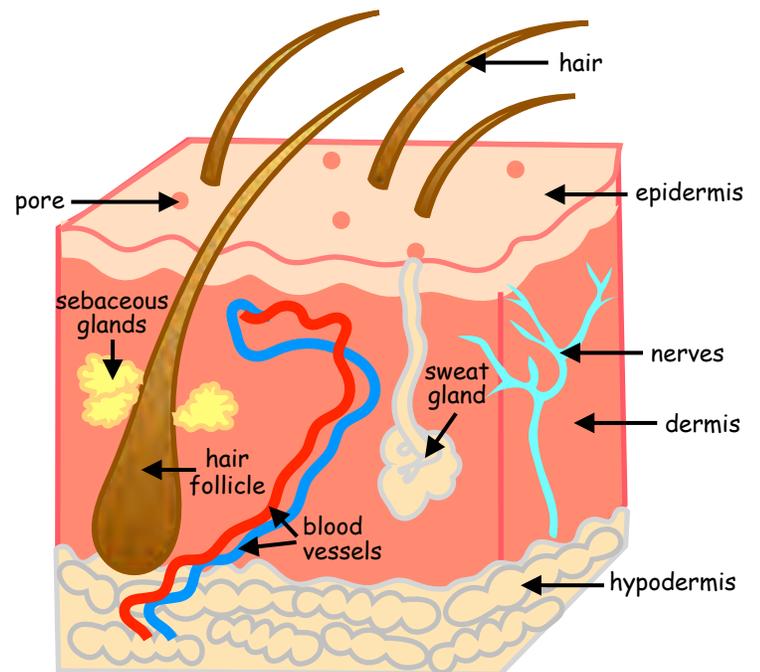
Part B: Read about the integumentary system.

The integumentary system is the body's largest organ. It includes the skin, hair, nails, glands, and nerves. It is a barrier that protects the body from viruses, bacteria, and other pathogens that can cause disease. The skin also helps regulate body temperature and eliminate waste through perspiration.

In adults, the skin covers a surface area of approximately 22 square feet. The skin is a different thickness and texture on different parts of the body. It is thick on the palms of the hand and soles of the feet, but it is very thin and delicate under the eyes.

Human skin is composed of three layers of tissue. The epidermis is the visible layer of skin. Dead skin cells are shed daily, so it is continually being renewed. The new skin cells form at the bottom of the epidermis, and it takes them about a month to reach the top layer of the epidermis. Keratin is a protein made by the cells in the epidermis. It gives skin its strength and protects it from drying out. The epidermis gives skin its color because the cells produce melanin. Melanin is responsible for freckles and suntans.

The dermis is the middle layer of skin and is the thickest layer. The dermis is made mostly of the protein collagen, which gives the skin its flexibility and strength. It contains nerves, blood vessels, sweat glands, oil glands, and hair follicles. The nerves in the dermis transmit sensations such as pressure, touch, pain, itchiness, and temperature. The blood vessels nourish the skin so the cells can grow and stay healthy. The blood vessels in the dermis also help to control body temperature. When the skin is cold, the blood vessels constrict and retain body heat. When the skin becomes overheated, blood vessels enlarge to release heat from the skin's surface. The sweat glands work in conjunction with the blood vessels to cool the body. A salty liquid called perspiration is released from the sweat glands and travels through ducts to the skin



