

# The Human Body

Grades 4-6

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Illustrated by Liz Merz and Ric Ward

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# Other Health & Safety Units



Popcorn Fun! .....	Gr. 2-3
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Be Safe Not Sorry! .....	P-1
The Human Body .....	4-6
Making Sense of Our Senses .....	K-1
Safety .....	2-4
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# The Human Body



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# The Human Body



## Expectations

Students will:

- become more familiar with their body parts and how they function
- recognize and label diagrams of body parts
- become aware of the importance of nutritional eating and how it develops and benefits the body
- use vocabulary pertaining to the body correctly

## Teacher Input Suggestions

### 1. Planning Ahead:

Collect the following items prior to introducing and teaching the various parts of the human body: body part charts, diagrams of the human body, reference books, photographs (food, body parts, people in action) healthy foods, unhealthy foods, films, filmstrips, videos, CD-ROMS, web sites, slides, models of body parts such as the heart, lungs, teeth, brain, reproducible diagrams, Food Guides, health magazines, brochures

### 2. Brainstorming:

Brainstorm words that pertain to the human body. Classify the words on charts entitled "Inside the Human Body" and "Outside the Human Body". Add to the charts as vocabulary surfaces during lessons. Words may also be classified on charts under the names of the different body systems. The lists may be used during spelling lessons and spelling games.

## List of Vocabulary

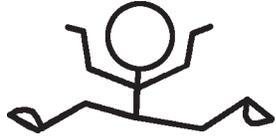
acoustic, ambrosia, aorta, auricle, bicuspid, brainpan, calcium, cartilage, cerebrum, cerebellum, cholesterol, clairvoyance, clavicle, cochlea, cranium, cuspid, dentine, dermatoglyphics, dextrose, echolocation, encompass, femur, fibula, humerus, incisors, involuntary, magnesium, mandible, marrow, medulla, molars, myologist, olfactory, optometrist, palatable, patella, phalanx, plaque, potassium, precognition, psychokinesis, pulp, radius, redolent, retina, sternum, steroids, tarsals, telepathy, tendon, tibia, ulna, ventricle, voluntary

### 3. Bulletin Board Displays:

- a) Display poems that pertain to the human body around a picture of one.
- b) Place diagrams on the bulletin board for the students to label.
- c) Have a section of the bulletin board labeled Healthy Foods/Unhealthy Foods. The students may classify food pictures under the headings.



# The Human Body



#### 4. Discussion Topics:

The following topics may be discussed in any order. Find out how each system and its parts function. Discuss the importance of each one.

- a) The Skeletal System
  - b) The Circulatory System
  - c) The Brain
  - d) The Muscular System
  - e) The Teeth
  - f) The Respiratory System
  - g) The Digestive System
  - h) Nutrition
  - i) Care of the Body
  - j) Major Diseases
5. Invite guest speakers such as a dental hygienist, doctor, nurse, nutritionist, dietician, optometrist, or anyone in the medical field to give presentations on health topics that the students may like to find out information about.
6. Discuss your Food Guide and have the students plan healthy meals and snacks.

## List of Resources

### Human Body Web Sites

**Circulatory System:** <http://www.encyclopedia.com/articles/02772.html>  
<http://www.fi.edu/biosci/heart.html>

**Digestive System:** <http://www.niggk.nith.gov/health/digest/pubs/digesyst/newdiges.htm>  
<http://www.encyclopedia.com/articles/03656.html>

**Respiratory System:** [http://www.stemnet.nf.ca/power/resp/struct\\_1.htm](http://www.stemnet.nf.ca/power/resp/struct_1.htm)

**General:** <http://sln.fi.edu/tfi/activity/act-summ.html>  
<http://www.lessonplanspage.com/Science45.htm> (Lesson Plans)

**Videos:** Bill NYE The Science Guy  
Titles: Digestion, Blood, Circulation, Bones, Muscles, and Respiration



# The Human Body



## CD-ROMS

1. A.D.A.M. The Inside Story '97 School Edition is a multimedia introduction to the secrets of the human body. Explore the body layer by layer, then join modern day Adam and Eve as the body's miracles come alive with entertaining animations, video, and sound in their Family Scrapbook. Useful for grades five to eight.

This title was the winner of the 1996 Software Publishers Association "Codie" Award for "Best Education Product for Middle Schools" and "Best Curriculum-Based Education Product". It has won the Curriculum Administrators' Top 10 District Choice Award.

Highlights of this award-winning CD-ROM include:

- Over 4 000 individual structures can be identified as the human anatomy is revealed from skin to bone in hundreds of layers, seeable in anterior and posterior, lateral, and medial views.
- Animation, video, and sound detail normal and abnormal physiological processes.
- Quickly reference the glossary of anatomical terms, audio pronunciation, system reference text, or challenge your students with interactive anatomy puzzles.
- Rotate the 3-D anatomical images to identify important structures, then take an animated tour through each designated body part.
- The Quizmeister feature allows students to test their knowledge with a series of 12 multi-question quizzes.
- Print capabilities, Internet access, and supplemental detailed bank of images!

The combination of A.D.A.M.'s high-quality imagery and compelling "inside the body" approach to learning makes this title an invaluable tool for introductory study of the human body. It makes a great complement to any Anatomy and Physiology, Health, Physical Education, Human Biology or Health Career Class.

This product has a modesty setting that locks out the reproductive system and covers male and female genitals with "fig leaves".

### **Teacher's Guide:**

Also included is a Teacher's Guide of curriculum integration activities to help educators for grades five through eight integrate the program into the classroom. Co-developed with educators and students, this guide contains anatomical system overview, interdisciplinary classroom activities with reproducible worksheets, summaries of the product's animations and videos, lists of key terms, and detailed illustrations for each system. The Teacher's Guide also includes innovative activities that reinforce science lessons through art. Teacher materials include ideas on managing computer resources in the classroom, working with special needs students, and a bibliography of additional reference sources.



# The Human Body



2. **A.D.A.M.'s Award Winning Software** combines the Inside Story and Life's Greatest Mysteries in one package, The Inside Story Complete. Students will be entertained and challenged with this wonderful interactive learning tool. Teachers will enjoy how easy the integration into existing curriculum can be.

## **Fosters Academic Growth:**

CD components (Inside Story, Anatomy, The Family Scrapbooks, Activities, Glossary, Images, Reference Text, Videos, and Animations) help meet challenges in problem solving, writing, math, spelling, and language arts and therefore foster academic growth in the teacher's guide.

## **Fostering Social Growth:**

The materials invite small group work. Students working in teams can delegate roles, ask some team members to read aloud and others to record, research, and motivate. Team members can learn how to negotiate, delegate, solve problems, and recognize individual strengths.

## **Fosters Emotional Growth:**

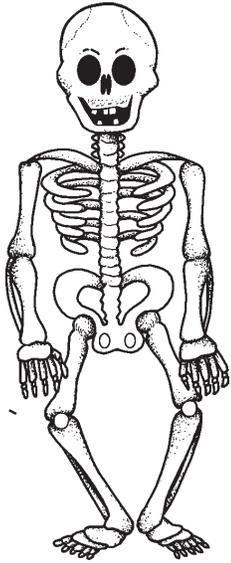
The interactive design encourages active learning that is self-paced and allows for self evaluation. The menu items offer choices that reflect sensitivity to students' interests in gender (female, male) and skin tone. Animation and video topics provide springboards for discussion about real-life issues such as smoking, choking, pregnancy, and exercise. All students have individual leaning styles. The multimedia format helps students with disabilities by presenting information through a variety of modalities simultaneously.

## **Life's Greatest Mysteries:**

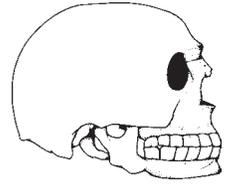
Mind, Body, Psyche CD Components include answers to mind, body, and psyche questions, while debunking myths and shattering illusions about the human body and mind, sickness, and curiosities.

## **Teacher's Guide:**

The explicit learning objectives facilitate preparation of lesson plans and individualized education plans. Analogies and jingles offer mnemonic devices to aid in memorizing. Many teacher's guide activity worksheets and branches invite student teams to find several answers to the same question.



# The Skeletal System



## Activity One

### "Bone" - y Terminology

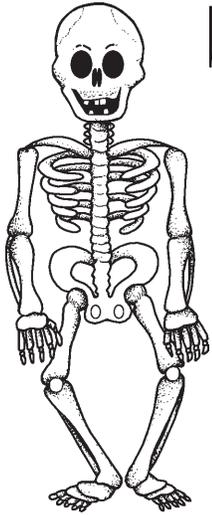
How knowledgeable are you about "bone" - y terminology?

In the sentences that follow, see if you can fill in the blanks using the words located in the box at the bottom of the page.

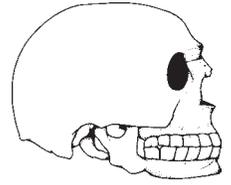
Use resource books or a dictionary where necessary.

1. Strong bands that help to keep our bones in their proper place are called \_\_\_\_\_.
2. A \_\_\_\_\_ is the place where two bones come together and fit against one another.
3. A soft yellow or red substance found in the central cavities of the bones is called the \_\_\_\_\_.
4. The \_\_\_\_\_ is the only bone in the skull that moves.
5. If a bone breaks, the condition is known as a \_\_\_\_\_.
6. A small triangular bone at the end of the spine is known as the \_\_\_\_\_.
7. \_\_\_\_\_ are the tough connective tissues that fasten muscles to the bones.

**jawbone, marrow, ligaments, coccyx, tendons, joint, fracture**



# The Skeletal System



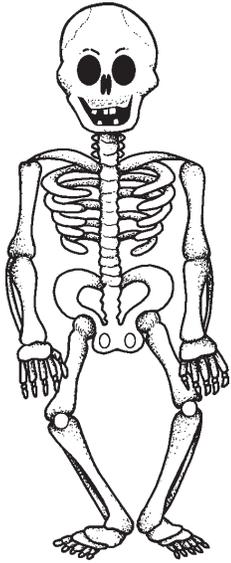
## Activity Two

### "Boning Up" on Information

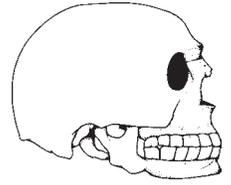
Do some research and decide which of the three answers is the best one. All questions have to do with the skeleton - your body's framework.

**Underline** the correct answer.

1. How many red blood cells does bone manufacture every day?  
a) 500    b) 10 000    c) 1 000 000 000
2. How many bones are there in your body?  
a) 206    b) 300    c) 150
3. What is the main mineral found in bone?  
a) magnesium    b) calcium    c) potassium
4. Where are half of the body's bones located?  
a) in your arms and legs    b) in your hands and feet  
c) in your brain and spinal cord
5. What is the human skull made of?  
a) one bone    b) two bones joined together    c) 29 different bones
6. What is the shock absorber in your body?  
a) the knee    b) the elbow    c) the spine
7. Which bone is the strongest and heaviest of all the bones in your body?  
a) femur    b) tibia    c) fibula
8. Which bone is your "funny bone"?  
a) elbow    b) humerus    c) radius
9. Which bones form a kind of cage?  
a) ribs    b) pelvis    c) spine
10. What is the soft tissue called that fills the hollow or central part of most bones?  
a) cartilage    b) marrow    c) vitamins



# The Skeletal System



## Activity Three

### Mr. Skelly-Ton

#### Part A:

Below are the names of several bones in our body.

Match the bones with the appropriate body parts.

Then show where each bone is on "Mr. Skelly-Ton".

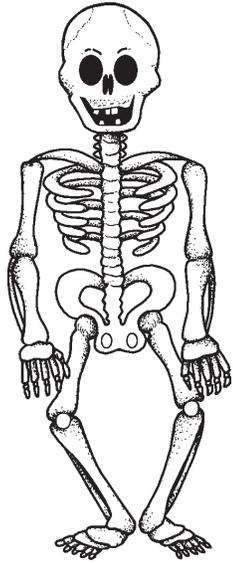
Consult an encyclopedia or other resource books and do some reading on the skeletal system prior to doing this activity.

#### Bones

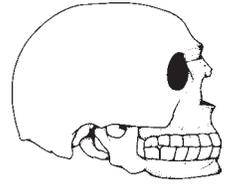
- a) femur \_\_\_\_\_
- b) cranium \_\_\_\_\_
- c) tibia \_\_\_\_\_
- d) ulna \_\_\_\_\_
- e) sternum \_\_\_\_\_
- f) tarsals \_\_\_\_\_
- g) patella \_\_\_\_\_
- h) phalanx \_\_\_\_\_
- i) clavicle \_\_\_\_\_
- j) mandible \_\_\_\_\_
- k) radius \_\_\_\_\_

#### Body Locations

- 1. ankle
- 2. knee
- 3. thigh
- 4. forearm
- 5. fingers
- 6. shoulder
- 7. jaw
- 8. brain
- 9. shin
- 10. chest



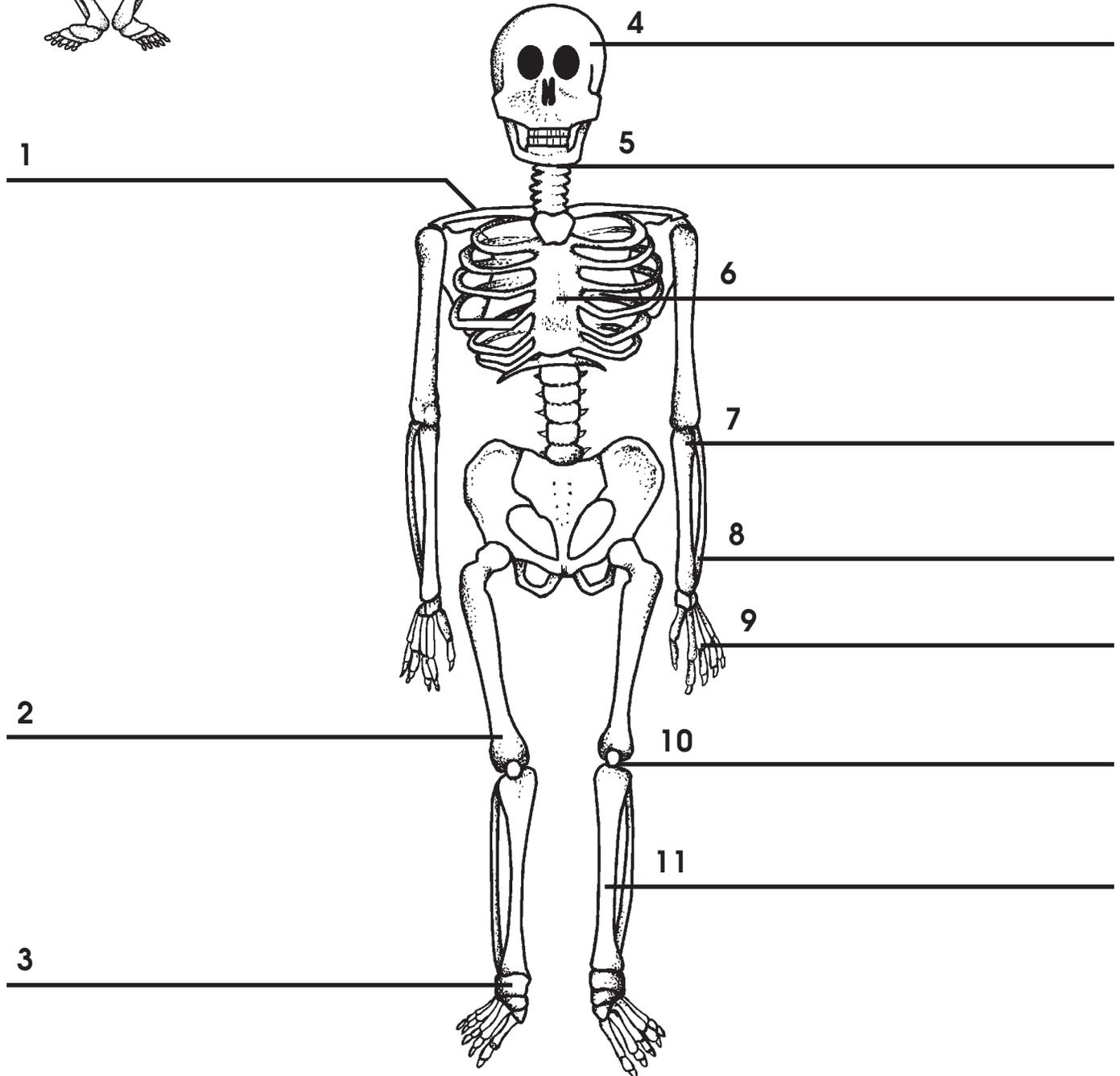
# The Skeletal System

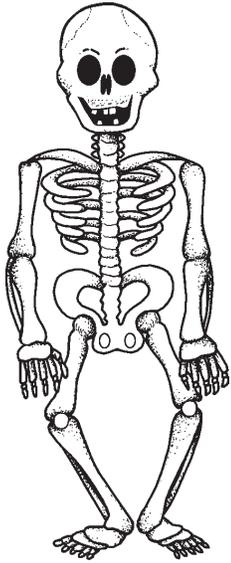


## Activity Three

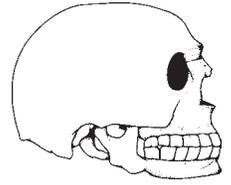
### Mr. Skelly-ton

**Part B:** Label the parts of your skeleton.





# The Skeletal System

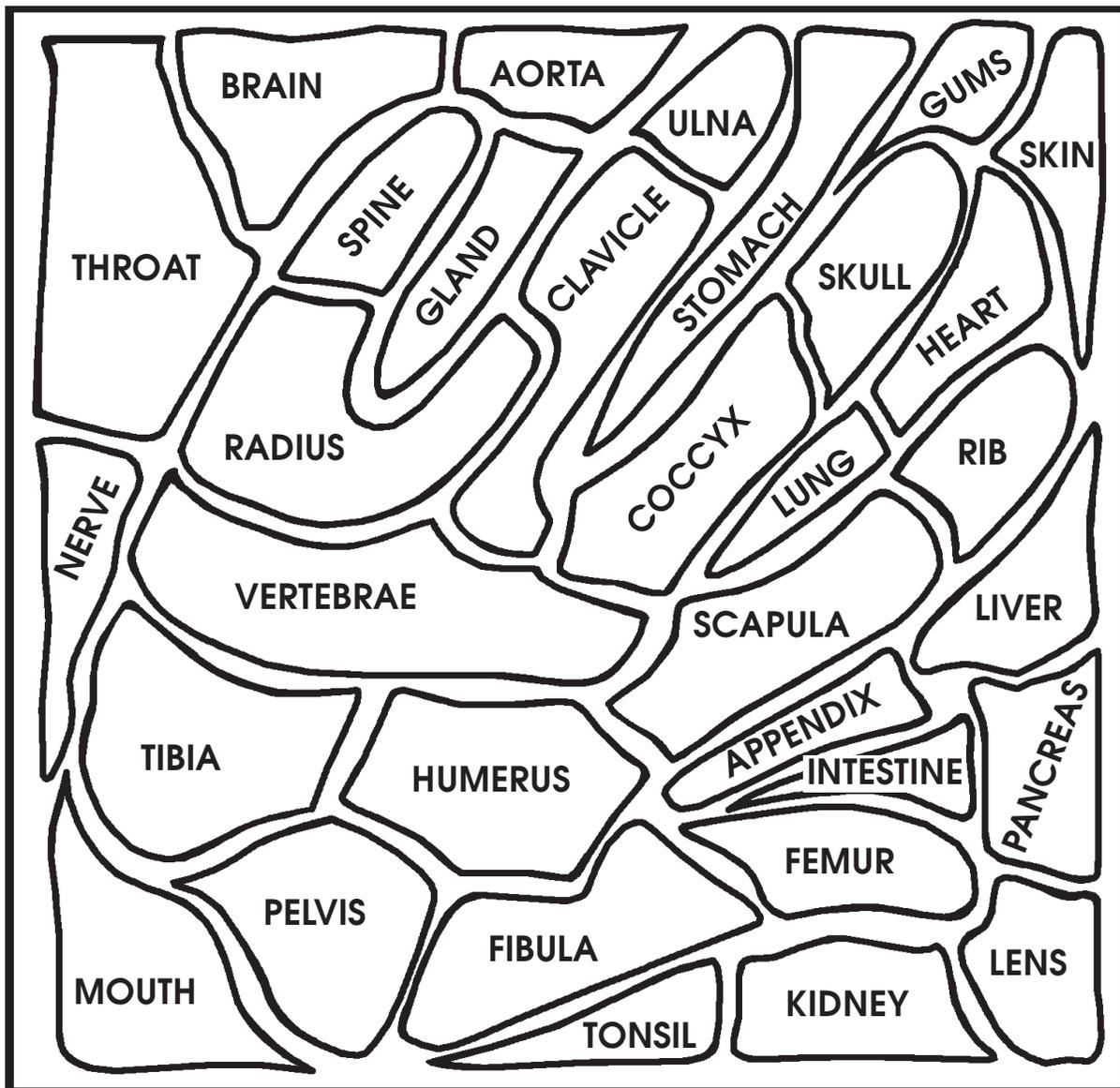


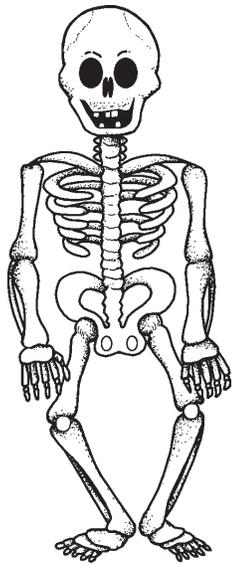
## Activity Four Skeleton Mystery

Using a pencil, shade in all the parts of the body that are the names of bones.

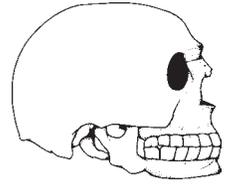
When you do, a hidden part of your body will appear.

Use a dictionary to help you.





# The Skeletal System



## Activity Five Body Sayings

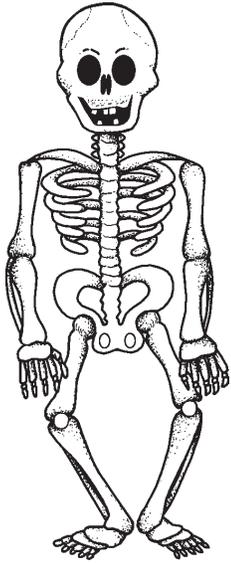
Did you ever tell someone to "break a leg"?

Have you ever eaten something "finger-lickin' good"?

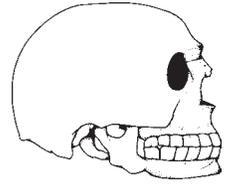
There are many sayings that make mention of some part of the body.

Copy and complete each saying with a body part.

1. She has a "green \_\_\_\_\_" because her plants grow well.
2. He's "\_\_\_\_\_ high to a grasshopper".
3. They lost the game by the "\_\_\_\_\_ of their teeth".
4. This steak is as "tough as \_\_\_\_\_".
5. I am so nervous that I have "butterflies in my \_\_\_\_\_".
6. "Cross my \_\_\_\_\_ and hope to die", I did not tell you a lie.
7. My little brother is such a "pain in the \_\_\_\_\_" when I have to babysit him.
8. The eerie sound frightened me and caused my "\_\_\_\_\_ to stand up on end".
9. What I said must have gone in "one \_\_\_\_\_ and then out the other".
10. His wife is so bossy that she "leads him around by the \_\_\_\_\_".
11. People who have something to hide about their past may have a "\_\_\_\_\_ in the closet".
12. His kind words about my father "warmed the cockles of my \_\_\_\_\_".



