Workbook on Science (Grade 5)

Produced by 57-75
in partnership with the Ateneo Center for Educational Development
and the Department of Education Divisions of
Bayombong (Nueva Vizcaya), Guimaras, Iligan City (Lanao del Norte), Iloilo City (Iloilo),
Pampanga, San Isidro (Nueva Ecija), Pagbilao (Quezon) and Sual (Pangasinan)

Workbook on Science (Grade 5)

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PREFACE

In April 2008 the **57-75** Movement organized a workbooks development write-shop in order to come up with an immediate and effective response to the problem of lacking textbooks and instructional materials in public schools. For two weeks, master teachers from each of the **57-75** pilot sites compiled a series of workbooks on Science, English, and Mathematics designed for their elementary and high school students.

The write-shop aimed to: (1) identify least mastered skills in a subject area; (2) produce lesson guides that will help increase the ability of classroom instructors in developing the mastery level of students particularly in problematic subject areas; and (3) help teachers be creative in developing their own instructional materials based on resources available to them in their respective schools.

Both the faculty and students of the public school system are expected to gain from this project. Teachers will not only be aided by the problem-solving and explanations given in the workbooks but will also be helped in terms of gearing their students towards a unified understanding of the subject matter. This workbook will also serve as an alternative medium of instruction in the absence of textbooks and other necessary teaching materials that the less fortunate may not be able to afford.

The workbooks development write-shop is also **57-75**'s contribution to enhancing the reading proficiencies in its pilot sites.

57-75, a private sector-led movement created to help address the many problems of Philippine education, was inspired by one of the many disturbing indicators of the state of Philippine education – the results of the National Achievement Test, in which grade school pupils scored close to 57.

The reversal of numbers in the campaign name – from 57 to 75 – symbolizes what the movement is trying to do: *turn things around*, about radically rethinking the way we look at our education system and the way we support it. We believe that this kind of rethinking will help turn around the dismal trends in Philippine education, and eventually change statistics from 57 to 75.

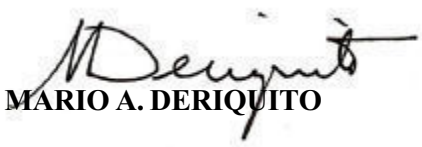
57-75 advocates *Focusing* on helping students stay in school, enhancing reading proficiencies, and improving achievement rates in math, science, and English; student and school *Performance*; and *Community Empowerment and Engagement.*

57-75 wishes to acknowledge the Ateneo Center for Educational Development for supervising the workshop. Much gratitude is also given to the League of Corporate Foundations' Committee on Education which funded the workshop through a grant provided by TeaM Energy Foundation, as well as to Jollibee Foundation for additional logistical support.

57-75 would also like to especially acknowledge the master teachers from the pilot sites – without their commitment, this workbook would not have been possible. We also extend our appreciation to the reviewers, editors and encoders of ACED who accommodated this project into their existing workload.

57-75 is also very grateful to the initial pool of corporate donors who have pledged to help in the reproduction of this workbook: TeaM Energy Foundation, Petron Foundation, Pilmico Corporation, BPI Foundation, Metrobank Foundation and Insular Life Foundation. Thank you for helping to reverse the education crisis!