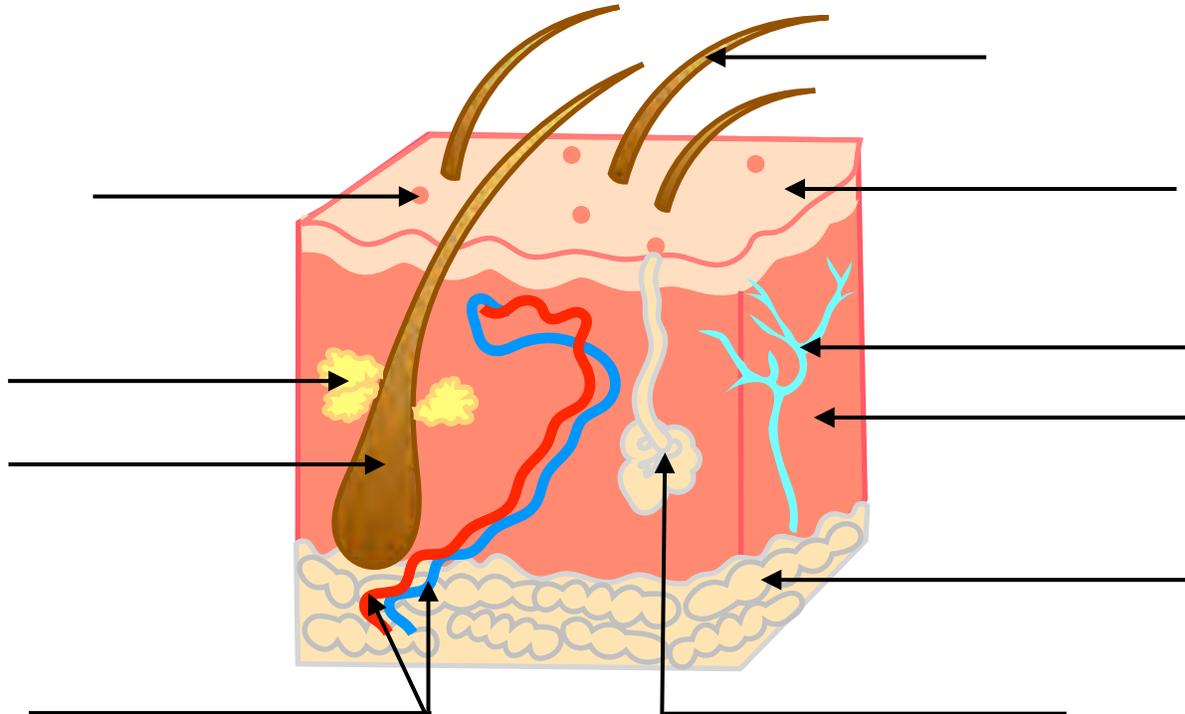
surface. Then it is excreted through pores. As perspiration evaporates, the body cools. Sweating is regulated by the autonomic nervous system which sends signals to the sweat glands. Sweat is odorless. But when it mixes with bacteria on the skin, it produces body odor. Sebaceous glands produce oils that keep the skin soft and moist. Hair follicles in the dermis grow hair on the head, face, and body. Hair on the head helps to control body temperature by preserving heat. Thick or long hair can cause a person to feel overheated. The hair inside the nose and ears protects these body parts from dust and other small particles. Eyebrows and eyelashes protect the eyes from dust particles and light.

The hypodermis is the deepest layer of skin and is mostly fatty tissue. This helps to insulate the body from heat and cold. The fatty tissue also provides padding for internal organs, muscles, and bones, and it can protect the body from injuries.

Dermatologists are physicians who specialize in treating the skin, hair, and nails. Acne occurs when hair follicles become clogged with oil and dead skin cells. Eczema looks like patches of red, bumpy skin. Warts are noncancerous growths on the skin. Moles are another type of growth on the skin, and they can appear flat or raised. If moles change in size, shape, or color, they should be examined by a dermatologist. Moles can develop into skin cancer. Skin cancer is an abnormal growth of skin cells. Some types of skin cancer are not dangerous. But melanoma begins in the cells that produce melanin, and it can cause death. Daily use of sunscreen can reduce the risk of developing skin cancer.

Part C: Label the diagram of the integumentary system.

- | | | | | |
|--------|---------------|--------|------------|------------------|
| dermis | hair follicle | pore | hypodermis | sebaceous glands |
| hair | blood vessels | nerves | epidermis | sweat gland |