# The Skeletal System



## Activity Six

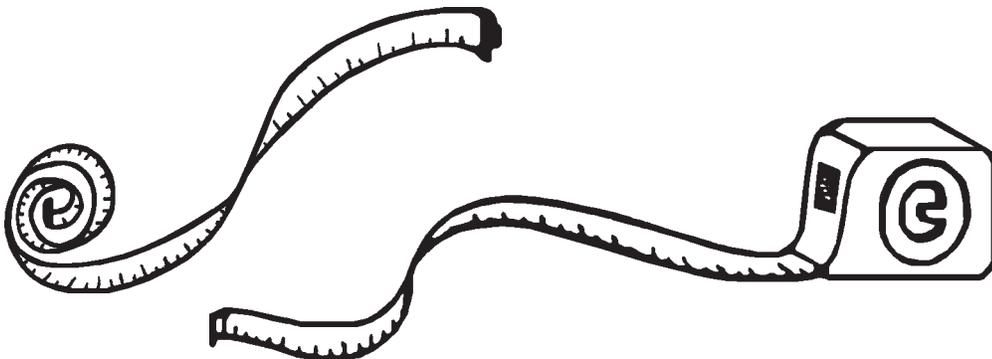
### Math for Every-"body"

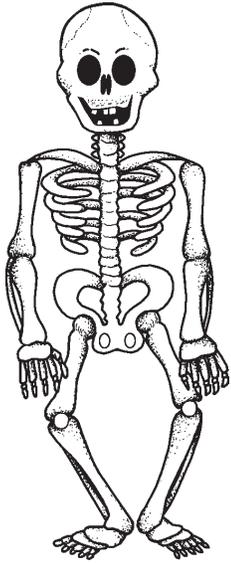
Locate a piece of string and a ruler so you and your body can do some math.

Answer the following questions:

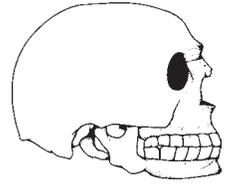
1. Measure the distance from fingertip to fingertip of your outstretched arms. Now measure your height. How do these two measurements compare?
2. Is your nose as tall as your ear?
3. Which half of your body is longer? Measure from your head to your waist, then from your waist to your feet.
4. Measure the distance between your wrist and your elbow. Measure the length of your foot. How do they compare?
5. Does the distance from the base of your nose to the point of your chin equal the width of your hand?

How did you measure up? Are you surprised at the results? Do you think the measurements are the same for every body?





# The Skeletal System



## Activity Seven

### Dermotoglyphics

How would you like to specialize in the study of dermatoglyphics?

What is dermatoglyphics?

Dermatoglyphics is the study of fingerprints.

Complete the following activities.

- A)** Research to find out the facts about fingerprints.

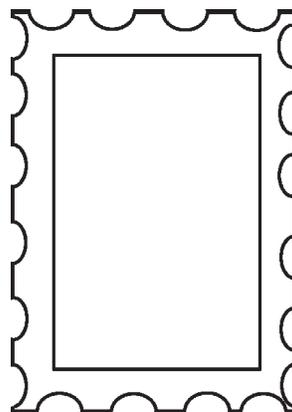
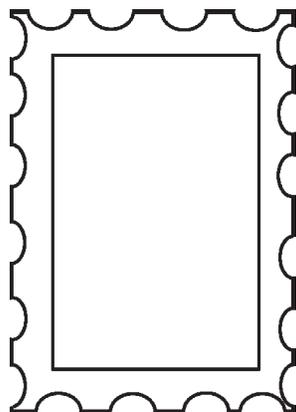
What are the three basic patterns?

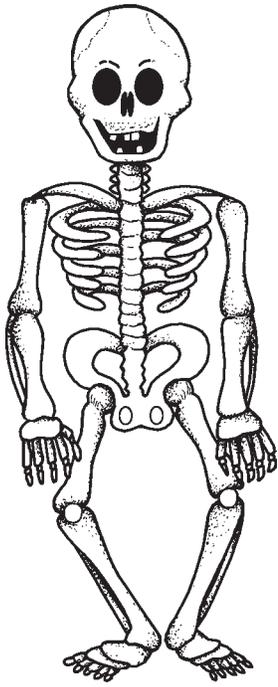
What do they look like?

Write your findings in a proper paragraph.

- B)** Using a stamp pad, make your left and right thumb prints in the boxes provided.

Using similar squares of paper have ten of your classmates make two prints of their right thumb. Then gather the cards and have a game of "Concentration". See who can gather the largest number of matches. The winner will be a very perceptive person indeed!





# The Skeletal System

## Activity Eight

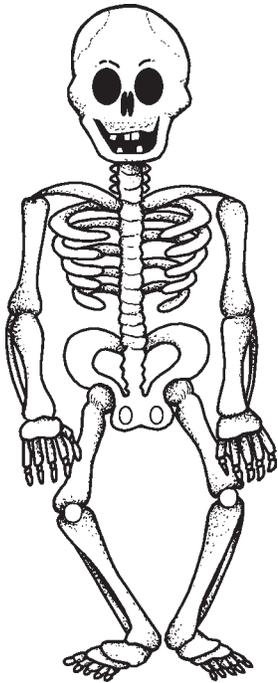
### A "Hip" - py Tune

Try your hand at making up a song about your "bones"!

I'm sure you recall the tune "The hip bone's connected to the thigh bone, the thigh bone's connected to the knee bone and so on....."

See what kind of a "hip" - py tune you can come up with.

Your lyrics could be sung to a familiar tune. Perhaps "Brother John!"



# The Skeletal System

## Activity Nine

### Mr. Bones

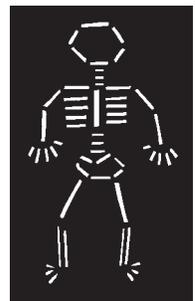
Pencil a skeleton on black or dark blue construction paper.

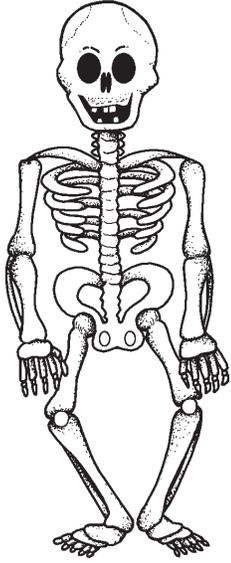
Take a handful of wooden toothpicks.

Cut or break them into pieces.

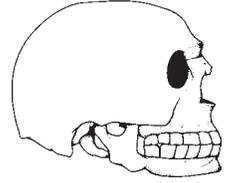
Glue them onto your sketch to make a bone-a-rific skeleton.

**Example:**





# The Skeletal System



## Activity Ten

### Bone Up on Writing

A pitiful sight we would be if we were mere skeletons walking about the streets or dangling ominously from tree branches.

At Hallowe'en, the mere sight of these spindly creatures is a little unnerving.

What could happen if you could reverse this universal view of the skeleton?

What would happen if a skeleton man appeared in your backyard and he turned out to be a warm, loving bundle of bones?

How would you protect him?

What name would you give him? The Boney Man, Frank N. Stein or perhaps Mr. Skelly Ton?

How would you protect him?

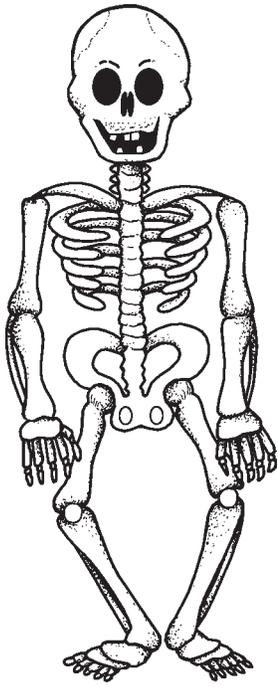
Would you tell your parents and friends?

What opposition would you face?

What would the end result be?

How would your story turn out?

**Bone up on writing and share your experience!**



# The Skeletal System

## Activity Eleven

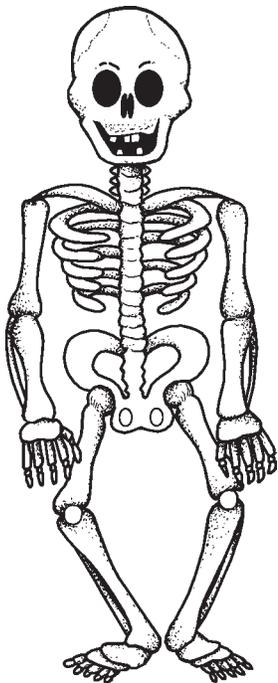
### Bare Bones

From a piece of Bristol board, draw and cut out a model of a skeleton.

Attach the bones together with paper fasteners.

Label your skeleton with the names of bones.

Hang your skeleton in the classroom.



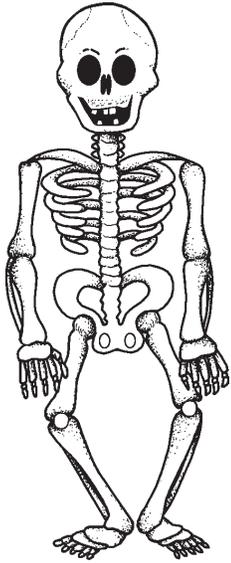
# The Skeletal System

## Activity Twelve

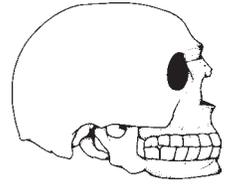
### Bone - less

Imagine that you have no skeleton!

Write a descriptive paragraph about what life would be like if human beings had no bones.



# The Skeletal System



## Activity Thirteen

### Get Off on the Right Foot

Put your foot into this puzzle and try it on for size.

All you have to do is read the definitions and see how many compound words containing the word "foot" you can figure out.

Your dictionary may be required.

The number of lines tells you how many letters to use.

- |                                      |            |
|--------------------------------------|------------|
| 1. impression found in the sand      | foot _____ |
| 2. an insert at the bottom of a page | foot _____ |
| 3. tired of walking                  | foot _____ |
| 4. to be in someone's way            | _____ foot |
| 5. boots and socks                   | foot _____ |
| 6. servant or page                   | foot _____ |
| 7. popular game                      | foot _____ |
| 8. a boxer uses it                   | foot _____ |
| 9. lying at the base of a mountain   | foot _____ |
| 10. for resting feet on              | foot _____ |
| 11. a new-comer                      | _____ foot |
| 12. hurry                            | _____ foot |
| 13. the sound made by a foot         | foot _____ |
| 14. used to cross water              | foot _____ |

# The Skeletal System

## Activity Fourteen

### "Hands" - on Riddles

**Who is the strongest man in the world?**

(A policeman because he can hold up traffic with one hand.)

**What did the left hand say to the other hand?**

(It seems as if you are always right!)

**Why do hands like to vacation in Hawaii?**

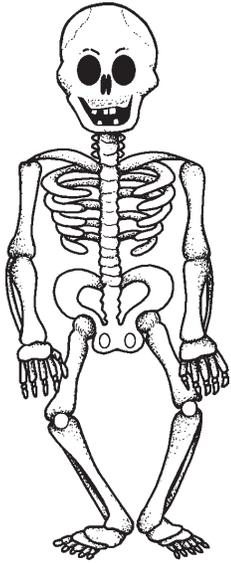
(They like the palm trees there.)

Do these riddles make you smile?

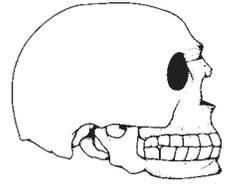
**Read** a joke or riddle book in your resource center (library).

Copy **one** that tickles the funny bone or **write** one of your own.

Share your "hand"-picked favorite with a classmate.



# The Skeletal System



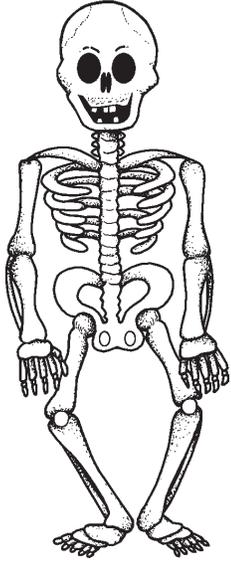
## Activity Fifteen

### Body Language

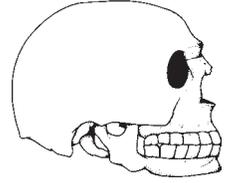
The following are common expressions that mention parts of the human body.

Do a little research and write the meaning for each one.

1. a skeleton crew \_\_\_\_\_
2. be on your toes \_\_\_\_\_
3. nothing but skin and bones \_\_\_\_\_
4. put your foot down \_\_\_\_\_
5. two heads are better than one \_\_\_\_\_
6. out of sight, out of mind \_\_\_\_\_
7. get off on the right foot \_\_\_\_\_
8. have one foot in the grave \_\_\_\_\_
9. it costs an arm and a leg \_\_\_\_\_
10. foot of the stairs \_\_\_\_\_
11. your inner self \_\_\_\_\_
12. a hard head \_\_\_\_\_
13. to have a bone to pick \_\_\_\_\_
14. hand over fist \_\_\_\_\_



# The Skeletal System



## Activity Sixteen

### An Unemployed Skeleton

Imagine that you are a skeleton who is presently unemployed.

You are browsing through the "Ghostly Daily News" when you happen upon a want ad.

#### **Wanted!**

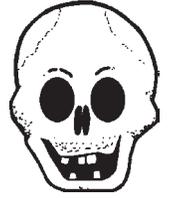
Skeletons to appear in a new horror fiction movie entitled "The Horror of Skeleton Cove". Your opportunity to be a famous movie star. Excellent wages and benefits. Experience an asset. To arrange an interview, phone Frank N. Stein Studios at 726 - GHOST.

Upon arrival at the studio you are requested to fill out the employee application form.

Complete the form on the next page.



# The Skeletal System



**Frank N. Stein Studios**

## **Employee Application Form**

1. Name: \_\_\_\_\_  
(Last) (First) (Middle)

2. Address: \_\_\_\_\_

3. Describe your job experiences (past haunting jobs, what you were expected to do and whether or not you were successful).

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4. Have you had any courses in acting? If so, where? What are your favorite roles?

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5. Do you have any special qualities as a skeleton actor? (For example, do you make any favorite scary, startling noises?)

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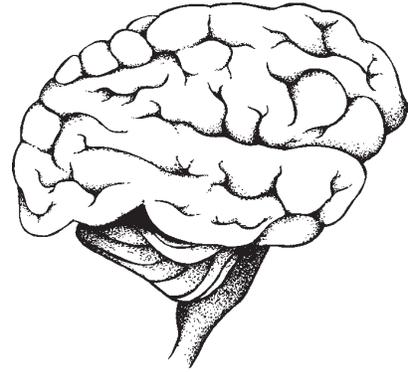
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# The Brain



## Activity One Job Description

The brain occupies the entire top floor of the skull and from this lofty fortress it guides and controls you. The brain organizes the scattered parts of your body into one unit, makes you aware of things, and incites you to action.

The brain is divided into three sections:

1. the medulla
  2. the cerebellum
  3. the cerebrum
- 
- a) Do some research and write a job description telling what each part of the brain does.
  - b) Which is the busiest section of the brain?
  - c) Which is the largest part of the brain?
  - d) Label a diagram of the brain. Mark on the names of the three parts.



# The Brain

## Activity Two The Centers of the Brain

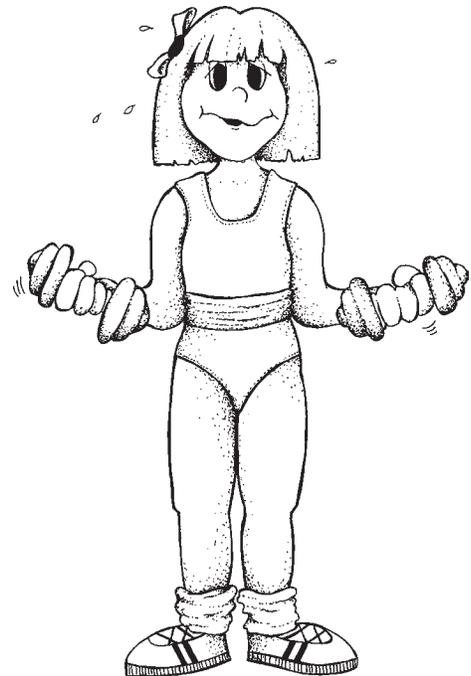
Every second your brain receives and sorts out 100 million messages.

The messages come from your five senses: seeing, hearing, touching, smelling, and tasting.

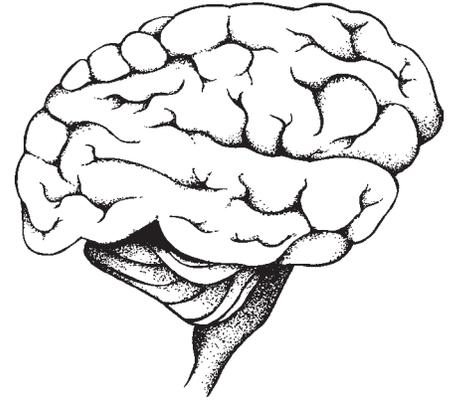
On a diagram of the brain, show where the center of each of our senses is located.

There is also a speech center, a motor center from which messages are sent to the muscles, and a center for reasoning.

Can you label these centers as well?



# The Brain



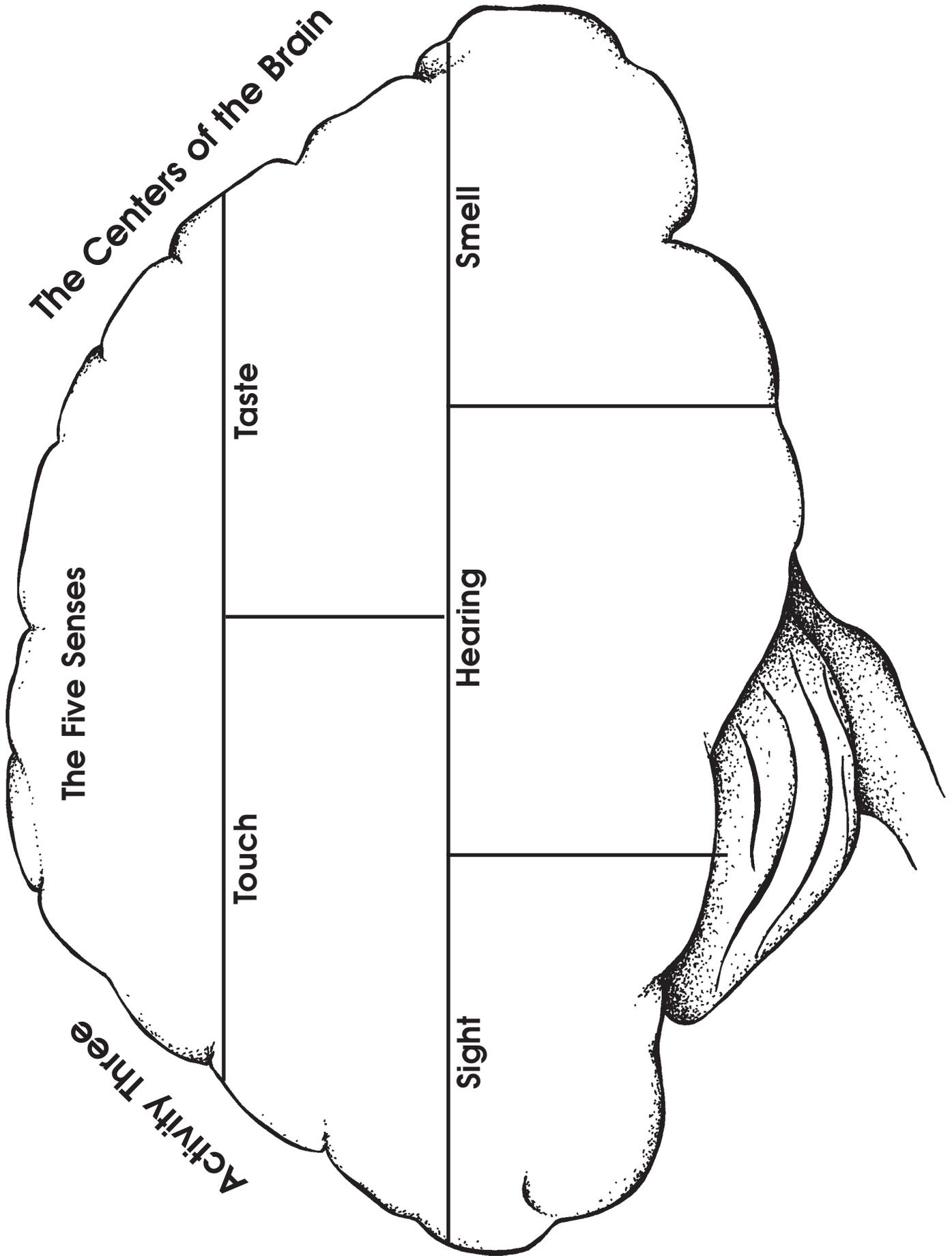
## Activity Three

### Does This Make "Sense"?

Using the dictionary, find the meanings of the following words.

Then write the words under the proper headings on the picture of the brain to tell which of the five senses they are most likely associated with.

monocle	pressure	acoustic
echolocation	ambrosia	retina
friction	sonar	nasal
optometrist	hors d'oeuvre	olfactory
iris	coarse	palatable
cochlea	aroma	bitter
redolent	texture	smooth
sour	spongy	pungent
sweet	spicy	odor
noise	rough	flashing
crashing	musty	delicious



# The Brain

## Activity Four

### The Sixth Sense

The brain consists of five sense areas:

- hearing
- seeing
- feeling
- smelling
- tasting

However, you may recall hearing about "the sixth sense".

Some people believe that we have extra senses that we are not aware of.

The sixth sense is better known as extrasensory perception or E.S.P.

There are different types of E.S.P.

To better understand this "extra" sense do some reading on the subject and write a sentence or two about the following types of E.S.P.

1. telepathy
2. psychokinesis
3. precognition
4. clairvoyance

# The Brain

## Activity Five

### Brain Bogglers

Exercise is vital – to brains as well as bodies.  
We must train the brain by challenging it  
with problems to think about and solve.

See how "brainy" you can be.  
Figure out these brain bogglers.

1. Use the numeral 8 three times in an equation to equal seven.

**Answer:** \_\_\_\_\_

2. What 15 coins can you use to make a dollar?

**Answer:** \_\_\_\_\_

3. Look at the following numerals. If you leave them in this order and insert only addition and subtraction signs, what will the equation be?  
1234567890 = 100

**Answer:** \_\_\_\_\_

4. A farmer had 36 cows. All but 15 of them died. How many cows did the farmer have left?

**Answer:** \_\_\_\_\_

5. At a horse race there were several horses and jockeys. If there were 82 feet and 26 heads, how many horses and how many jockeys were there?

**Answer:** \_\_\_\_\_

6. Arrange 16 toothpicks to form this pattern. Remove 10 toothpicks so that you are left with only 2 triangles.



**Answer:** \_\_\_\_\_

# The Brain

## Activity Six

### Capitalizing on Brains

Copy the following sentences and supply all necessary capital letters and punctuation marks.

1. the brain is divided into three sections – the cerebrum the cerebellum and the medulla

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2. the human brain is grayish-pink in color and weighs about 1.4 kilograms (three pounds)

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3. the cerebrum weighs the most totaling 85 per cent of the 1.4 kilograms (three pounds)

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4. shielding the brain from hard blows are hard bones called the cranium

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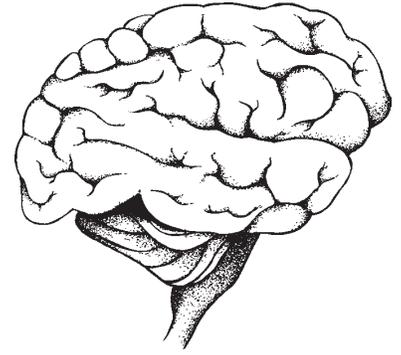
5. the brain is at its full weight by the time a person is six years old

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# The Brain



## Activity Seven

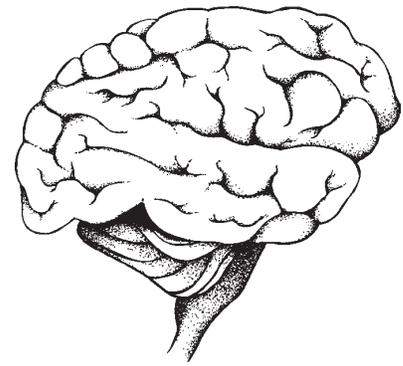
### "Brainy" Words

Fill in the blanks with the appropriate "brainy" words located in the box. Use a dictionary to help you.

<b>brain wave</b>	<b>brainwash</b>	<b>brain teaser</b>
<b>brainpan</b>	<b>brain drain</b>	<b>brain fever</b>
<b>brain child</b>	<b>brainless</b>	<b>brainstorm</b>
<b>brainy</b>		

1. To alter one's beliefs by intense instruction is to \_\_\_\_\_.
2. A rhythmical fluctuating of the electrical power of the brain is known as a \_\_\_\_\_.
3. The cranium or skull is known as the \_\_\_\_\_.
4. An original idea or technique which someone creates is known as a \_\_\_\_\_.
5. To inspire and generate ideas is to \_\_\_\_\_.
6. The shortage of professional or skilled labor to other countries is called \_\_\_\_\_.
7. Someone who performs stupid or foolish acts is said to be \_\_\_\_\_.
8. Someone who is clever or very intelligent is often referred to as being \_\_\_\_\_.
9. A puzzle that tests a person's ability to reason is called a \_\_\_\_\_.
10. Meningitis or encephalitis are two types of \_\_\_\_\_ that can affect the human brain.

# The Brain



## Activity Eight

### Great Minds

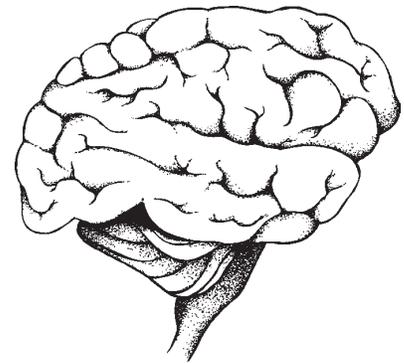
If you were able to choose from a gallery of geniuses, whose brain would you be interested in receiving?

Do some research on the following great minds of all times.

Choose one that interests you and pretend that you are that genius for a day.

**Great Minds:** Mozart      Rembrandt  
Newton      Einstein  
Da Vinci      Galileo

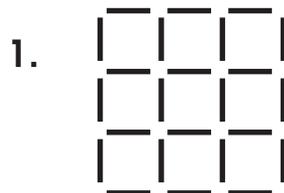
# The Brain



## Activity Nine

### Brain Teasers

Give your mind a workout by solving these brainteasers.



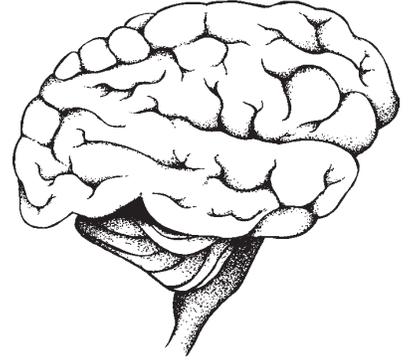
Set up the toothpicks as shown.

**Goal:** To end up with five squares by removing only four toothpicks.

2. **Goal:** To have every column horizontally and vertically total 24 (exclude the diagonals).

		9	
9			
	8		9
9		7	

# The Brain



## Activity Ten

### Good "Sense" Writing

Good writers use their senses when they write.

Tune in to your senses as you explore the following areas to write about.

1. Using your sense of sight, write a paragraph describing a scene or an event.

Tell about color, shape, size – everything that will help the reader **see** exactly what you see.

2. A good writer tries to make the reader **hear** a story as well as see it.

Choose a topic to write about, paying special attention to sounds as you write.

3. You can make your writing more interesting by appealing to your reader's sense of **smell**.

Write a paragraph describing a place, perhaps a bakery or a flower shop, paying special attention to smells. Some words that you might use are "fragrant", "spicy", "fruity", "flowery", "piny", etc.

4. Life would be quite dull without a sense of **taste**.

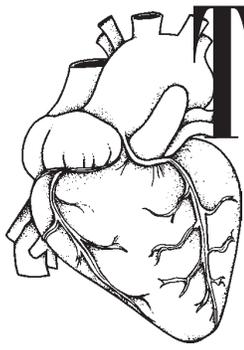
Write a paragraph telling how your favorite meal tastes.

Use words like "hot", "salty", "sweet", "sour", "tangy", "bitter", "spicy", etc.

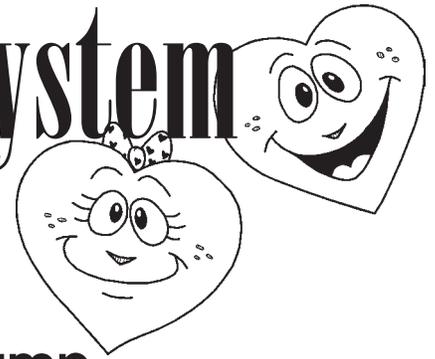
5. The sense of **touch** is a way of learning about the things around you.

Use touch words such as "smooth", "sleek", "rough", "sharp", "cold", "wet", etc., and write a paragraph about an animal.

Describe it carefully, especially how it feels to the touch.



# The Circulatory System



## Activity One

### The Heart - The Living Pump

The Circulatory System is made up of the heart, the blood vessels, and the blood. This system has a special job to do.

Read about the heart in an encyclopedia before you begin.

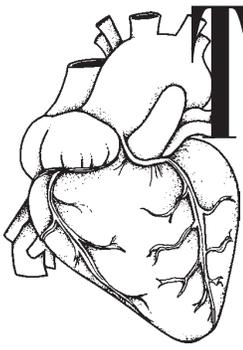
To understand how this system works, read the following paragraph and fill in the missing words.

Choose from the words in the box below.

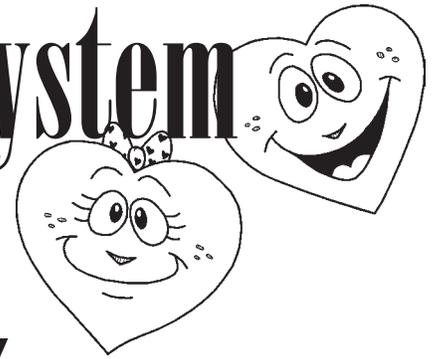
<b>aorta</b>	<b>auricle</b>	<b>bluish</b>	<b>carbon dioxide</b>
<b>chambers</b>	<b>cycle</b>	<b>red</b>	<b>ventricle</b>
<b>oxygen</b>	<b>vessel</b>		

A wall of muscle separates the heart into two parts called \_\_\_\_\_ . Both chambers work at the same time and act like pumps. Each chamber has an upper part called the \_\_\_\_\_ and a lower part called the \_\_\_\_\_. The right pump sends oxygen-poor and carbon dioxide-rich blood to the lungs.

In the lungs, the blood gets rid of the \_\_\_\_\_ and takes on a fresh supply of \_\_\_\_\_. The blood with carbon dioxide is \_\_\_\_\_ in color and the blood with oxygen is bright \_\_\_\_\_. The left pump receives the bright red blood from the lungs and sends it to all parts of the body through the main blood \_\_\_\_\_ called the \_\_\_\_\_. This completes the pumping \_\_\_\_\_.



# The Circulatory System

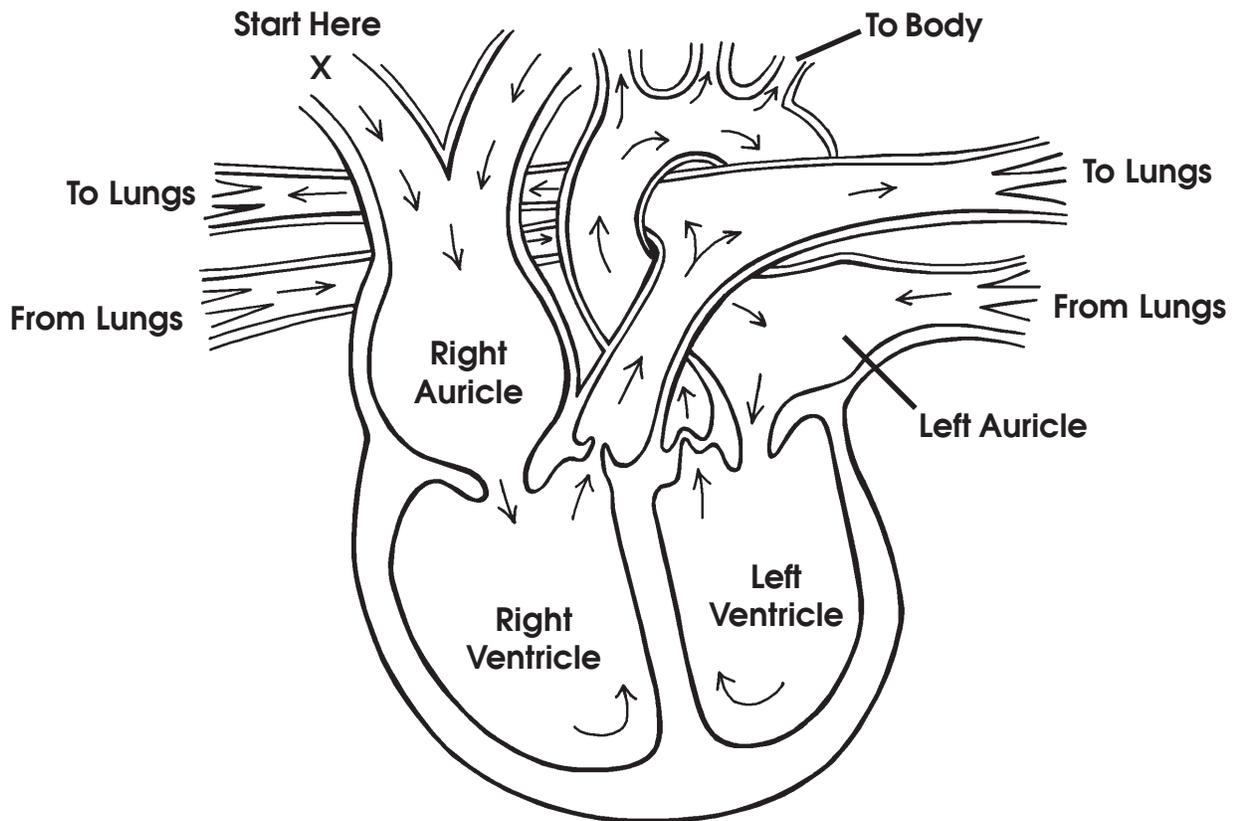


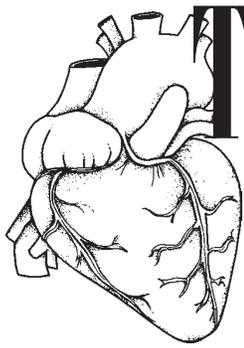
## Activity Two

### The Heartfelt Journey

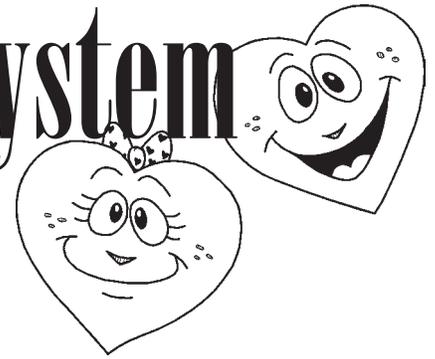
More than one thousand times a day our blood makes a round trip through our bodies. To better understand the path of the blood as it passes through the heart, read the following directions outlined below (a red and blue colored pencil will be essential).

- A) Use a blue colored pencil to represent oxygen-poor blood. Begin at the X and following the arrows, color the blood flowing into the right auricle. Continue coloring down into the right ventricle. Then follow the arrows to the lungs.
- B) Use a red colored pencil to represent oxygen-rich blood. Color from the lungs, through the left auricle. Color down into the left ventricle. Follow the arrows that lead to the rest of the body.





# The Circulatory System



## Activity Three

### "Heart" - y Words

There are many words that contain the word "heart". Use the words located in the box to complete the following sentences.

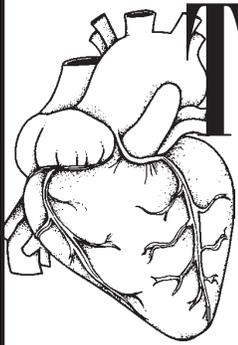
hearty  
heartfelt  
heartsick

hearth  
heartily  
heartburn

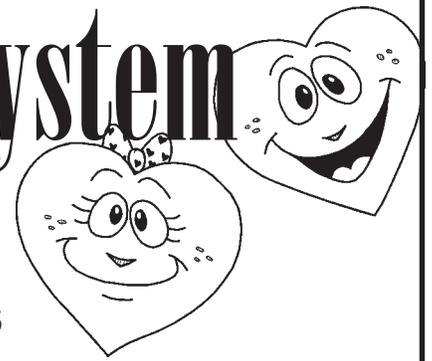
heartless  
heart-shaped  
heartbroken

heartbeat  
heartworm  
heartstrings

1. The hungry boy \_\_\_\_\_ ate the whole pepperoni pizza.
2. She gave her \_\_\_\_\_ promise to her mother that she would keep her room tidy.
3. John gave a \_\_\_\_\_ laugh after hearing the joke.
4. The brick layer laid the \_\_\_\_\_ of the fireplace.
5. He suffered from \_\_\_\_\_ after eating too much cake at the birthday party.
6. Mary was \_\_\_\_\_ when she found out her dog had died.
7. The coach lost the respect of the players because he seemed cruel and \_\_\_\_\_ when he spoke to them about losing the game.
8. Michael bought his mother a \_\_\_\_\_ box of chocolates for Valentine's Day.
9. The mother was \_\_\_\_\_ when her son died in a car accident.
10. The doctor listened for my \_\_\_\_\_ with his stethoscope.
11. We gave our dog pills to protect him from getting the \_\_\_\_\_ disease.
12. The sight of the sad little puppy curled up in the corner of the cage pulled at the \_\_\_\_\_ of my heart, so I bought him.



# The Circulatory System



## Activity Four

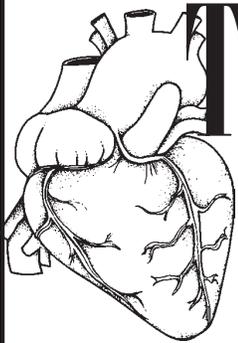
### "Heart" - y Pioneers

Research some scientists who have made important contributions to the study of the heart.

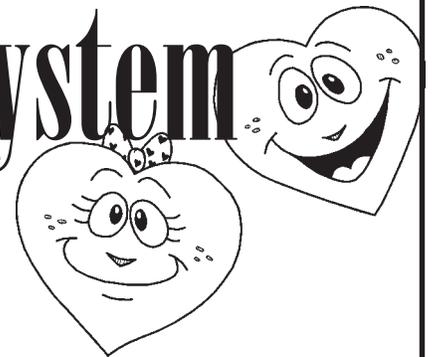
Write a sentence or two telling what they have discovered. Then choose one of them. Design a postage stamp to honor the scientist that you chose.

Some pioneers in the field of heart research are:

1. Dr. William Harvey
2. Dr. René Lāennec
3. Dr. Willem Einthoven
4. Dr. F. John Lewis
5. Dr. Christiaan Barnard
6. Dr. Robert Jarvik



# The Circulatory System



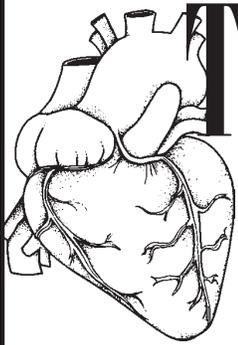
## Activity Five

### Take Heart

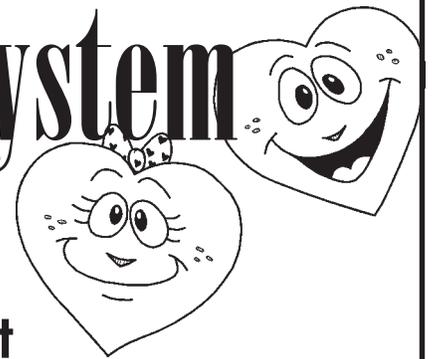
The three best ways to take care of the heart are:

1. Exercise
2. Get plenty of rest
3. Eat the proper foods

Draw a poster showing how each of the facts is important in order to have a healthy heart.



# The Circulatory System



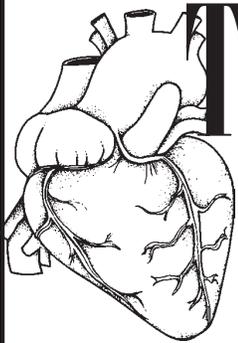
## Activity Six

### Words From the Heart

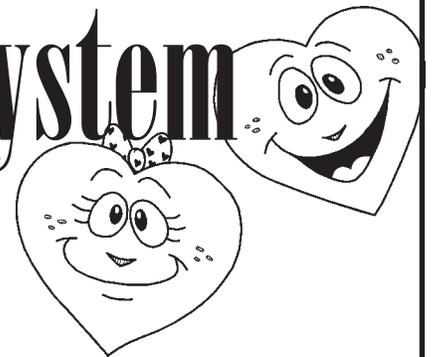
Put the following "hearty" vocabulary in alphabetical order.

Then locate each word in your dictionary and write its meaning.

1. heartsick
2. heartfelt
3. heartache
4. heartland
5. heartstrings
6. hearty
7. heartbeat
8. heartless
9. heartbroken
10. heartburn



# The Circulatory System



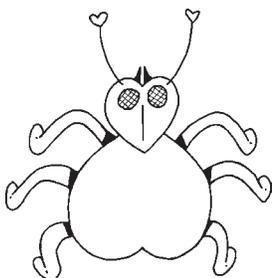
## Activity Seven

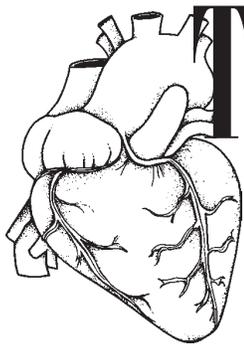
### Heart Art

Choose any bird, fish, or animal that interests you.

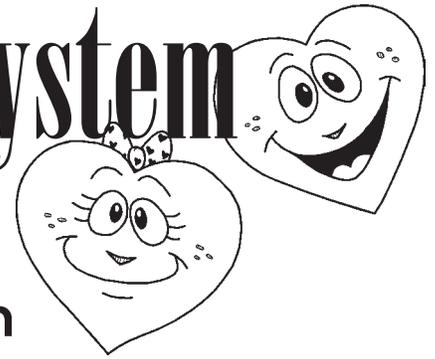
Using construction paper make your choice using heart shapes only. You may overlap the shapes but remember - every part must be in the shape of a heart.

Display your heart - y creature on a bulletin board.





# The Circulatory System



## Activity Eight

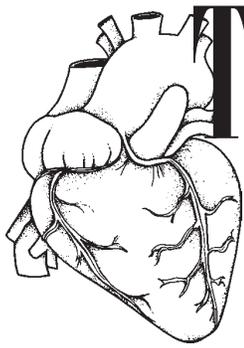
### Exercise Word Search

One way for you to stay healthy is to exercise regularly. There are many different games and exercises to help you stay fit.

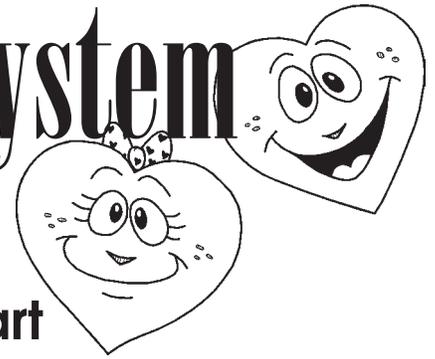
Circle those that you can find hidden in this word search. Words will be spelled up, down, backwards, or diagonally.

A	L	J	Q	Z	D	N	K	U	X	F	K	I	C	K	B	A	L	L	K
U	P	Z	H	N	C	Y	T	M	C	F	S	I	C	D	S	U	I	C	F
X	S	U	M	K	S	Q	M	H	F	V	J	D	A	T	C	L	F	A	V
P	R	X	C	S	H	O	N	P	R	U	N	W	F	M	H	H	R	W	Y
B	D	G	I	W	O	Y	C	F	I	W	Z	G	M	J	A	I	T	W	R
T	X	O	G	S	M	F	H	C	W	P	Z	G	A	J	S	D	A	W	R
E	G	L	A	K	L	Q	T	W	E	L	B	G	Z	Q	E	E	G	B	W
N	J	F	G	I	X	W	H	B	B	R	G	Z	S	W	J	A	L	I	G
N	Y	V	L	I	I	G	Y	T	A	R	I	G	K	B	V	N	P	C	M
I	G	X	S	N	M	H	B	A	A	L	F	D	A	F	K	D	K	Y	J
S	K	K	N	G	L	N	P	Q	Q	U	L	T	T	Z	Y	S	C	C	O
F	L	G	Y	M	N	A	S	T	I	C	S	S	I	Y	F	E	B	L	G
K	Q	V	F	I	S	V	X	F	K	M	V	X	N	F	M	E	O	I	G
K	V	E	C	H	V	S	W	Y	G	A	L	V	G	Q	C	K	W	N	I
L	V	S	J	G	P	V	A	J	E	P	V	J	L	G	Y	D	L	G	N
V	J	L	A	V	I	G	L	B	X	W	O	E	B	X	U	A	I	S	G
M	G	B	W	Q	O	I	K	B	Y	R	S	Q	T	Z	A	N	N	G	J
T	Z	E	J	U	M	P	R	O	P	E	J	W	P	Z	G	C	G	J	L
P	U	J	O	T	S	Y	D	B	I	T	Q	D	I	B	O	E	S	X	B
M	U	X	E	O	F	O	O	T	B	A	L	L	H	M	T	K	A	D	Y

football	skating	soccer	dance	kickball
chase	swim	golf	gymnastics	bowling
walk	tag	softball	jump rope	tennis
jogging	hide and seek	run	bicycling	skiing



# The Circulatory System



## Activity Nine

### Expressions of the Heart

People use the word "heart" in many different sayings.

Some of these sayings are in **Column A**. In **Column B** are the meanings. Can you match them correctly? Record the numeral beside each saying on the line beside its meaning.