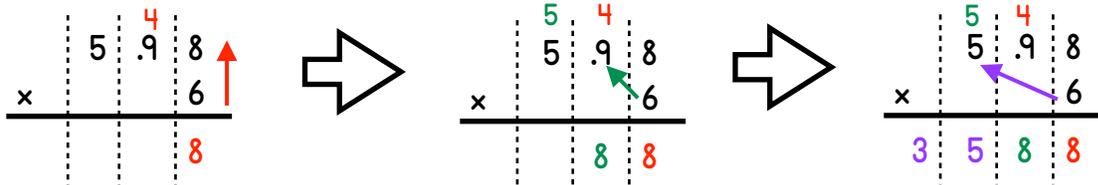
name _____



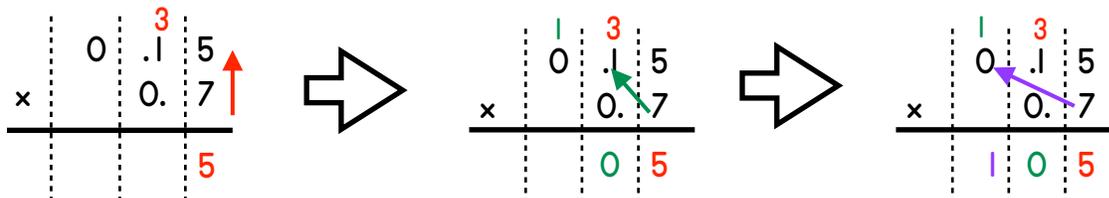
Part A: Multiply decimal numbers.

$5.98 \times 6 =$

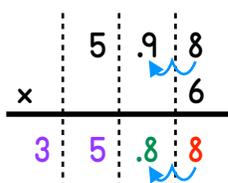
Multiply as if it is a whole-number problem. Ignore the decimal point.



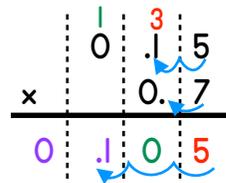
$0.15 \times 0.7 =$



Count the total number of decimal places in the factors. Starting from the right side of the answer, count over that many digits and mark the decimal point.



Count two places.



Count three places. Write a zero in the ones place.

Multiply.

1)
$$\begin{array}{r} 35.72 \\ \times 0.63 \\ \hline \end{array}$$

2)
$$\begin{array}{r} 2.37 \\ \times 1.56 \\ \hline \end{array}$$

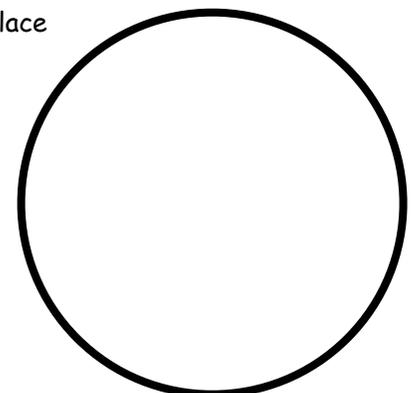
3)
$$\begin{array}{r} 403.9 \\ \times 1.78 \\ \hline \end{array}$$

4)
$$\begin{array}{r} 895.37 \\ \times 590.42 \\ \hline \end{array}$$

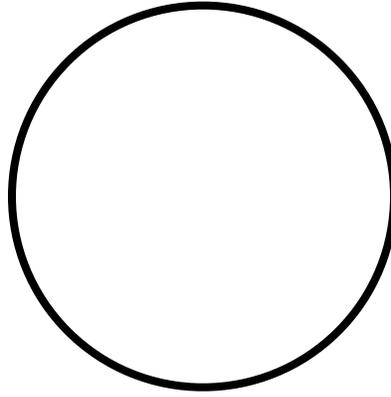
Part B: Read the information. Follow the directions, and answer the questions.

★ The circumference is the distance around a curved object. It is not called the perimeter.

- Use a piece of string to measure the circumference of the circle. Place the string on a ruler to determine the circumference.
- What is the circumference of the circle?



- ★ A diameter is a line segment across a circle, passing through the center. It must touch the edge of the circle.
- The formula for calculating the circumference is $C = \pi d$. (Circumference equals pi times diameter.) Pi is a Greek letter used to represent a mathematical constant. It is the ratio between a circle's circumference and its diameter. It is a long decimal number often rounded to 3.14.
- Draw a red diameter on the circle.



- Measure the diameter: _____.
- Calculate the circumference: $C = \pi d$. Write the final answer with a label.
- How does this compare to the measurement of the circumference using string and a ruler?

- Which do you think is a more accurate method for determining the circumference of a circle?
Why? _____

- ★ A radius is a line segment from the center to the edge of a circle.
- Draw a green radius on the circle above.
- ★ Draw a purple rectangle around the circle. It should measure seven and one-half inches long by two and one-half inches wide.
- Using decimal numbers, calculate the perimeter of this rectangle. _____
- Using decimal numbers, calculate the area of the rectangle. _____
- ★ Draw an orange trapezoid in the interior of the circle.
- ★ Draw a brown parallelogram in the exterior of the circle.

Part C: Calculate the circumference of a circle with the given diameter.

1) 8 feet

2) 47 inches

3) 563 centimeters