#### Column A

1. heart and soul
2. it does my heart good
3. his heart is in the right place
4. heartbreak
5. wear one's heart upon one's sleeve
6. his heart is in his mouth
7. eat one's heart out
8. cry your heart out
9. take things to heart
10. learn by heart
11. after my own heart
12. break my heart
13. cross my heart
14. get to the heart of
15. with all my heart and soul

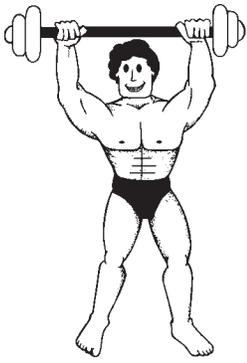
#### Column B

- \_\_\_\_\_ he means well
- \_\_\_\_\_ lack proper reserve
- \_\_\_\_\_ with all one's energy
- \_\_\_\_\_ alarmed, startled
- \_\_\_\_\_ overwhelming distress
- \_\_\_\_\_ it makes me rejoice
- \_\_\_\_\_ from memory
- \_\_\_\_\_ pine away from anger
- \_\_\_\_\_ cry violently
- \_\_\_\_\_ to be affected by things
- \_\_\_\_\_ with all my love and energy
- \_\_\_\_\_ pleases me perfectly
- \_\_\_\_\_ make the sign of the cross
- \_\_\_\_\_ over my heart
- \_\_\_\_\_ find out the secret or hidden secret
- \_\_\_\_\_ to make someone sad

Now try illustrating one of these sayings in its literal sense. For example "cold-hearted" could look like this:



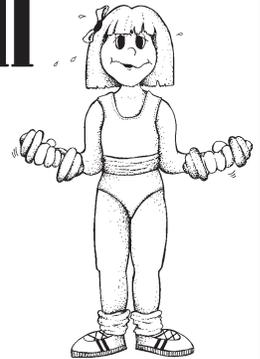
"cold-hearted"



# The Muscular System

## Activity One

### Muscles - Your Body's Movers



Look up the words **voluntary** and **involuntary**.

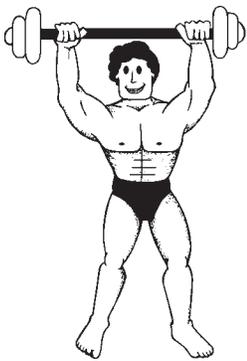
Do some research and find out what voluntary muscles and involuntary muscles are.

Why are voluntary muscles sometimes called "striped muscles"?

Can you find another name for involuntary muscles?

**All** of your muscles work together to produce action.

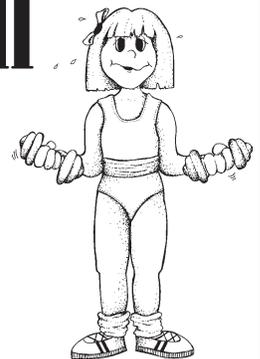
Draw an action picture of yourself playing your favorite game or sport.



# The Muscular System

## Activity Two

### Muscles Versus Bones

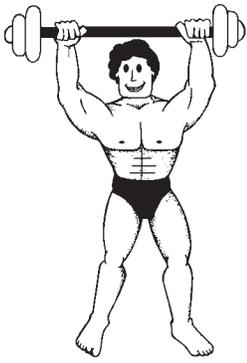


Pretend that your muscles and bones are able to talk.

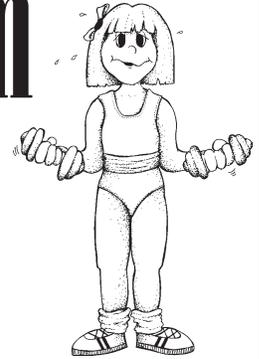
Each system thinks that it has a more important job to do than the other one in the movement of the body.

Divide a 23 cm X 28 cm (9" X 11") piece of drawing paper into six sections and draw a cartoon strip to illustrate the conversation between your muscles and your bones.

**Be creative in your drawings.**



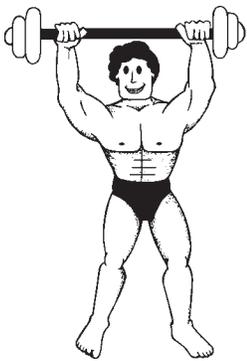
# The Muscular System



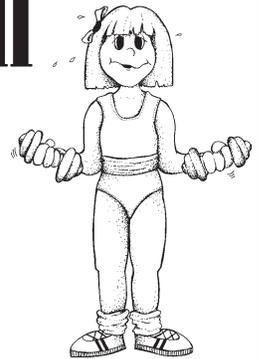
## Activity Three

### Muscle Malady

- Part A:**
1. Have you ever heard of a "Charley horse"? What is it? What does it have to do with the muscular system? Consult a reference book or encyclopedia for assistance.
  2. Try to write a convincing story about why the "Charley horse" was so named.
- Part B:**
1. What is "housemaid's knee"? Ask your parents, grandparents, or a neighbor. Use a dictionary, medical text, or resource books to come up with an answer.



# The Muscular System



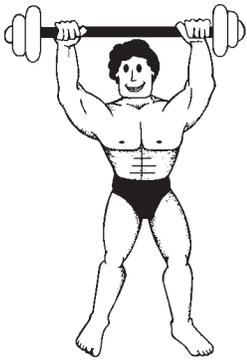
## Activity Four

### Order, Order

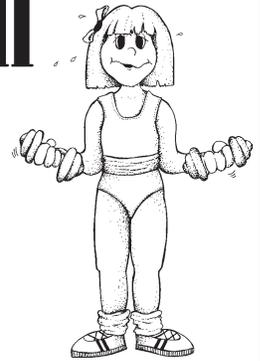
Muscles give your body great power.

See how much power you have to write in alphabetical order the following words related to the muscular system.

1. contract, cartilage, cardiac, connective, cells
2. flesh, facial, frown, feelings, fibres
3. muscles, motor, messages, markings, movers
4. structure, stomach, skeletal, striped, strong
5. trunk, threadlike, thousands, twined, tendon
6. vein, voluntary, vessels, vigorous, vitamins



# The Muscular System

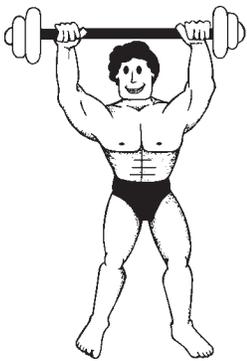


## Activity Five

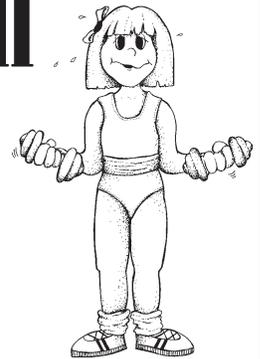
### Steroids

Evidence strongly indicates that there is widespread use of steroids among athletes internationally in both amateur and professional sports.

- A) What are steroids?  
How do they affect your muscles?  
Why has the International Olympic Committee banned their use among participating athletes?
- B) Create a poster discouraging healthy, strong athletes from using steroids.



# The Muscular System



## Activity Six

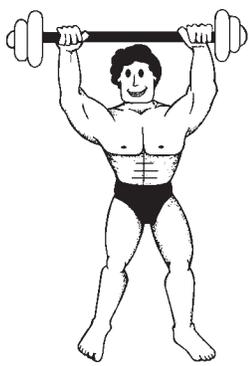
### Let's Face It

Did you know that 17 muscles come into action when you smile and 43 muscles are needed for a frown? Save muscle power: Smile!

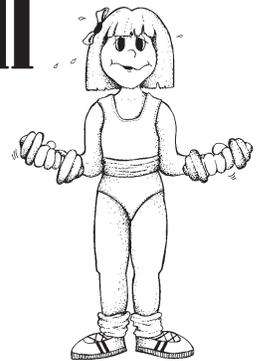
We communicate more easily because of these muscles. Some emotions that we can express are happiness, sadness, anger, surprise, boredom, discouragements and fear.

Choose any **two** emotions and draw a picture of a face illustrating these emotions. Pay careful attention to lines around the eyes and mouth.

Next write a short story explaining why the person in your drawing is feeling that way.



# The Muscular System



## Activity Seven

### The Hulk

Advertising encourages people to buy certain products, especially if these products will help make someone look better or be more popular.

For example, if a world famous weight lifter did a television commercial promoting the latest in health care – "Nutri-Bulk" – sales would likely soar!



Now make up your own commercial about one of the health products listed below.

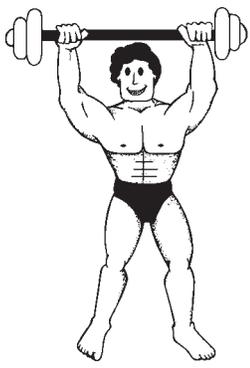
Famous people are often used to sell products.

Who would you hire to do your advertisement? Tell why.

What slogan would you use?

1. Vita-Bites (*cereal*)
2. Chocolate Nutri-Shake (*beverage*)
3. Insta-Salad (*vegetable*)
4. Fruit Chewies (*snack*)

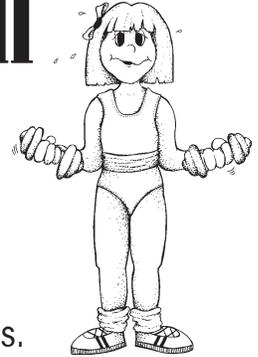
Challenge your "brain muscle" and come up with an advertising technique that will appeal to the strong and mighty!



# The Muscular System

## Activity Eight

### Getting the "Gist" of It



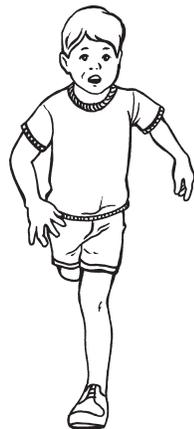
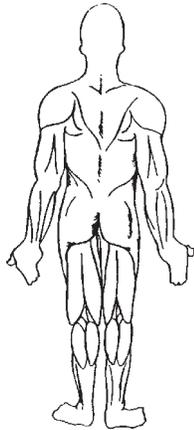
"Myologists" are people who specialize in the study of muscles.

Words that end in "- ologist" refer to people who study one particular subject.

Listed below in **Column A** are people who specialize in studying certain aspects of the human body. **Column B** lists the field in which they are specialists. Using a good dictionary or reference books, match the people in Column A with what they study in Column B.

#### Column A

1. myologist
2. ophthalmologist
3. neurologist
4. osteologist
5. gastroenterologist
6. pathologist
7. urologist
8. otolaryngologist
9. dermatologist
10. cardiologist



#### Column B

- \_\_\_ studies the skin and hair
- \_\_\_ studies the eye
- \_\_\_ studies bones
- \_\_\_ studies tissues of the body
- \_\_\_ studies the kidneys
- \_\_\_ studies the stomach
- \_\_\_ studies nerves and the brain
- \_\_\_ studies the heart
- \_\_\_ studies the ears, throat, and nose
- \_\_\_ studies muscles



## Activity One

### The Inside Story on Teeth

In order to learn more about teeth, read the following sentences and fill in the missing words which you will find located in the box below.

<b>bicuspid</b>	<b>brush</b>	<b>cavities</b>	<b>cuspid</b>	<b>decay</b>
<b>dentist</b>	<b>enamel</b>	<b>floss</b>	<b>incisors</b>	<b>molars</b>
<b>plaque</b>	<b>twelve</b>			

1. The hard outer covering of the crown is called \_\_\_\_\_ which is the only part of the tooth visible to the eye.
2. The eight front teeth which cut food are called the \_\_\_\_\_.
3. Four teeth called \_\_\_\_\_ tear up food into smaller bits. These teeth have a point.
4. When you get your permanent set of teeth, you get eight \_\_\_\_\_ which are used to crush your food into smaller pieces. These teeth have two points.
5. The real work of chewing is done with the \_\_\_\_\_ in the back of your mouth. You will have \_\_\_\_\_ of these when all your permanent teeth come in.
6. The most common problem with teeth among children is tooth \_\_\_\_\_. This begins in the enamel and spreads into the dentine.
7. \_\_\_\_\_ is the sticky layer of harmful bacteria that is constantly forming on your teeth.
8. Foods containing sugar encourage tooth decay. In the presence of sweets, bacteria form acids. These acids cause \_\_\_\_\_.
9. It is wise to \_\_\_\_\_ and \_\_\_\_\_ after eating.
10. To help prevent tooth decay visit your \_\_\_\_\_ regularly.



# The Teeth

## Activity Two

### The Whole Tooth

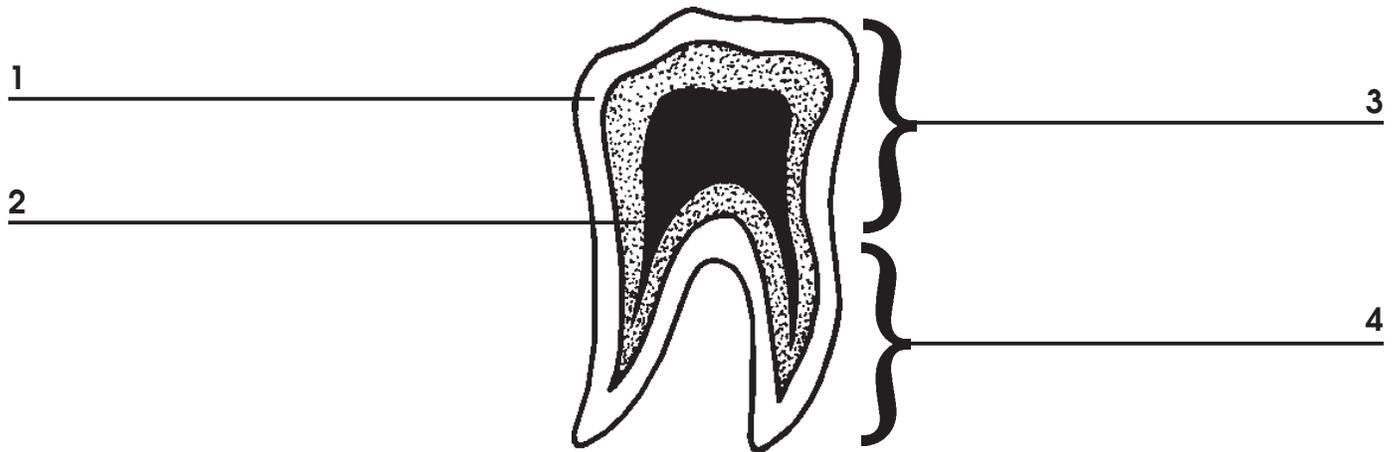
Using the following terms, label the teeth in the diagrams below.

Use a resource book for assistance if necessary.

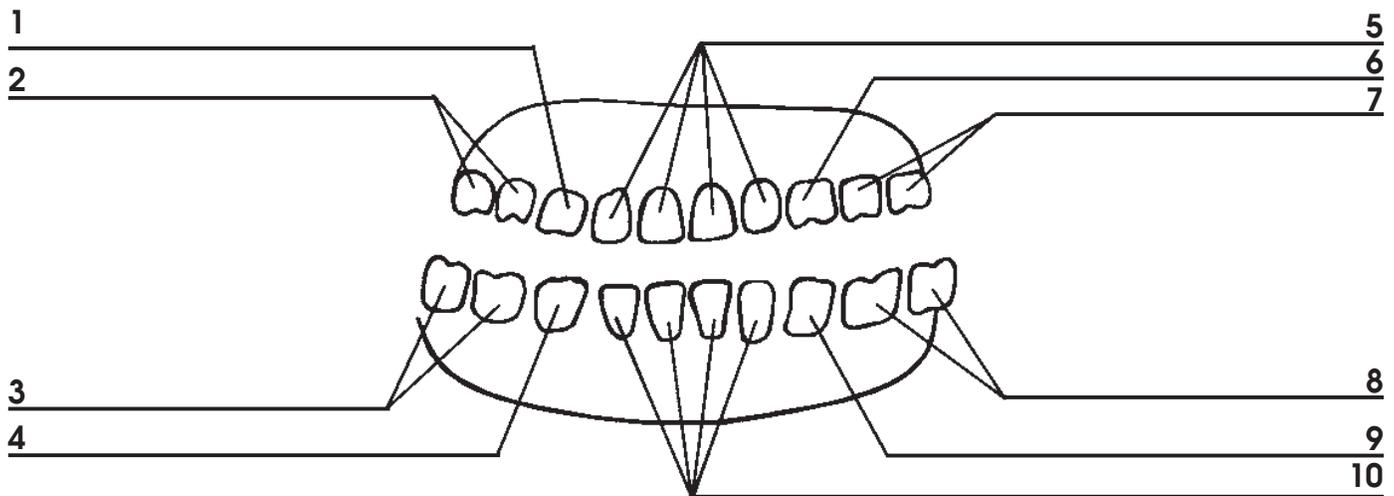
**cuspid, incisors, molars, enamel, crown, pulp, root, dentine**

Some words may be used more than once.

#### Parts of a Tooth



#### Primary Teeth

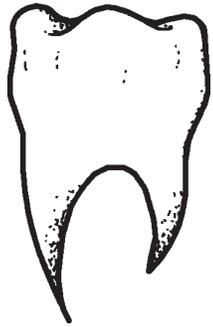




# The Teeth

## Activity Three

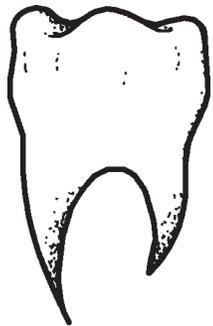
### Dental Health Quiz



Think up six quiz questions pertaining to Dental Health.

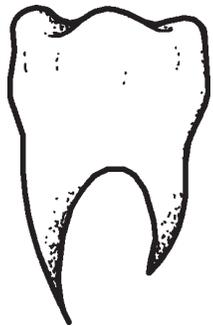
Begin each question using a different word – **who, what, where, why, when,** and **how.**

For guidance and inspiration consult encyclopedias, health books, and other available resource materials.



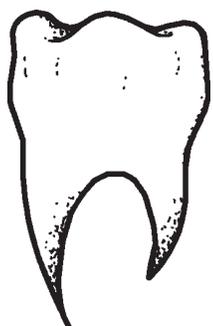
Some examples are:

1. **How** do the gums act to protect your teeth?
2. **Who** has stronger teeth – a child or a dog?
3. **Which** machine determines whether you have cavities or not?



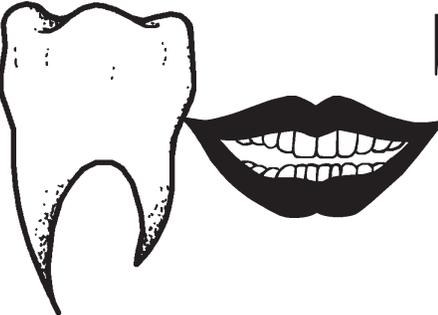
Be sure to answer your six questions on lined paper. Try your quiz on a classmate.

If everyone participates in this activity, the students may write out their questions and put them into a "Dental Health Quiz Box".



Teams may be selected and members may take turns quizzing their opponents.

After an allotted time span, the team having the most members still participating would win.



# The Teeth



## Activity Four

### My Wobbly Tooth

*I bit into my apple  
And what happened, do you think?  
My wobbly tooth  
Came out as fast as a wink!  
I'll put it under my pillow tonight.  
I wonder if the tooth fairy will come  
When I turn out the light?*

Try your own hand at writing a poem about teeth.



# The Teeth



## Activity Five

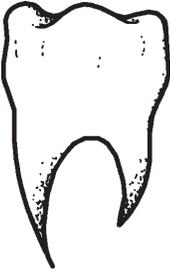
### Toothy Alliteration

See how good you are at composing a tongue twister about dental health.

Try it on a classmate.

Here are two to get you started.

- Clean cuspids cut cucumbers crisply.*
- Magnificent molars make miraculous mighty munchers.*





# The Teeth



## Activity Six

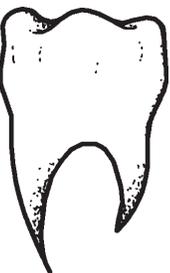
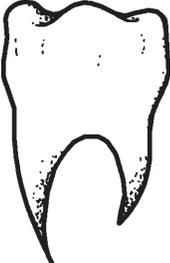
### Brush Up on Toothbrushes!

Do some research and find out how the practice of brushing teeth began.

Write a paragraph about your findings.

Draw a picture of what you think the **first** toothbrush looked like.

Draw a humorous situation illustrating the use of early toothbrushes.



# The Teeth



## Activity Seven

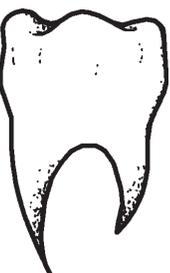
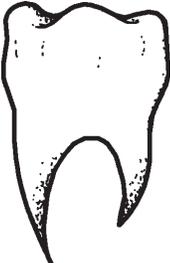
### Toothbrush to the Rescue

Create a super hero whose secret weapon is a toothbrush!

What will you call him?  
What will he wear?  
Whom will he protect?  
What does he look like?

Draw a picture of your super hero and write a story about one of his adventures.

**Be creative! Have fun!**





## Activity Eight

### The Tooth Fairy

Losing that first tooth is such an exhilarating feeling!

You are so anxious to get that tiny, pearly-white tooth to drop into your hand.

You twisted, pulled, yanked, and fiddled until at last you had that precious possession to put under your pillow that night.

The "tooth fairy" would come and leave some shiny coins and take your tooth. It was a miraculous and magical event.

Let your imagination wander to the land of the tooth fairies.

*What is their fairyland like and how does it look?*

*How many fairies live there?*

*What do they look like?*

*Do they watch over children and wait for that special moment?*

*Where do the tooth fairies get all that money that they leave?*

*Do they have a secret cavern overflowing with gold and silver?*

Create a story about this mystical land of the tooth fairies. Write it as a storybook for younger children.

Describe what you would see, hear, and feel in "The Land of the Tooth Fairy". Tell about the joy, the peace, the love and the beauty that surrounds this land.

Add colorful illustrations as well.

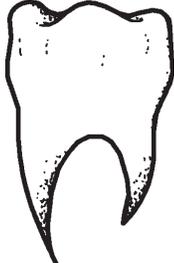




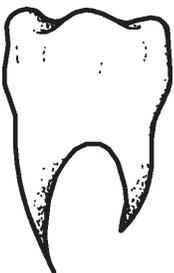
# The Teeth



## Activity Nine Plaque Attack



A jingle is a short rhyme.  
Think of a good jingle for dental health care.  
Write it out and then record it on a tape recorder.  
Perhaps you could even broadcast your jingle on the school's P.A. system during Dental Health Month.



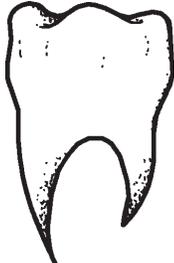
**Example:** *Teeth, teeth  
Be sure to keep them clean,  
So all thirty-two can proudly be seen.  
Brush them, floss them, front and back.  
Be prepared for plaque attack!*



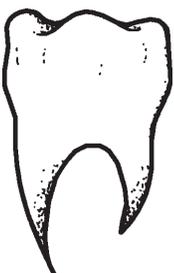
# The Teeth



## Activity Ten Say Cheese!



Make a picture collage of smiles.



Cut pictures from magazines showing teeth and glue them onto a piece of manilla paper.

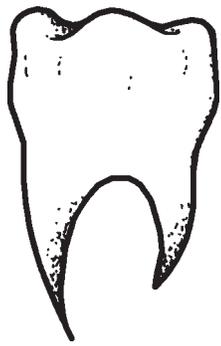
Try to find a variety of pictures showing healthy teeth, a missing tooth, teeth with braces, etc.



# The Teeth

## Activity Eleven

### Story Starters



Write an interesting story about teeth by using one of the following ideas.

1. A trip to the dentist results in you receiving radio transmissions through your new filling!
2. All your teeth started to shudder when they saw a large chocolate bunny approaching them.
3. A very interesting thing happened to you when you were on your way to the dentist.
4. This morning, you looked in the mirror and smiled. You were about to brush your teeth but you suddenly saw something strange.
5. The photographer was about to take your picture. He said, "Say cheese". You did, and he dropped his camera.
6. The other night you were watching television and eating your favorite junk food when suddenly.....
7. When I was six years old I discovered my front tooth was loose. I kept wiggling it but it would not come out. So my father.....
8. I can remember the day I had such a terrible toothache. I was in such.....
9. One day I played a trick on my grandfather. I took his false teeth out of the glass where they were soaking. I decided to.....

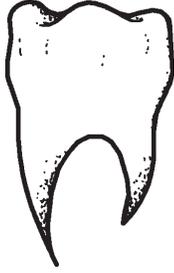


# The Teeth

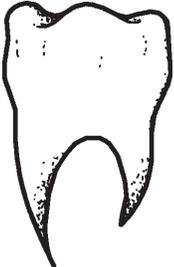


## Activity Twelve

### A Visit to the Dentist



Write a poem or a story, accompanied by a drawing, to tell what happens when a "zoo dentist" treats animals at the zoo.



What would this dentist use for tools - perhaps a hammer or a screwdriver or a large pair of forceps?

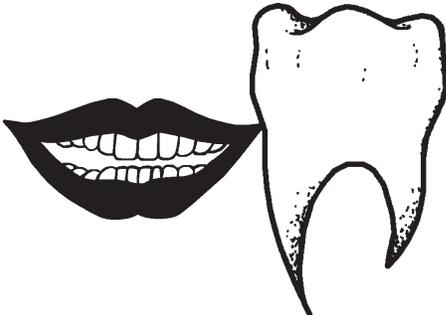
How would he get the animal to open his mouth?

Would a walrus have a toothache or a "tusk" ache?

**Be creative!**

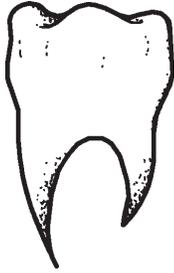


# The Teeth

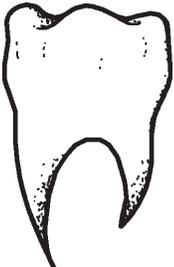


## Activity Thirteen

### Safety Rules



Think of the most common causes of accidents to teeth.



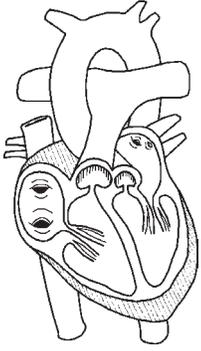
Create a list of safety rules which could be followed by you and your classmates in school and on the playground.

Display the list in your classroom.

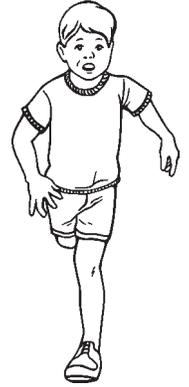
Try to think of **ten** good safety rules that could prevent accidents that break or chip teeth.

Here are two to get you started.

1. Do not push at water fountains.
2. Do not throw stones.



# The Respiratory System



## Activity One

### How We Breathe

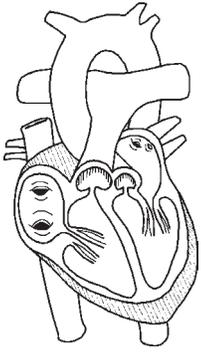
Use the words in the box below to complete the sentences about the respiratory system.

alveoli	breathing	bronchial	bronchioles	bronchus	cells
contraction	diaphragm	exhalation	heart	inhalation	
lungs	larynx	nose	oxygen	pharynx	trachea
trunk	carbon dioxide				

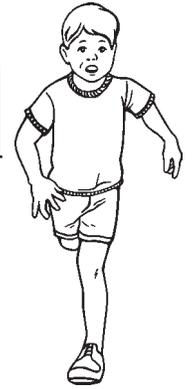
The respiratory organs consist of the \_\_\_\_\_, \_\_\_\_\_ (throat), \_\_\_\_\_ (voice box), \_\_\_\_\_ (windpipe), the \_\_\_\_\_ tubes and the \_\_\_\_\_. Together they form the respiratory system, which supplies the body with \_\_\_\_\_ and removes waste \_\_\_\_\_.

Air is moved in and out of the respiratory system by \_\_\_\_\_. During \_\_\_\_\_ (breathing in), air is drawn in through the nose, pharynx, trachea and bronchi and into the lungs. Inside the lungs, each \_\_\_\_\_ divides repeatedly to form what looks like an upside-down tree. The trachea is like the \_\_\_\_\_ of the tree. It branches into two main bronchi, which branch into \_\_\_\_\_. The smallest bronchioles end in clusters of tiny airbags called \_\_\_\_\_. Oxygen from the air that reaches the alveoli passes into the blood capillaries. This oxygen-rich blood is first carried to the \_\_\_\_\_ and is then pumped to \_\_\_\_\_ throughout the body. Carbon dioxide passes from the blood into the alveoli and is removed from the body during \_\_\_\_\_ (breathing out).

Breathing is the result of muscular \_\_\_\_\_. During inhalation, the \_\_\_\_\_ (a dome-shaped muscle that lies beneath the lungs) tenses and flattens. Muscles between the ribs pull the ribs upward and outwards. The chest stretches and air is drawn into the lungs. When you breathe out, the chest springs back and air flows out.



# The Respiratory System

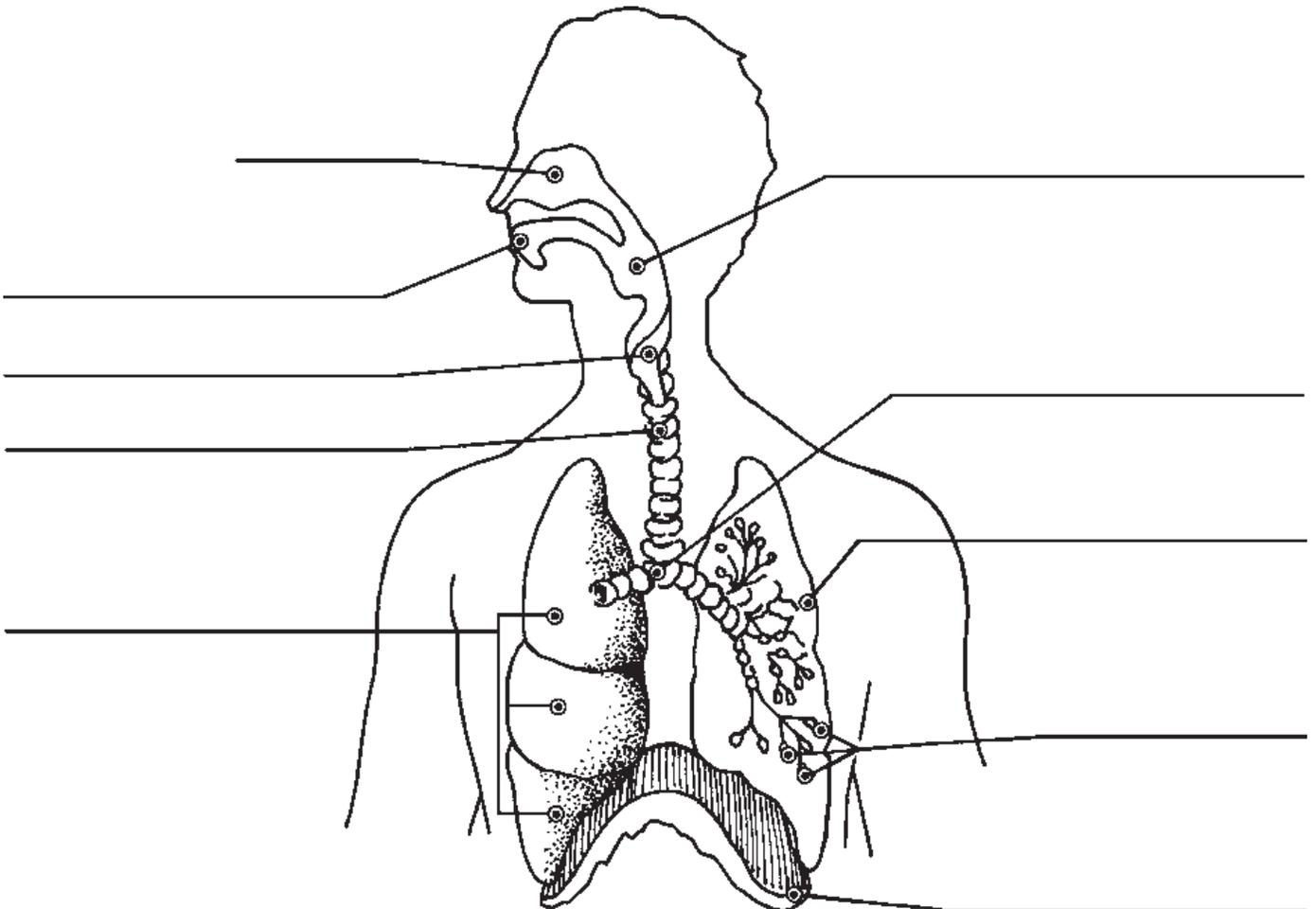


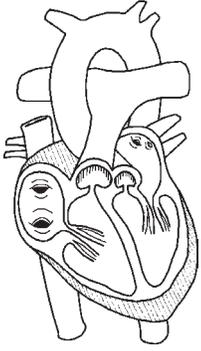
## Activity Two

### Labeling a Diagram

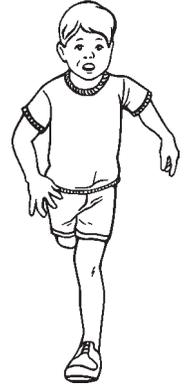
Use the words listed in the box below to label the diagram of the respiratory system.

alveoli	diaphragm	mouth cavity
bronchi	larynx	nasal cavity
bronchial tube	lobes of lung	pharynx
trachea		





# The Respiratory System



## Activity Three

### Respiratory Scramble

The following parts of the respiratory system have been scrambled. Try to unscramble them using the clues to help identify the terms.

1. **ATNOBRUCHBEIL** \_\_\_\_\_

*(either of the two main branches leading into the lungs)*

2. **OENS** \_\_\_\_\_

*(facial feature where air is taken in)*

3. **ARTHACE** \_\_\_\_\_

*(the windpipe; passage by which air is carried from the throat to the lungs)*

4. **LIONORBCHE** \_\_\_\_\_

*(small air tubes that end in alveoli)*

5. **APDAMGHIR** \_\_\_\_\_

*(a partition of muscles and tendons separating the chest cavity from the abdominal cavity)*

6. **SNLGU** \_\_\_\_\_

*(organs that oxygenate the blood and remove carbon dioxide from it)*

7. **LIVOELA** \_\_\_\_\_

*(the air pockets in the lungs)*

8. **STOGPILITE** \_\_\_\_\_

*(a thin plate of cartilage that prevents food from entering the lungs)*

9. **YARHXNP** \_\_\_\_\_

*(the throat; air is drawn in through the nose and throat during inhalation)*

10. **ARYNLX** \_\_\_\_\_

*(the voice box which links the pharynx with the trachea)*



# The Respiratory System



## Activity Four

### Catch Your Breath

Read the following information about respiratory diseases. Then take the time to "catch your breath," and begin the following activities.

The respiratory system is the system of the body that deals with breathing. Consequently, respiratory diseases affect those parts of the body that are utilized to enable us to breathe. One of the most frequent things that affects our respiratory system is the common cold which is usually caused by a virus. Drinking lots of fluids, especially water, is helpful, but when symptoms persist, it is important to consult a doctor.

Bronchitis can develop from a constant cold. However, it can also be the result of lung infections, measles, heart disease, other infections, or smoking. Treatment varies and may include medication to loosen the phlegm or to fight the infection. Humidifiers used at night help a person to breathe while sleeping.

Respiratory allergies can be anything from year-round nasal allergies to hay fever or asthma. Symptoms from these allergies are treated or relieved by drugs.

Another disease is called emphysema. This disease cannot be cured by drugs. Lung surgery can be helpful to the patient. Smoking, air pollution, and genetics are factors in contracting this disease.

Bacteria causes a disease known as tuberculosis. Today this disease is controlled in many countries by a vaccine called BCG. If tuberculosis is contacted by a person there are several drugs used to cure this disease.

Lung cancer is mainly caused by smoking. It is a major killer in our society. Chemotherapy and the use of drugs are the best treatments but success is found only with early diagnosis.



# The Respiratory System



## Activity Four

### Catch Your Breath

- A) Use the vocabulary found in the box below to complete the sentences that pertain to respiratory diseases.

common cold	allergy	bronchitis	humidifier	pneumonia
tuberculosis	phlegm	asthma	virus	emphysema

1. The most widespread of all diseases is the \_\_\_\_\_.
2. A body reaction which occurs in a person who is sensitive to certain substances is an \_\_\_\_\_.
3. A thick mucus which is present in many respiratory diseases is called \_\_\_\_\_.
4. A very serious infectious disease which can be diagnosed with a skin test but may take a very long time to cure is \_\_\_\_\_.
5. Many cases of \_\_\_\_\_ start as chronic bronchitis.
6. Partial blocking of the bronchial tubes brings on attacks of \_\_\_\_\_.
7. Inflammation of the bronchial tubes is called \_\_\_\_\_.
8. \_\_\_\_\_ results as a complication of colds and bronchitis.
9. A \_\_\_\_\_ is a machine that moisturizes the air to help improve breathing.
10. A cold is usually caused by a \_\_\_\_\_.



# The Respiratory System



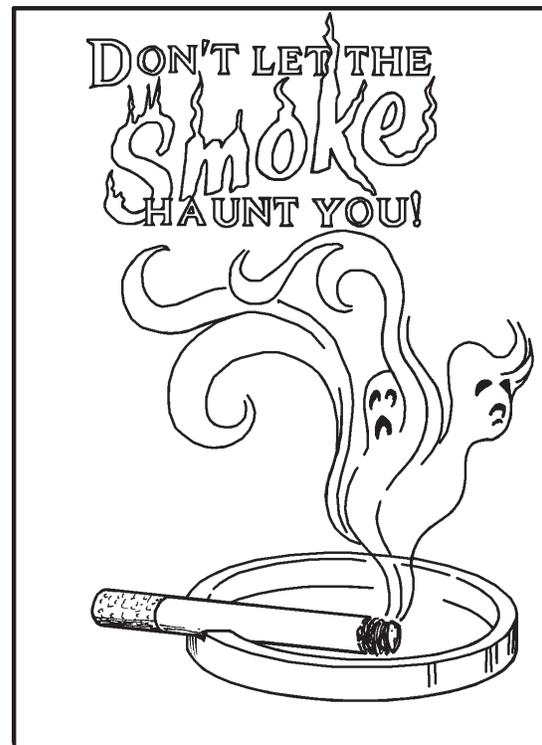
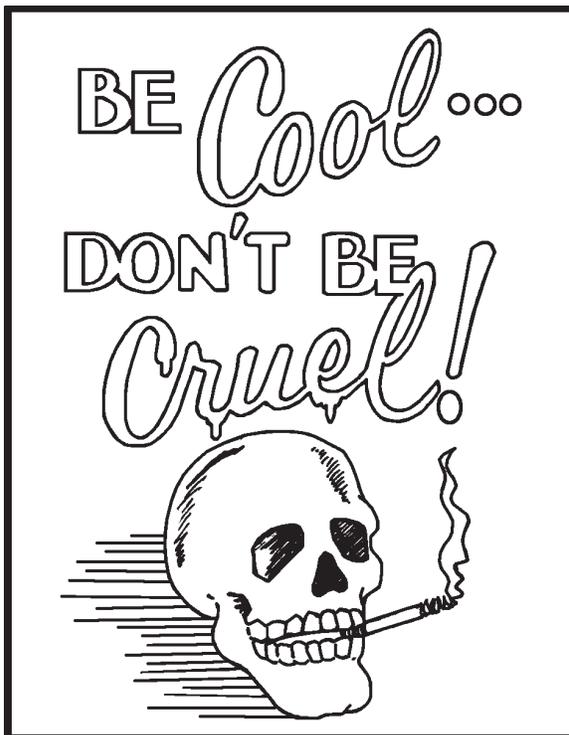
## Activity Four

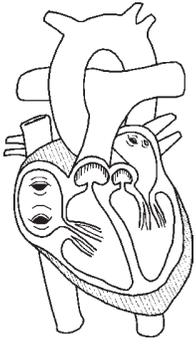
### Catch Your Breath

- B) The best advice on cigarette smoking is still that given by the American Heart Association: "Be Smart, Don't Start".

The lungs are made up of five hundred million air sacs. Microscopic slides of diseased lungs often show large deposits of carbon on the lungs and this condition is known as "black lung". Smoking can lead to this problem and it often develops into cancer.

Brainstorm poster ideas that will help increase the awareness of the dangers of smoking among your peers. The examples below may help you to get started.





# The Respiratory System



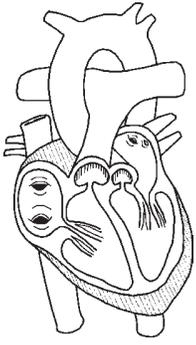
## Activity Five

### Voyage to the Lungs

Like a journey the respiratory system is an ongoing trip. Embark on your "Voyage to the Lungs" by filling in the blanks using the word bank provided.

<b>trachea</b>	<b>nose</b>	<b>bronchi</b>	<b>alveoli</b>
<b>cilia</b>	<b>throat</b>	<b>mouth</b>	<b>larynx</b>
<b>diaphragm</b>	<b>lungs</b>		

1. Air enters our respiratory system through the \_\_\_\_\_ and \_\_\_\_\_.
2. Dust and other dirt particles are prevented from reaching the \_\_\_\_\_ by tiny hairs called \_\_\_\_\_.
3. When we inhale, the \_\_\_\_\_, which is a large muscle, assists our lungs to expand in order to take in air.
4. Air then passes through the \_\_\_\_\_ to the voice box or \_\_\_\_\_.
5. From here it moves through the windpipe which is also known as the \_\_\_\_\_.
6. Next, the \_\_\_\_\_, which are two tubes, carry the air to the lungs.
7. The air finally reaches millions of \_\_\_\_\_ which take the oxygen to the blood.



# The Respiratory System



## Activity Six

### In and Out

Study the two charts then answer these questions.

1. Which has more carbon dioxide, inhaled or exhaled air?

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2. Does the amount of nitrogen in inhaled and exhaled air differ?

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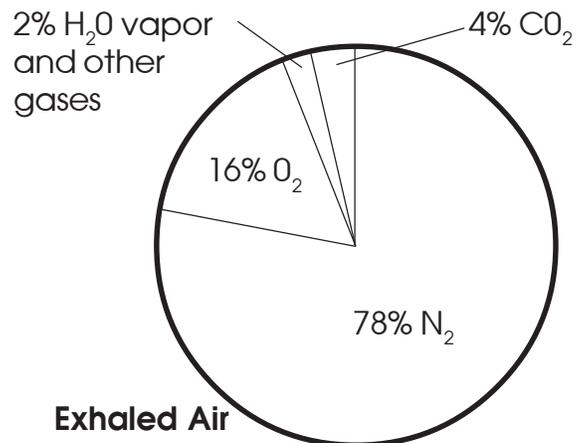
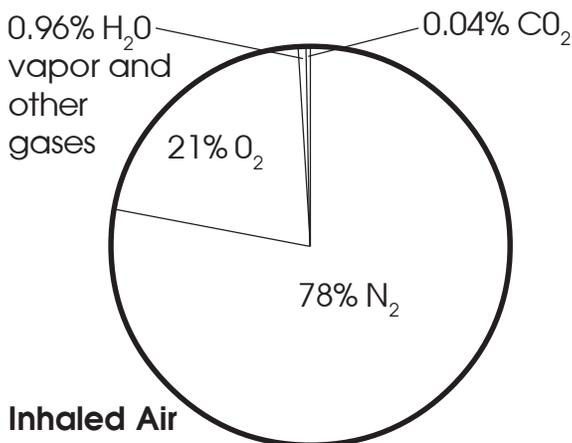
3. How much of the oxygen inhaled remains in the body?

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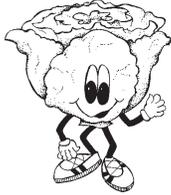
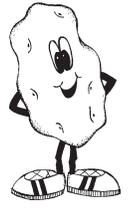
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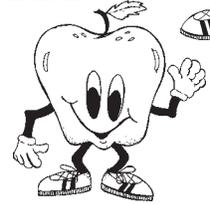


# The Digestive System



## Activity One

### How Our Food is Digested



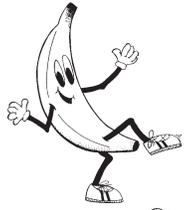
Use the words in the word bank to complete the information that describes the way food is digested in your body.

liquid	digestion	gastrointestinal	saliva	rectum
liver	undigested	gall bladder	chyme	gastric
calories	alimentary	peristalsis	bile	large
waste	bloodstream	solid	muscles	stomach
intestine	esophagus	pancreas		

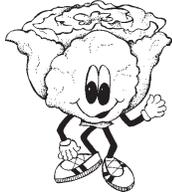
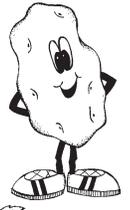
Food is the fuel that provides energy for your body. The energy is measured in units called \_\_\_\_\_. Before your body can use the food you eat, it has to be broken down into tiny bits that are small enough to pass into your blood. This \_\_\_\_\_ takes approximately twenty hours as the food travels through a long tube that is located between the mouth and the rectum. This system is also known as the \_\_\_\_\_ tract or the \_\_\_\_\_ tract.

The digestive system is made up of several organs which are each responsible for a specific task when digesting food.

The digestion process begins as you take your first bite of food. The spit or \_\_\_\_\_ in your mouth has a digestive juice that starts to break down the food. It then travels down a foodpipe called the \_\_\_\_\_. Food is pushed along inside this foodpipe by rings of \_\_\_\_\_. The pushing and squeezing action of the muscles is called \_\_\_\_\_. Food then enters the \_\_\_\_\_ where it is mixed with \_\_\_\_\_ juices. Food is partly digested in the stomach.

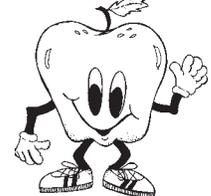


# The Digestive System



## Activity One

### How Our Food is Digested (continued)

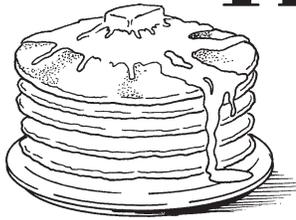


Then the food material moves into the small \_\_\_\_\_. It is in the form of a thick liquid called \_\_\_\_\_. Chyme is squeezed out of the stomach into the small intestine a little at a time. The small intestine is a coiled tube which, if straightened, would be about four times your height! Digestive juices come from the small intestine's walls and are mixed with food by the movements of the small intestine. Other digestive juices are made by the \_\_\_\_\_ and the \_\_\_\_\_. Juice made by the liver, called \_\_\_\_\_ or gall, is stored in the \_\_\_\_\_. Digestion of food is completed in the small intestine. Most of the food by this time has changed into a thin, watery form that passes out of the small intestine and goes into the \_\_\_\_\_. Some food cannot be digested, or broken down in the small intestine.

The \_\_\_\_\_ food is pushed by muscles into the \_\_\_\_\_ intestine where it gradually becomes \_\_\_\_\_ material which is eventually pushed out of the body through the \_\_\_\_\_. While the large intestine gets rid of the \_\_\_\_\_ wastes, the kidneys help get rid of \_\_\_\_\_ wastes.



# The Digestive System



## Activity Two

### Labeling a Diagram

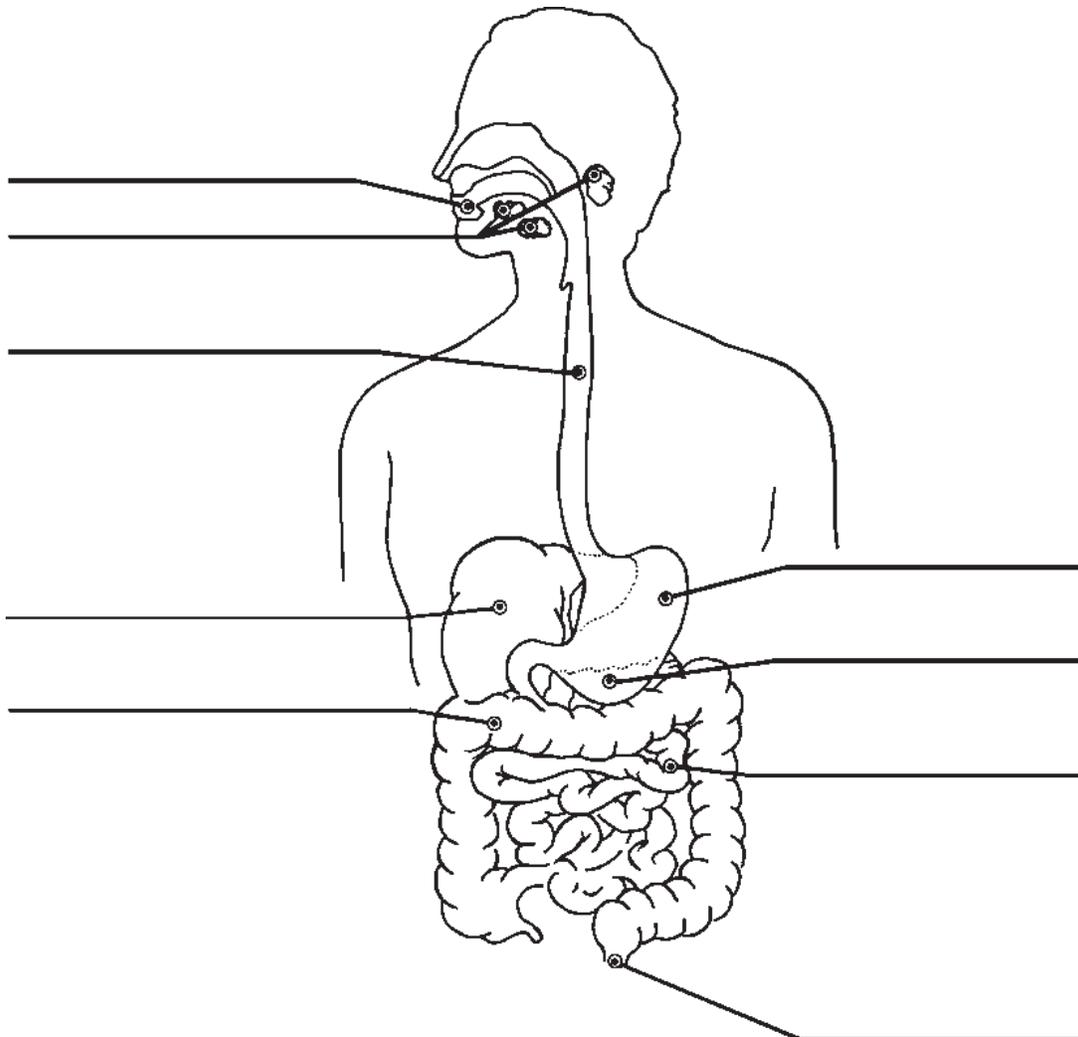
Use the parts listed in the box below to label the drawing of the human digestive system.

large intestine  
esophagus  
rectum

salivary glands  
pancreas

stomach  
liver

small intestine  
tongue





# The Digestive System



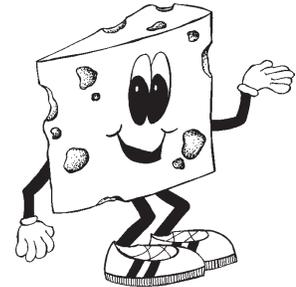
## Activity Three

### Can You Stomach This?

When we think about digestion the one body organ that comes to mind is the stomach. However, the digestive system involves numerous body organs and the process is quite complex. Recall the facts you have learned so far and see if you have the "stomach" to successfully complete the following activity.

Place the letter of the correct answer next to the definition.

- \_\_\_\_\_ 1. makes dry food wet and hard food soft
- \_\_\_\_\_ 2. turns food and pushes it between your teeth
- \_\_\_\_\_ 3. food and juices mix together several hours to form this liquid
- \_\_\_\_\_ 4. a long tube from the mouth to the stomach
- \_\_\_\_\_ 5. to change food to a substance the body can use
- \_\_\_\_\_ 6. after leaving the stomach, chyme enters this part of the body where it is broken down even further
- \_\_\_\_\_ 7. juices from this organ enter the small intestine to break down food
- \_\_\_\_\_ 8. a group of body parts
- \_\_\_\_\_ 9. these soak into the walls of the small intestine



- a) esophagus
- b) liver
- c) digest
- d) saliva
- e) digestive juices
- f) tongue
- g) system
- h) chyme
- i) small intestine



# The Digestive System



## Activity Four

### Word Search

Hidden in the grid are eight digestive organs. They may be found vertically, horizontally, or diagonally.

Circle the following words as you find them:

pharynx

mouth

small intestine

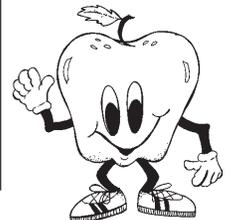
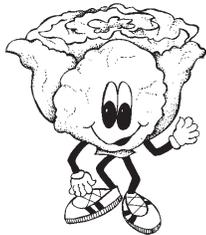
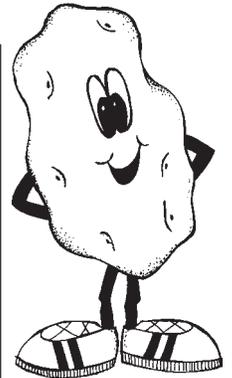
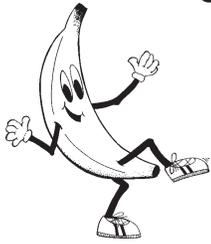
stomach

liver

large intestine

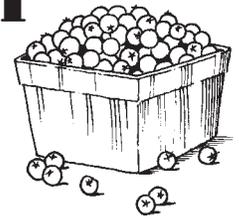
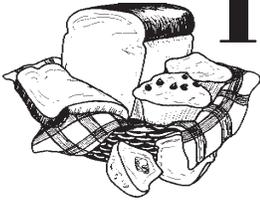
esophagus

pancreas



On a separate piece of paper write the words and tell how each of the organs helps in the digestion of food.

# The Digestive System



## Activity Five

### Facts to Digest

Digestion is the breakdown of food into simple compounds that can be used by the body. The digestive system prepares the food so the cells can use it, absorbs the food into the body, and eliminates waste material which cannot be absorbed. There are many interesting "facts to digest" regarding this system of our body.

For example, we've all heard either our own or someone else's stomach "growl". What causes this? Actually, it happens when the stomach wall squeezes together to mix and digest the food but there is no food. So, consequently, gases and digestive juices churn around in the empty stomach and make a noise which doctors call "borborygmi"! Quite a name for something so common, isn't it?

**A)** Below are some other intriguing "facts to digest". Read them carefully, then rewrite the facts putting in all the necessary capitals and punctuation marks.

1. your digestive tract is approximately 9.25 meters (30.35 feet) long

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2. carbohydrates fats and protein are a good source of energy fats can give us the most energy fifteen milliliters ( $\frac{1}{2}$  oz) of fat yields about one hundred calories

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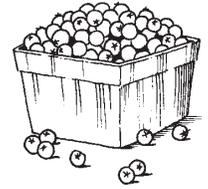
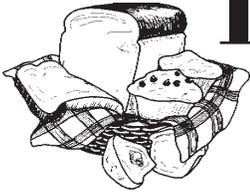
3. a person who weighs approximately 45.4 kilograms (100 lb) uses 200 calories per hour for active playing and 50 calories per hour to sleep

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# The Digestive System



## Facts to Digest (continued)

4. dr. william beaumont put juice from a patients stomach in a bottle and dropped in a piece of meat this took about ten hours to digest

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5. throughout the digestive process food remains in the stomach for as long as approximately six hours

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6. plant fibers in a person's diet can help prevent the development of cancer of the digestive tract

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7. a normal active fifteen year old male needs an average of 3 000 calories per day on the other hand a normal active fifteen year old female needs only 2 500 calories per day

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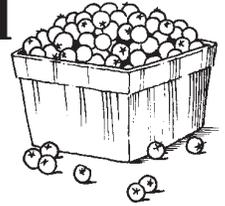
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- B) It is also a fact that the digestion of food supplies body cells with materials for energy, repair, and growth. This process is quite complex and involves a long step-by-step process. Using a dictionary and/or other resource materials write a sentence or two telling how each of the following words relate to the digestive system.

1. enzymes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# The Digestive System



## Facts to Digest (continued)

2. chyme: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. peristalsis: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. bile: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. bolus: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. pepsin: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. metabolize: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





# The Digestive System



## Activity Six

### Down the Hatch

How does your body use digested food material which is carried by the blood to all parts of the body?

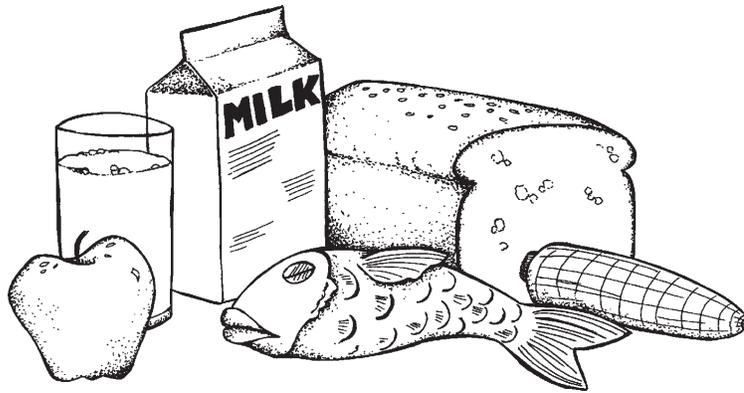
The digested food has nourishing materials in it called **nutrients**. There are many different nutrients found in foods. **Fats** and **carbohydrates** provide you with energy. **Vitamins** and **minerals** keep you healthy. **Proteins** build cells and help your body to grow and repair itself. To be well-nourished each day, you must eat foods that contain these nutrients in the right amounts. There is no single food that contains all the nutrients in the amounts you need.

- A) Do some research and find out which foods contain which nutrients. Write them under the following headings on a chart like the one below.

Fats	Carbohydrates	Vitamins	Minerals	Proteins

- B) Which organs and processes do these nutrients help?
- C) From old magazines, cut out pictures of foods that are good for your body. Write on the pictures the nutrients those foods contain.

# Nutrition



## Activity One

### Nutrition Squad

Healthy eating depends on eating food each day from four food groups.

Nutritionists have divided the foods we need into these groups:

**Milk and Milk Products**

**Fruits and Vegetables**

**Bread and Cereal**

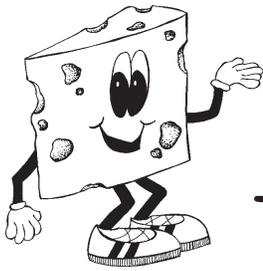
**Meat and Fish**

Choose a food from each group and make a poster advertising the importance of good eating. Dress up your foods as characters and give them a name. For example, "Captain Cereal", "Carlotta Carrot", "Frederick Fish", "Milton Milk". Perhaps you could call them the "Nutrition Squad".

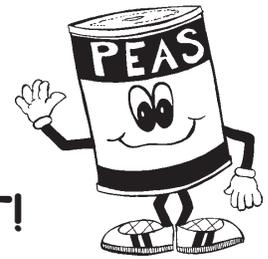
Let your characters talk and write a message promoting healthy foods.

**Question:** What do ducks snack on?

**Answer:** Cheese and quackers

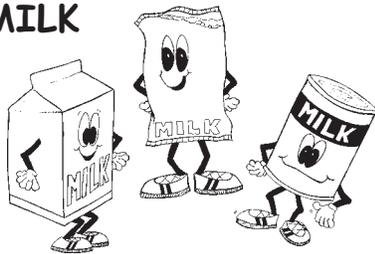


# A Food Guide



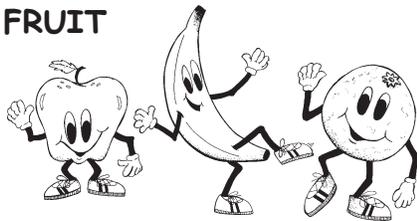
**THESE FOODS ARE GOOD TO EAT!  
EAT THEM EVERY DAY FOR HEALTH!  
HAVE THREE MEALS EACH DAY!**

## MILK



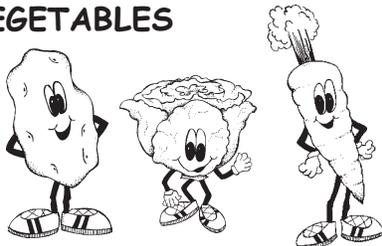
Children (up to about 11 years) ... 2 1/2 cups (20 fl. oz.)  
Adolescents ..... 4 cups (32 fl. oz.)  
Adults ..... 1 1/2 cups (12 fl. oz.)  
Expectant and nursing mothers ..... 4 cups (32 fl. oz.)

## FRUIT



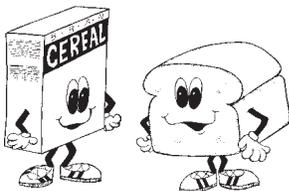
Two servings of fruit or juice including a satisfactory source of vitamin C (ascorbic acid) such as oranges, tomatoes, or vitaminized apple juice.

## VEGETABLES



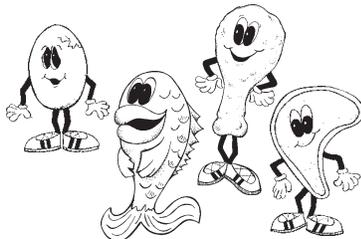
One serving of potatoes.  
Two servings of other vegetables, preferably yellow or green and often raw.

## BREAD AND CEREALS



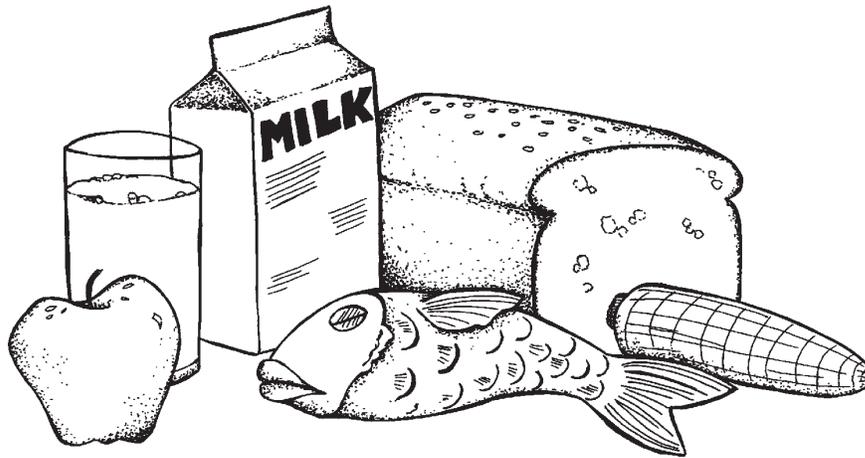
Bread (with butter or fortified margarine).  
One serving of whole grain cereal.

## MEAT AND FISH



One serving of meat, fish, or poultry.  
Eat liver occasionally.  
Eggs, cheese, and dried beans or peas may be used in place of meat.  
In addition, have eggs and cheese at least three times a week.

# Nutrition



## Activity Two

### Nutri-Wise

Read the following situation. Then apply your nutritional knowledge to answer the questions. If necessary, first familiarize yourself with the four basic food groups and their importance to our general health.

Due to a natural disaster a small isolated village became blocked off from the rest of civilization. Roads were wiped out and it would take at least a week before relief efforts would be able to reach the survivors. Food from the local grocery store could be shared for the time being. However, before long fresh fruit and vegetables would be depleted. What would the villagers do then?

1. What may be used as a meat substitute?
2. What may be used to substitute fresh fruit and vegetables?
3. What may the villagers use instead of fresh milk?
4. When the relief effort does arrive it will only be able to bring one load of food. What do you suggest this load should consist of?

Become a real dietician – read, study, and read some more until you feel confident in answering these questions. Remember you are responsible for the lives of others, so do not include any "empty" calories in your relief package. **Be nutrition wise!**

# Nutrition



## Activity Three

### Pumping Iron

Iron is one of the minerals our bodies require for good health. Our bodies use iron to make haemoglobin in red blood cells. Iron combines with food to produce the energy we need to move, to grow, and to heat our bodies.

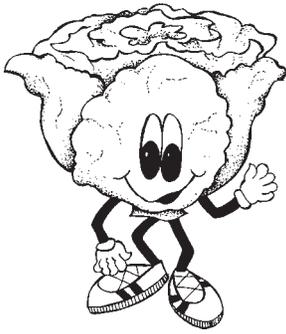
Not many foods are rich in iron so it is not always easy to get the necessary iron. One food rich in iron is liver - not everyone's favorite food! Others are beans, sesame seeds, prunes, raisins, broccoli, tomato juice, sardines and whole-grain or enriched cereals.

Make an illustrated booklet of foods rich in iron. You may want to call it "Ironclad Foods".

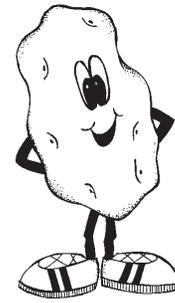
**Question:** What is a parrot's favorite fish dish?

**Answer:** Perch





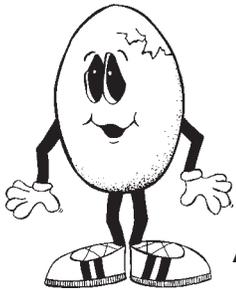
# Nutrition



## Activity Four

### Food Trivia

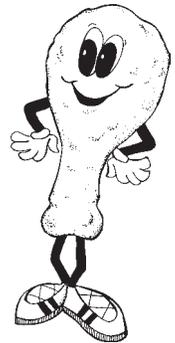
Test your knowledge about various foods. Read the following statements and write a sentence or two about each, expressing your opinion. Upon completion check your responses with resource books or encyclopedias. Then tally your score as follows:



0 - 3 correct - inadequate knowledge

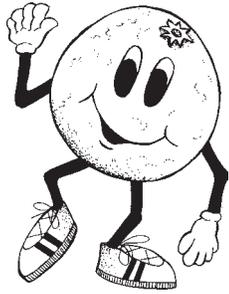
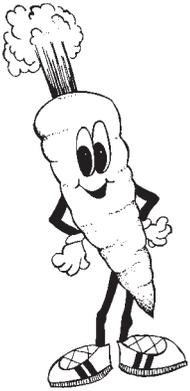
4 - 6 correct - average to good knowledge

7 - 10 correct - very good knowledge

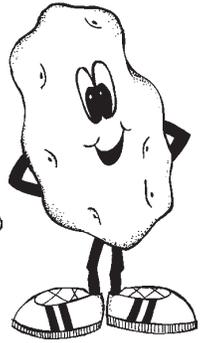
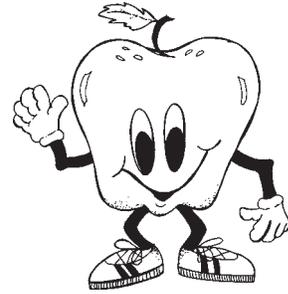


**Are the following statements true or false?**

1. Foods high in protein such as fish contain very few calories. \_\_\_\_\_
2. There are more calories in butter than in margarine. \_\_\_\_\_
3. Potatoes are very fattening. \_\_\_\_\_
4. There are no calories in vitamins and minerals. \_\_\_\_\_
5. Leaving food in an open can in the refrigerator is a very dangerous practice. \_\_\_\_\_
6. Taking vitamin tablets is the best way to provide the necessary vitamins in your diet.
7. Fruit juices can be fattening if we drink more than we actually need.  
\_\_\_\_\_
8. Tomatoes can actually help the blood to clot if we have a cut.  
\_\_\_\_\_
9. Eating too many eggs is not good for you. \_\_\_\_\_
10. You should eat like a king at breakfast, a queen at lunch time and a pauper at dinner time. \_\_\_\_\_



# Nutrition



## Activity Five

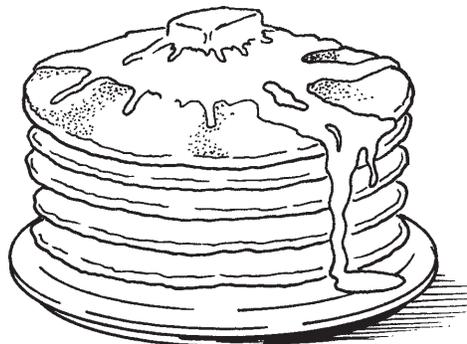
### Food for Thought

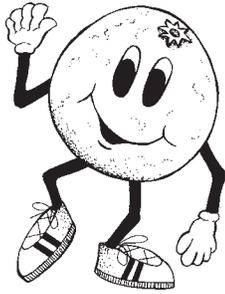
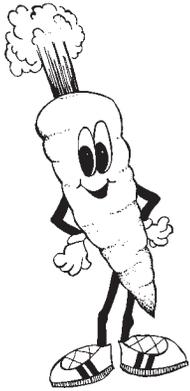
Think about the following problems about food and try to solve them. When you are finished, try to think of one of your own.

1. In one day John consumed 3 275 calories. However, for his size and age he should be consuming only 2 850 calories. How many calories should be cut from his diet?
2. Rewrite the following recipe using one half of all the ingredients.

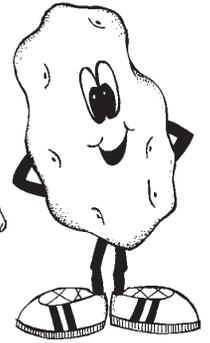
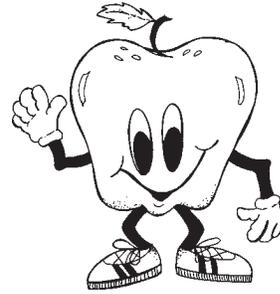
#### Pancakes

$\frac{3}{4}$  cup of whole wheat flour  
 $\frac{1}{4}$  cup of wheat germ  
 $\frac{1}{2}$  cup of all purpose flour  
1 tbsp. baking powder  
2 tbsp. salt  
1 egg beaten  
 $1\frac{1}{4}$  cups of skim milk  
2 tbsp. vegetable oil





# Nutrition



## Food for Thought (continued)

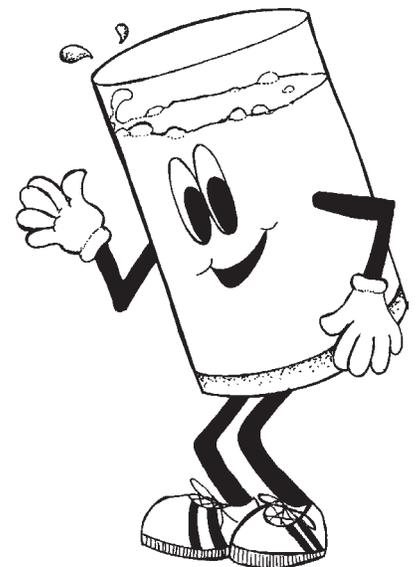
- The grade five class is having a chocolate chip cookie sale at school to raise money for their school trip. If the students baked 600 cookies and they were putting 5 cookies in each bag, how many bags of cookies would they have to sell? If they sold all the cookies at 25 cents per bag, how much money would the grade five class raise?
- If we gave breakfast food values, as in the chart below, create a breakfast that would be worth 14 points, 21 points, and 3 points. What's the value of the breakfast that you ate this morning?

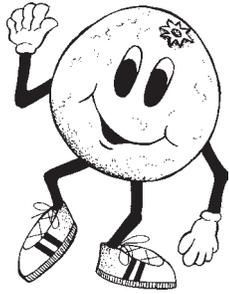
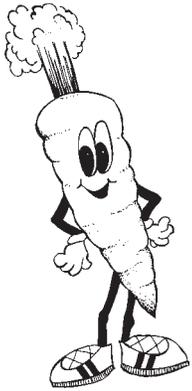
Breakfast Points		
Pancake - 2	Egg - 2	Syrup - 1
Butter - 1	Bread - 4	Fruit - 3
Milk - 6	Juice - 5	Yogurt - 3
Bacon - 2	Cereal - 3	All other foods - 0

- You ordered the following foods in a restaurant:

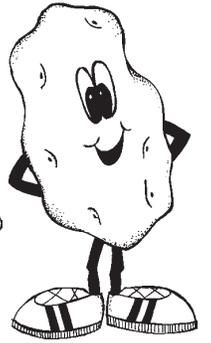
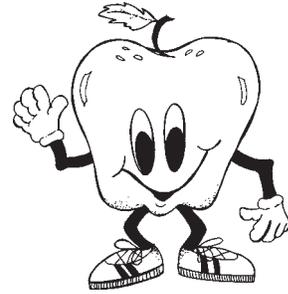
Milkshake - \$1.59  
 Chicken Nuggets - \$2.09  
 French Fries - \$1.09  
 Apple Pie - \$1.49

What is the total price?  
 If you gave the waitress \$20.00, how much change did you receive?





# Nutrition



## Activity Six

### Sensible Snacking

Healthy snacks, rather than junk food, are important to eat between meals.

Can you think of a snack for each letter in the words "healthy snacks" that would satisfy a nutritionist?

H - hard boiled eggs

E - \_\_\_\_\_

A - \_\_\_\_\_

T - \_\_\_\_\_

H - \_\_\_\_\_

Y - \_\_\_\_\_

S - \_\_\_\_\_

N - \_\_\_\_\_

A - apple

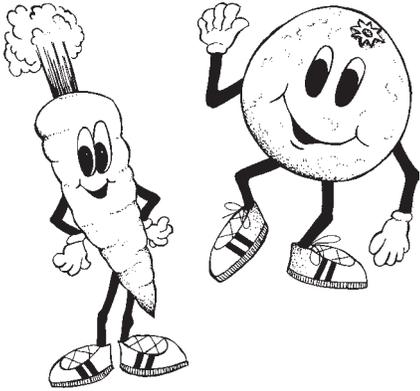
C - \_\_\_\_\_

K - kabobs made from vegetables

S - \_\_\_\_\_

**Question:** What snack can you wear on your head?

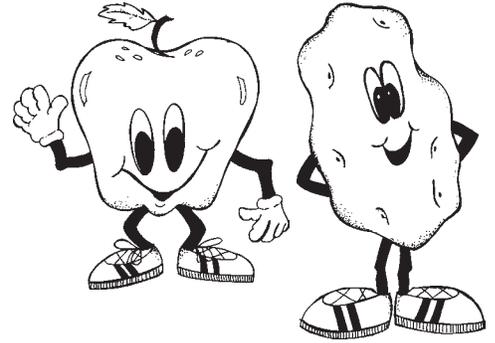
**Answer:** A homburger



# Nutrition

## Activity Seven

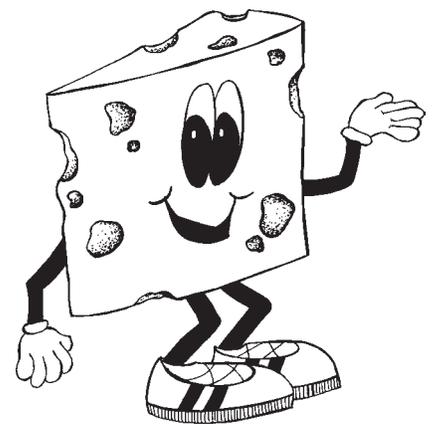
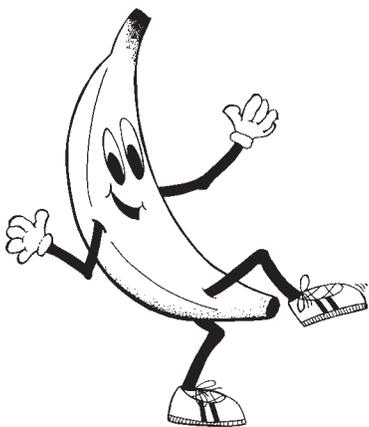
### Who Am I?

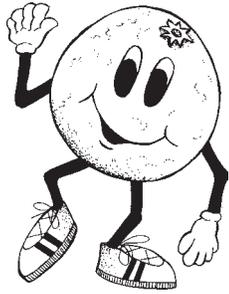
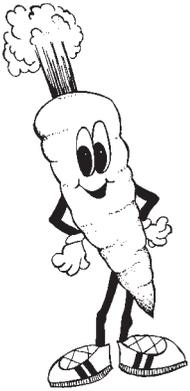


Below are some riddles. The answers are all good to eat.

Which fruit or vegetable is each riddle referring to?

1. Popeye likes to eat me. \_\_\_\_\_
2. I have an ear but it cannot hear. \_\_\_\_\_
3. I have eyes but they cannot see. \_\_\_\_\_
4. I'm okay to eat. My name starts with OK. \_\_\_\_\_
5. I have a heart but it cannot beat. \_\_\_\_\_
6. I have spears which are not sharp. \_\_\_\_\_
7. You cannot tie my strings. \_\_\_\_\_
8. I have a head but no hair. \_\_\_\_\_
9. I have great ap-peel to monkeys. \_\_\_\_\_
10. Redheads are sometimes nicknamed after me. \_\_\_\_\_

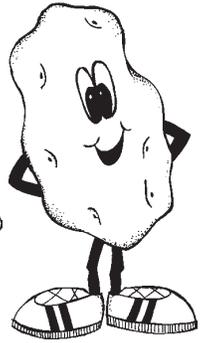
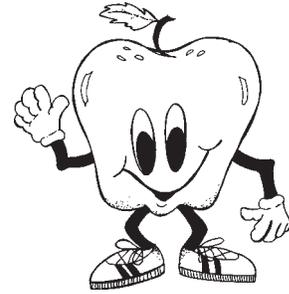




# Nutrition

## Activity Eight

### Food Label Study



It's important to "know" what exactly is in the foods that you eat every day. Some ingredients are good for you, yet others are not.

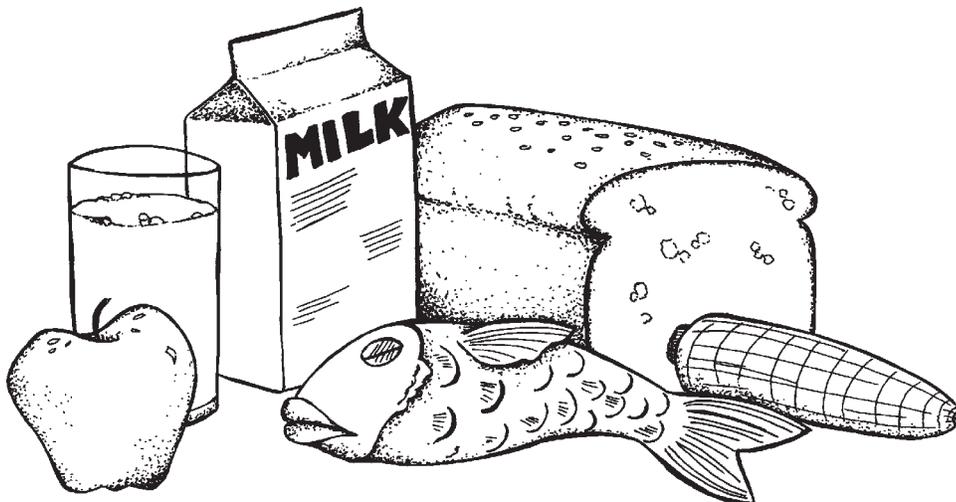
From home, bring in seven or eight **food labels** from packages or jars such as barbecue sauce, crackers, potato chips, and so on.

Look up the ingredients in your dictionary to find out what each means. For example, dextrose in candy is made from cornstarch and the algin in ice cream comes from seaweed.

I'm sure that after completing this activity, you will be very careful about reading the labels on packaging before you eat something.

Now select several labels and make a poster listing the ingredients and what they are.

Display the finished product for your classmates to read in an interesting format.



# Nutrition



## Activity Nine

### How Many Ways Can You Say Eat?

Try to come up with a word for every letter of the alphabet that means the same or almost the same as "eat".

Use a dictionary or a thesaurus to help you. Some words are filled in to get you started.

**A** - \_\_\_\_\_

**B** - \_\_\_\_\_

**C** - \_\_\_\_\_

**D** - \_\_\_\_\_

**E** - \_\_\_\_\_

**F** - \_\_\_\_\_

**G** - \_\_\_\_\_

**H** - \_\_\_\_\_

**I** - \_\_\_\_\_

**J** - \_\_\_\_\_

**K** - \_\_\_\_\_

**L** - lick

**M** - munch

**N** - nibble

**O** - \_\_\_\_\_

**P** - \_\_\_\_\_

**Q** - \_\_\_\_\_

**R** - \_\_\_\_\_

**S** - snack

**T** - \_\_\_\_\_

**U** - \_\_\_\_\_

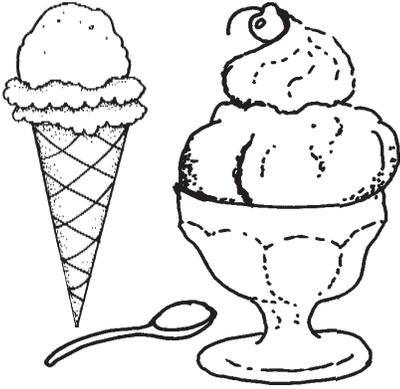
**V** - \_\_\_\_\_

**W** - \_\_\_\_\_

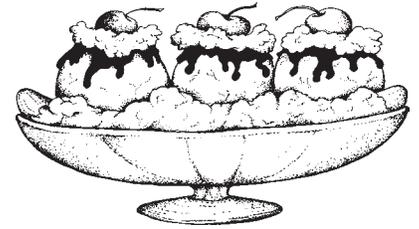
**X** - \_\_\_\_\_

**Y** - \_\_\_\_\_

**Z** - \_\_\_\_\_



# Nutrition



## Activity Ten

### "Dairy" Good

Read the following information about ice cream ingredients.

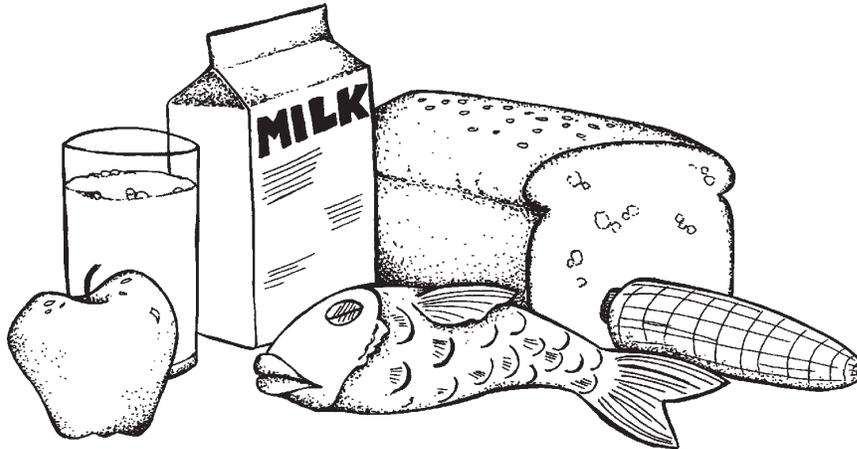
Then try to fill in the blanks using the words listed in the box to complete the story about ice cream.

You may need to use some resource books and a dictionary.

<b>bananas</b>	<b>cane</b>	<b>kelp</b>	<b>dextrose</b>
<b>corn syrup</b>	<b>eggs</b>	<b>beet</b>	<b>locust beans</b>
<b>vanilla beans</b>	<b>pineapple</b>	<b>cacao beans</b>	<b>strawberries</b>
<b>Irish moss</b>			

\_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ are stabilizers. They give ice cream its smooth, creamy texture and also help the ice cream to hold its shape. \_\_\_\_\_ are an additional ingredient which help in stiffening the ice cream, while at the same time enriching it. Two sugars used in ice cream are \_\_\_\_\_ and \_\_\_\_\_ sugar. Corn sweeteners are sometimes added to help make the ice cream firmer. Two examples of these are \_\_\_\_\_ and \_\_\_\_\_. Ice cream is flavored by using a variety of items - \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

# Nutrition



## Activity Eleven

### What's "New" - tritional in Foods?

Fast food has become very popular these days. Today people are constantly in a hurry and they wish to eat quickly as time is a precious commodity.

Pretend that you have invented a nutritious fast food pill.

**A)** What color would your fast food pill be?

What kind of flavors would you make?

Would your pill last an entire meal?

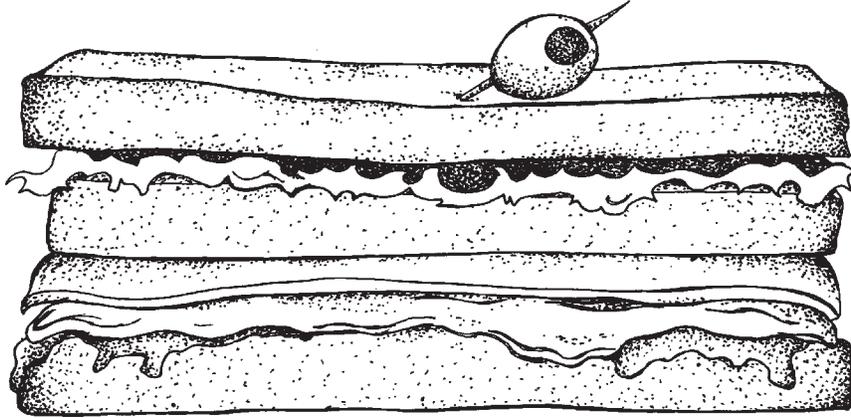
What kinds of foods would you put in your fast food pills for breakfast, lunch, or dinner?

What type of snack pills would you make?

Describe the color and texture of each "new" - tritional fast food pill that you have invented.

**B)** Design a poster promoting your "new"- tritional food pills.

# Nutrition



## Activity Twelve

### Out to Lunch

Sandwiches were named after the Earl of Sandwich, an English nobleman of the 1700s. He ordered a servant to bring him two slices of bread with a piece of roasted meat between them. It was then that the sandwich was born!

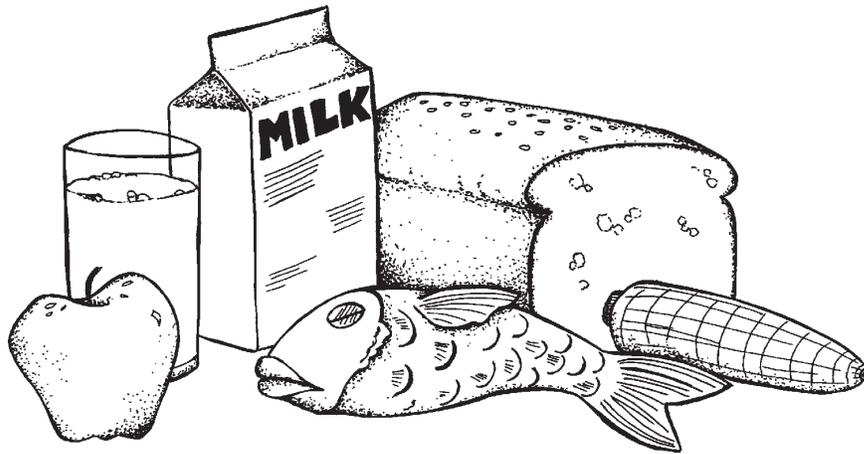
Let's amaze the Earl by inventing a super-sandwich.

Your sandwich can have any combination of ingredients as long as they are nutritious. Perhaps you will create one for vegetarians or perhaps one to eat at breakfast, or perhaps a pizza sandwich. Try a food other than bread for your holder, such as waffles, English muffins, buns, and fancy breads.

Be creative. Have fun and maybe try your creation at home.

**Bon Appétit!**

# Nutrition



## Activity Thirteen

### The Cholesterol Question

Today people are generally very health conscious. Recent studies have revealed that some diseases may be prevented if one adheres to a proper, nutritionally sound diet. Such a diet would include reduced cholesterol intake. There is a greater public awareness about "cholesterol" intake these days.

1. What actually is "cholesterol"?
  2. How many types are there?
  3. How does "cholesterol" affect our bodies?
- A)** Research and write your report in several well constructed paragraphs.
- B)** Pretend the Department of Health is sponsoring a contest and they ask students to create a "super-hero" and "slogan" that could be used to discourage people from indulging in high cholesterol foods.

The winner will have the privilege of seeing their super-hero and slogan printed on billboards, bumper stickers, and posters nation-wide.

**Do your best to promote sound nutrition!**

## Answer Key

### The Skeletal System

#### **"Bone" -y Terminology: (page 8)**

1. ligaments
2. joint
3. marrow
4. jawbone
5. fracture
6. coccyx
7. tendons

#### **"Boning Up" on Information: (page 9)**

1. One billion (plus)
2. 206
3. calcium
4. in your hands and feet
5. 29 different bones
6. the spine
7. femur
8. elbow
9. ribs
10. marrow

#### **Mr. Skelly-Ton - Part A: (page 10)**

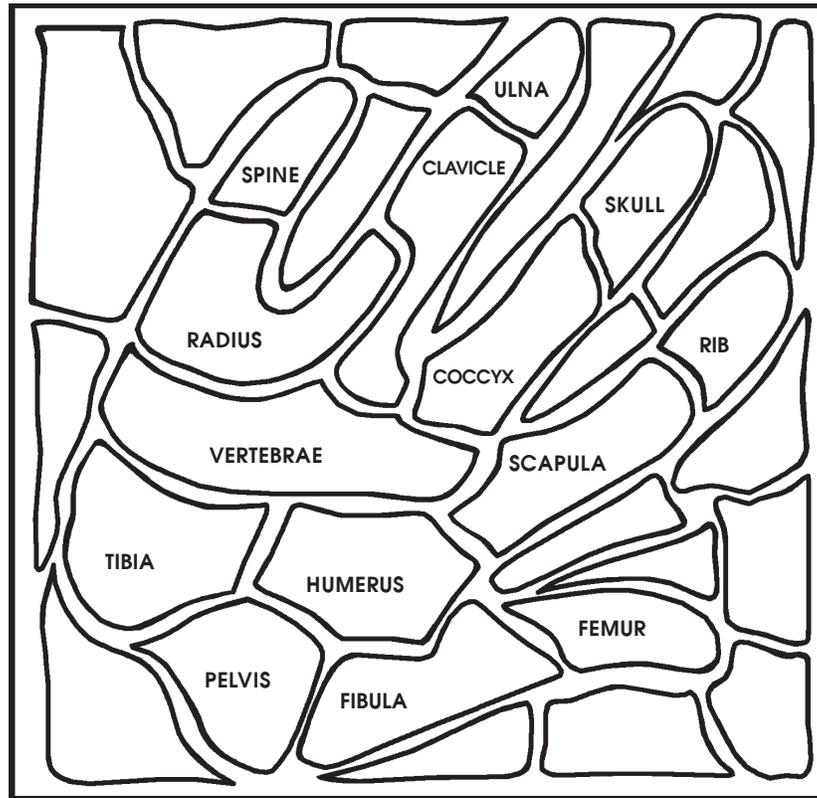
femur 3, cranium 8, tibia 9, ulna 4, sternum 10, tarsals 1, patella 2, phalanx 5, clavicle 6, mandible 7, radius 4

#### **Mr. Skelly-Ton - Part B: (page 11)**

1. clavicle
2. femur
3. tarsals
4. cranium
5. mandible
6. sternum
7. radius
8. ulna
9. phalanx
10. patella
11. tibia

#### **Skeleton Mystery: (page 12)**

Hidden picture: A hand.



#### **Body Sayings: (page 13)**

1. thumb
2. knee
3. skin
4. leather
5. stomach
6. heart
7. neck
8. hair
9. ear
10. nose
11. skeleton
12. heart

**Math for Every-"body": (page 14)**

Answers may vary.

**Dermatolyphics: (page 15)**

Answers may vary.

**A "Hip" -py Tune: (page 16)**

Answers may vary.

**Mr. Bones: (page 16)**

Answers may vary.

**Bone Up on Writing: (page 17)**

Answers may vary.

**Bare Bones: (page 18)**

Answers may vary.

**Bone-less: (page 18)**

Answers may vary.

**Get Off on the Right Foot: (page 19)**

- |              |                |             |               |                |             |
|--------------|----------------|-------------|---------------|----------------|-------------|
| 1. footprint | 2. footnote    | 3. footsore | 4. underfoot  | 5. footwear    | 6. footman  |
| 7. football  | 8. footwork    | 9. foothill | 10. footstool | 11. tenderfoot | 12. hotfoot |
| 13. footstep | 14. footbridge |             |               |                |             |

**"Hands" - on Riddles: (page 20)**

Answers may vary.

**Body Language: (page 21)**

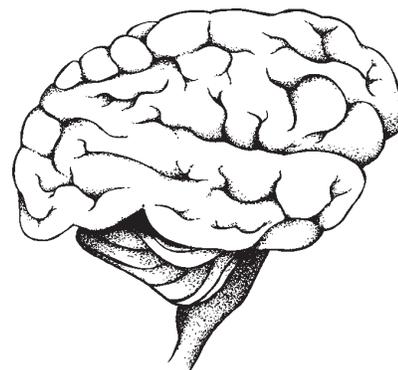
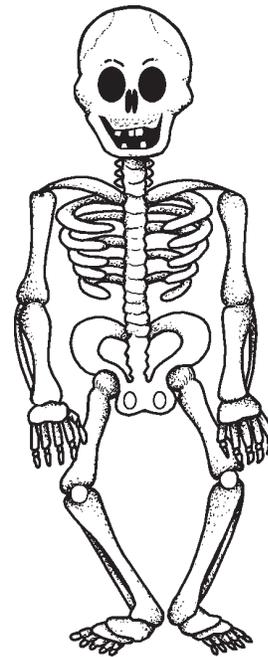
- |  |  |
|--|--|
| 1. only a few people                   | 2. be prepared                               |
| 3. very thin                           | 4. make up your mind, determined             |
| 5. many people can think of more ideas | 6. cannot see it so you don't think about it |
| 7. begin correctly                     | 8. almost dead                               |
| 9. very expensive                      | 10. bottom of the stairs                     |
| 11. the person inside you              | 12. stubborn, determined                     |
| 13. to have a disagreement             | 14. constantly giving                        |

**An Unemployed Skeleton: (page 22)**

Answers may vary.

**Employee Application Form: (page 23)**

Answers may vary.



## ***The Brain***

### **Job Description: (page 24)**

Answers may vary.

### **The Centers of the Brain: (page 25)**

Answers may vary.

### **Does This Make "Sense"?: (page 26)**

**monocle** - an eyeglass for one eye

**echolocation** - a radar-like system or mechanism of orientation in the sensory organs of certain mammals, such as bats or whales, by which they translate their own echoes into directional signals that permit them to avoid obstacles in their path

**friction** - a rubbing of one object against another, such as a hand against a hand

**optometrist** - a person skilled in examining the eyes and prescribing eyeglasses

**iris** - the colored part of the eye around the pupil; it controls the amount of light let in

**cochlea** - a spiral cavity of the inner ear; contains the nerve endings that transmit sound impulses along the auditory nerve

**redolent** - having a pleasant smell

**ambrosia** - something especially pleasing to the taste and smell

**sonar** - any device or system using the reflection of sound waves

**hors d'oeuvre** - food served before a meal to stimulate the appetite; appetizers

**coarse** - rough to the touch; not fine

**aroma** - sweet, spicy smell; distinctive fragrance or flavor

**texture** - the structure of something made or woven; makeup of the object

**acoustic** - having to do with the sense or the organs of hearing

**retina** - a layer of cells at the back of the eyeball which is sensitive to light and receives the images of things looked at

**nasal** - of, in, or from the nose

**olfactory** - having to do with smelling; organ for smelling

**palatable** - pleasing or agreeable to the taste

**bitter** - having a sharp, harsh, unpleasant taste

**smooth** - not rough or bumpy

**spongy** - having an open porous structure, full of holes

**sour** - not sweet; bitter, strong taste

**pungent** - sharply affecting the organs of smell and taste

**sweet** - pleasant taste or smell

**noise** - loud or harsh sound

**crashing** - a falling, hitting, or breaking sound

**spicy** - flavored with spice; sharp and fragrant

**rough** - not smooth; not level; uneven

**musty** - damp, moldy smell

**odor** - smell, fragrance, perfume, aroma

**flashing** - a sudden, brief light or flame

**delicious** - very pleasing to taste or smell

**Touch** - friction, coarse, texture, smooth, spongy, rough

**Taste** - ambrosia, hors d'oeuvre, palatable, bitter, sour, delicious, spicy, sweet

**Sight** - monocle, optometrist, iris, retina, flashing

**Hearing** - echolocation, cochlea, sonar, acoustic, crashing, noise

**Smell** - redolent, aroma, nasal, olfactory, pungent, musty, odor

**Brain Bogglers: (page 29)**

1.  $8 - \frac{8}{8}$
2. 1 quarter, 5 dimes, 4 nickels, 5 pennies
3.  $123 - 45 - 67 + 89 + 0 = 100$
4. the 15
5. 11 jockeys, 15 horses
6.  $\triangleleft \triangleleft$

**Capitalizing on Brains: (page 30)**

1. The brain is divided into three sections – the cerebrum, the cerebellum, and the medulla.
2. The human brain is grayish-pink in color and weighs about 1.4 kilograms (three pounds).
3. The cerebrum weighs the most, totaling 85 percent of the 1.4 kilograms (three pounds).
4. Shielding the brain from hard blows are hard bones called the cranium.
5. The brain is at its full weight by the time a person is six years old.

**"Brainy" Words: (page 31)**

1. brainwash
2. brainwave
3. brainpan
4. brainchild
5. brainstorm
6. brain drain
7. brainless
8. brainy
9. brain teaser
10. brain fever

**Great Minds: (page 32)**

Answers may vary.

**Brain Teasers: (page 32)**

1. 

2. 

5	7	9	3
9	9	2	4
1	8	6	9
9	0	7	8

**Good "Sense" Writing: (page 33)**

Answers may vary.

## *The Circulatory System*

**The Heart - The Living Pump: (page 34)**

chambers, auricle, ventricle, carbon dioxide, oxygen, bluish, red, vessel, aorta, cycle

**"Heart" - y Words: (page 36)**

1. heartily
2. heartfelt
3. hearty
4. hearth
5. heartburn
6. heartsick
7. heartless
8. heart-shaped
9. heartbroken
10. heart beat
11. heartworm
12. heartstrings

**"Heart" - y Pioneers: (page 37)**

Answers may vary.

**Take Heart: (page 37)**

Answers may vary.

**Words From the Heart: (page 38)**

heartache, heartbeat, heartbroken, heartburn, heartfelt, heartland, heartless, heartsick, heartstrings, hearty

**heartache** - great sorrow or grief; deep pain

**heartbeat** - pulsation of the heart; expansion and contraction of the heart

**heartbroken** - crushed by sorrow or grief; broken-hearted

**heartburn** - burning feeling in the chest and throat

**heartfelt** - very deeply felt; sincere, genuine, earnest

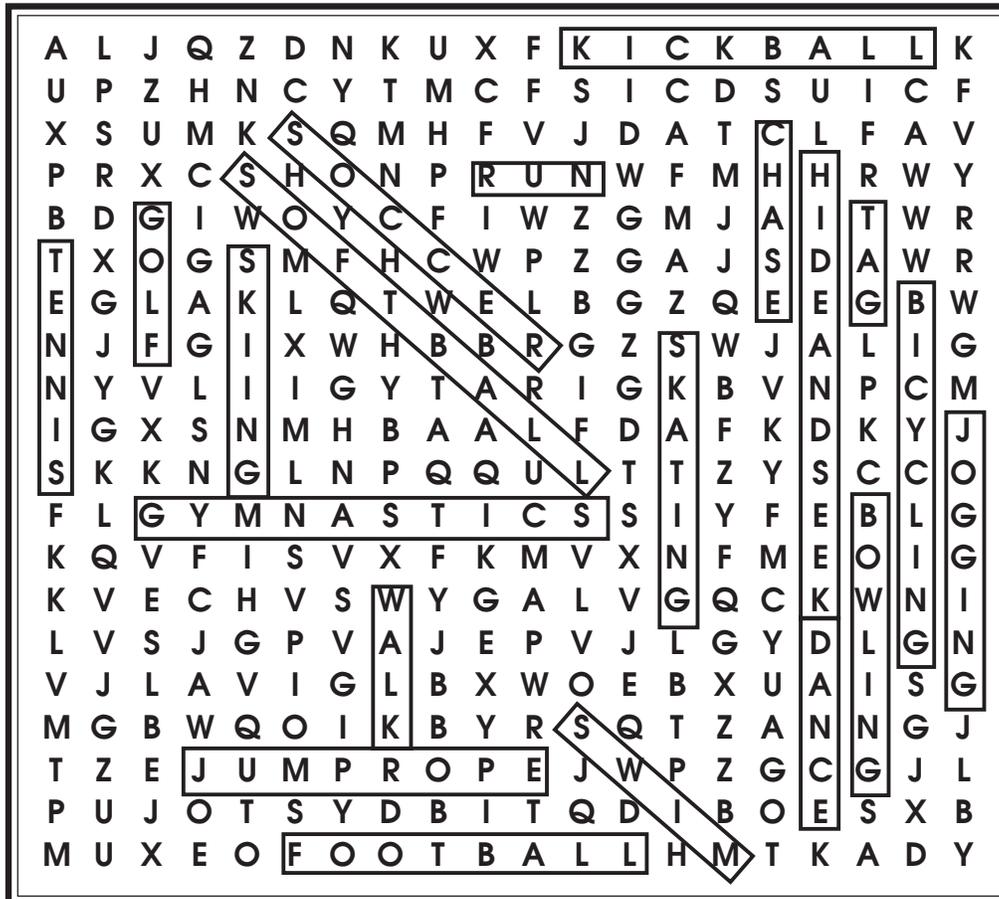
**heartland** - any area or region that is the centre of a country, institution or industry

**heartless** - without kindness or sympathy; unfeeling; cruel; callous

**heartsick** - sick at heart; very depressed; very unhappy

**heartstrings** - the deepest feelings; strongest affections; the tendons or nerves thought to support the heart

**hearty** - warm and friendly; genuine; sincere



**Exercise Word Search: (page 39)**

**Expressions of the Heart: (page 40)**

3, 9, 1, 6, 7, 2, 10, 4, 8, 5, 15, 11, 13, 14, 12

## *The Muscular System*

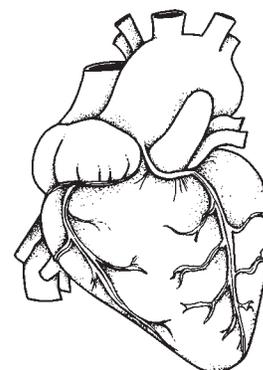
**Muscles - Your Body's Movers: (page 41)**

Answers may vary.

**Muscles Versus Bones: (page 41)**

Answers may vary.

**Muscle Malady: (page 42)**



Answers may vary.

**Order, Order: (page 42)**

1. cardiac, cartilage, cells, connective, contract
2. facial, feelings, fibers, flesh, frown
3. markings, messages, motor, movers, muscles
4. skeletal, stomach, striped, strong, structure
5. tendon, thousands, threadlike, trunk, twined
6. vein, vessels, vigorous, vitamins, voluntary



**Steroids: (page 43)**

Answers may vary.

**Let's Face It: (page 43)**

Answers may vary.

**The Hulk: (page 44)**

Answers may vary.

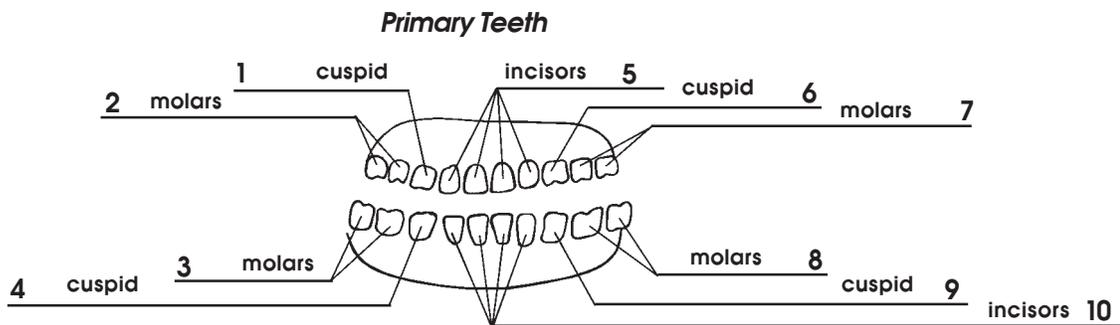
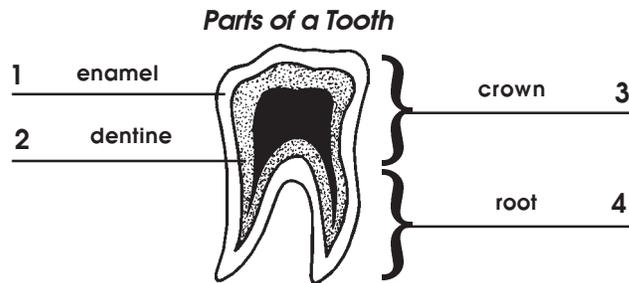
**Getting the "Gist" of It: (page 45)**

- |                                 |                                       |
|---------------------------------|---------------------------------------|
| 1. studies muscles              | 2. studies the eye                    |
| 3. studies nerves and the brain | 4. studies bones                      |
| 5. studies the stomach          | 6. studies tissues of the body        |
| 7. studies the kidneys          | 8. studies the ears, throat, and nose |
| 9. studies the skin and hair    | 10. studies the heart                 |

**The Teeth**

**The Inside Story on Teeth: (page 46)**

- |           |             |             |                 |                   |
|-----------|-------------|-------------|-----------------|-------------------|
| 1. enamel | 2. incisors | 3. cuspids  | 4. bicuspids    | 5. molars, twelve |
| 6. decay  | 7. plaque   | 8. cavities | 9. brush, floss | 10. dentist       |



**The Whole Tooth: (page 47)**

**Dental Health Quiz: (page 48)**

Answers may vary.

**My Wobbly Tooth: (page 49)**

Answers may vary.

**Toothy Alliteration: (page 49)**

Answers may vary.

**Brush Up on Toothbrushes!: (page 50)**

Answers may vary.

**Toothbrush to the Rescue: (page 50)**

Answers may vary.

**The Tooth Fairy: (page 51)**

Answers may vary.

**Plaque Attack: (page 52)**

Answers may vary.

**Say Cheese!: (page 52)**

Answers may vary.

**Story Starters: (page 53)**

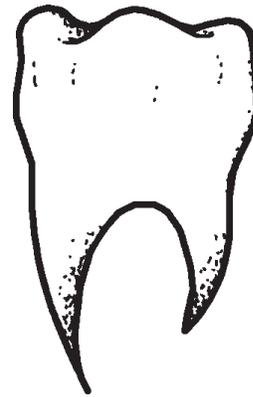
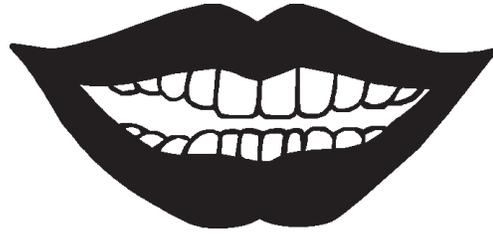
Answers may vary.

**A Visit to the Dentist: (page 54)**

Answers may vary.

**Safety Rules: (page 54)**

Answers may vary.

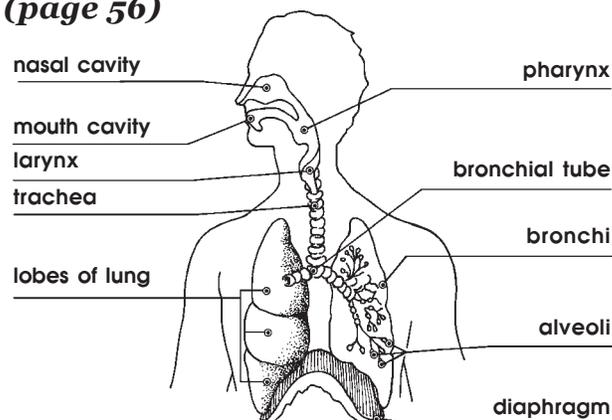


## ***The Respiratory System***

**How We Breathe: (page 55)**

nose, pharynx, larynx, trachea, bronchial, lungs, oxygen, carbon dioxide, breathing, inhalation, bronchus, trunk, bronchioles, alveoli, heart, cells, exhalation, contraction, diaphragm

**Labeling a Diagram: (page 56)**



**Respiratory Scramble: (page 57)**

- |                   |            |               |               |              |
|-------------------|------------|---------------|---------------|--------------|
| 1. bronchial tube | 2. nose    | 3. trachea    | 4. bronchiole | 5. diaphragm |
| 6. lungs          | 7. alveoli | 8. epiglottis | 9. pharynx    | 10. larynx   |

**Catch Your Breath Part A: (page 58)**

- |                |               |              |                 |              |
|----------------|---------------|--------------|-----------------|--------------|
| 1. common cold | 2. allergy    | 3. phlegm    | 4. tuberculosis | 5. emphysema |
| 6. asthma      | 7. bronchitis | 8. pneumonia | 9. humidifier   | 10. virus    |

**Catch Your Breath Part B: (page 60)**

Answers may vary.

**Voyage to the Lungs: (page 61)**

- |                |                 |              |                   |            |
|----------------|-----------------|--------------|-------------------|------------|
| 1. nose, mouth | 2. lungs, cilia | 3. diaphragm | 4. throat, larynx | 5. trachea |
| 6. bronchi     | 7. alveoli      |              |                   |            |

**In and Out: (page 62)**

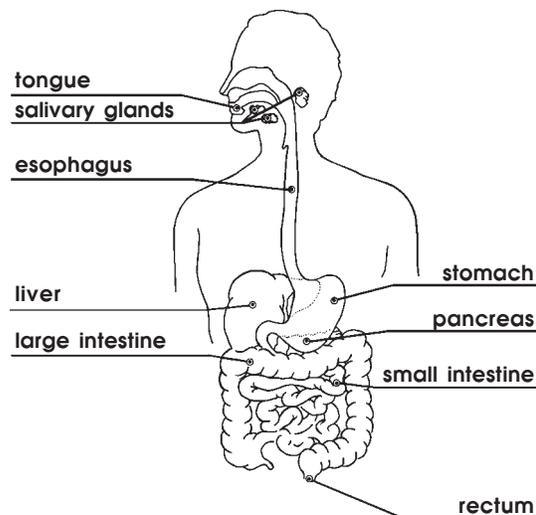
1. The percentage of carbon dioxide inhaled is 0.04 percent. The percentage of carbon dioxide exhaled is four percent. Exhaled air has a higher percentage of carbon dioxide.
2. The amount of nitrogen in inhaled and exhaled air 78 percent. No, the percentage of nitrogen in inhaled and exhaled air does not differ.
3. Inhaled air contains 21 percent oxygen. Exhaled air contains sixteen percent oxygen. Therefore, five percent of the oxygen inhaled remains in the body.

**The Digestive System**

**How Our Food is Digested: (page 63)**

calories, digestion, gastrointestinal, alimentary, saliva, esophagus, muscles, peristalsis, stomach, gastric, intestine, chyme, pancreas, liver, bile, gall bladder, bloodstream, undigested, large, waste, rectum, solid, liquid

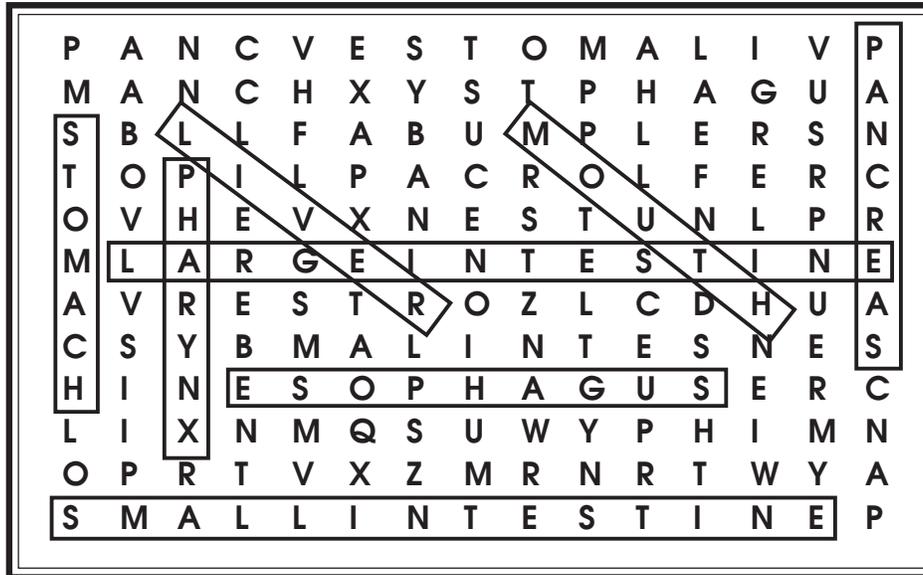
**Labeling a Diagram: (page 65)**



**Can You Stomach This?: (page 66)**

- |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|
| 1. d | 2. f | 3. h | 4. a | 5. c | 6. i | 7. b | 8. g | 9. e |
|------|------|------|------|------|------|------|------|------|

**Word Search: (page 67)**



**Facts to Digest: (page 68)**

1. Enzyme is a complex organic substance that promotes chemical changes in other substances
2. Chyme is food mixed with stomach chemicals
3. Peristalsis is a muscular movement
4. Bile is a secretion of the liver that aids digestion
5. Bolus is a lump of chewed food
6. Pepsin is a digestive enzyme secreted by the stomach
7. Metabolize means to change substances chemically within a living organism in order to release useful energy

**Down the Hatch: (page 71)**

Answers may vary.

**Nutrition**

**Nutrition Squad: (page 72)**

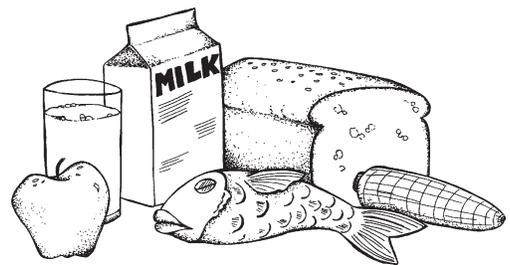
Answers may vary.

**Nutri-Wise: (page 74)**

Answers may vary.

**Pumping Iron: (page 75)**

Answers may vary.



**Food Trivia: (page 76)**

1. false    2. false    3. false    4. true    5. false    6. false    7. true    8. true
9. true    10. true

**Food For Thought: (page 77)**

1. 425 calories
2.  $\frac{1}{2}$  cup whole wheat flour,  $\frac{1}{4}$  cup wheat germ,  $\frac{1}{2}$  cup all-purpose flour,  $\frac{1}{2}$  tsp. baking powder,  $\frac{3}{8}$  tsp. salt,  $\frac{1}{2}$  egg beaten,  $\frac{1}{8}$  cups skim milk,  $\frac{1}{4}$  tsp. vegetable oil     $\frac{1}{2}$
3. 120 bags; \$ $\frac{1}{2}$ .00     $\frac{5}{8}$

4. Answers may vary.
5. \$6.26; \$13.74

**Sensible Snacking: (page 79)**

Answers may vary.

**Who Am I?: (page 80)**

- |              |                 |            |            |                        |
|--------------|-----------------|------------|------------|------------------------|
| 1. spinach   | 2. corn         | 3. potato  | 4. okra    | 5. celery or artichoke |
| 6. asparagus | 7. string beans | 8. lettuce | 9. bananas | 10. carrot top         |

**Food Label Study: (page 81)**

Answers may vary.

**How Many Ways Can You Say Eat?: (page 82)**

Answer may vary.

**"Dairy" Good: (page 83)**

kelp, locust beans, Irish moss, eggs, beet, cane, corn syrup, dextrose, vanilla beans, pineapple, strawberries, cacao, beans, bananas

**What's "New" - trititional in Foods?: (page 84)**

Answers may vary.

**Out to Lunch: (page 85)**

Answers may vary.

**The Cholesterol Question: (page 86)**

Answers may vary.