In behalf of the National Task Force –



MARIO A. DERIQUITO

WORKBOOK ON GRADE 5 SCIENCE

Title **Page**

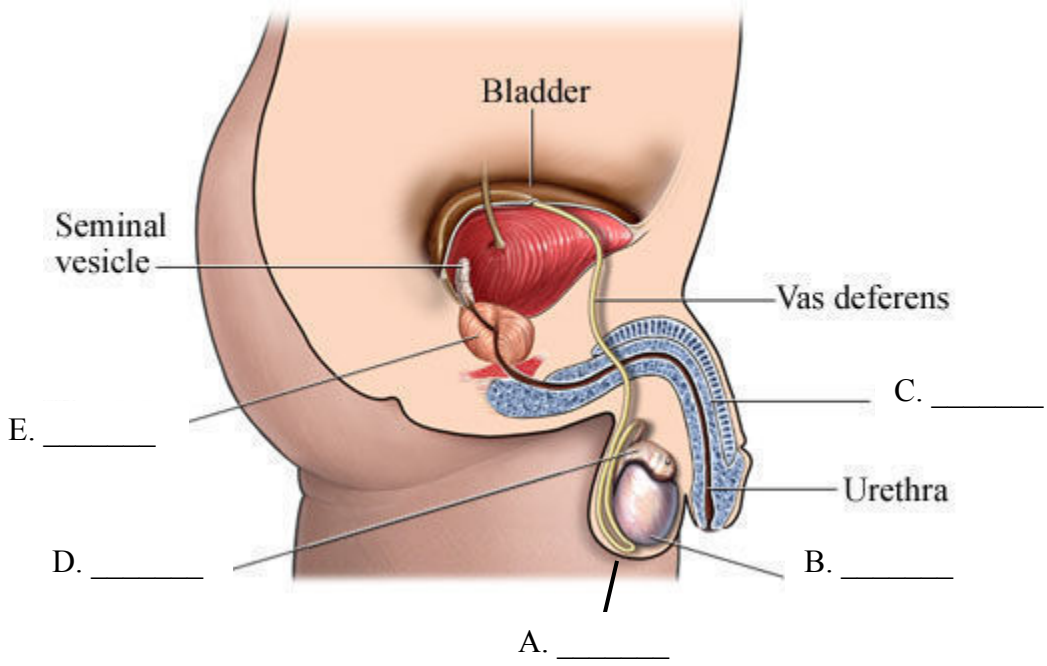
Title **Page**

Lesson 1: Identifying the Male and Female Reproductive System and Its Major Parts (Competency I.1.1)

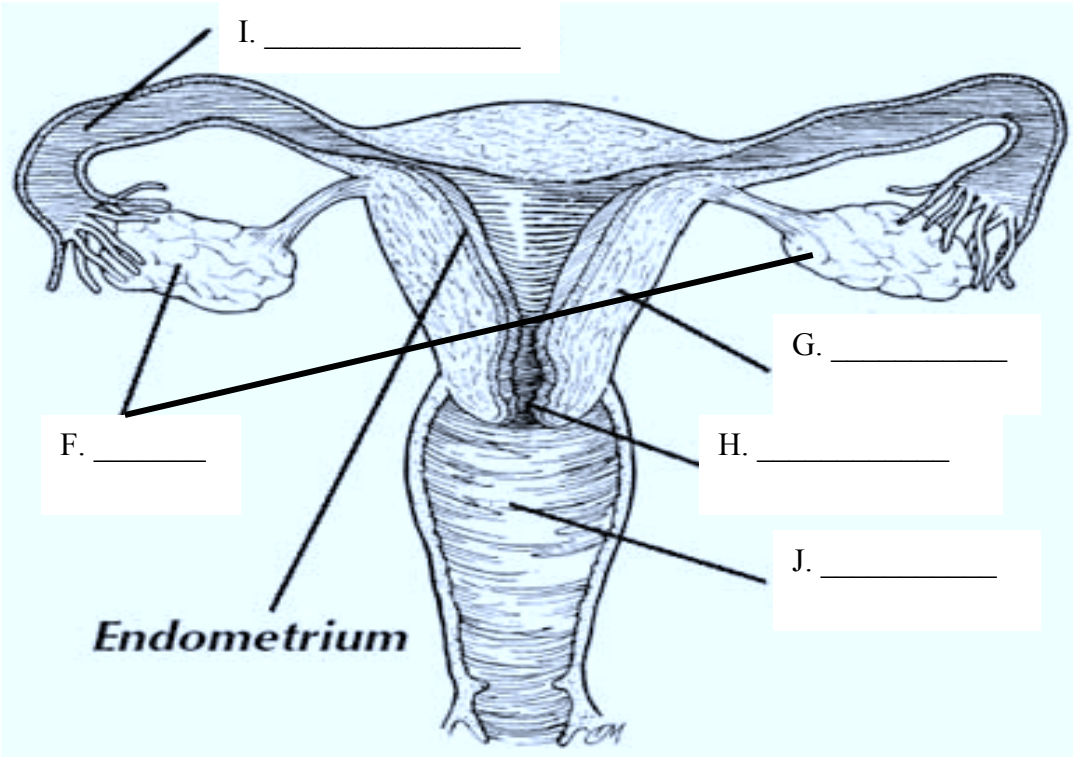
Exercise A

Directions: Name the parts of the male and female reproductive system.

A. Male Reproductive System



B. Female Reproductive System

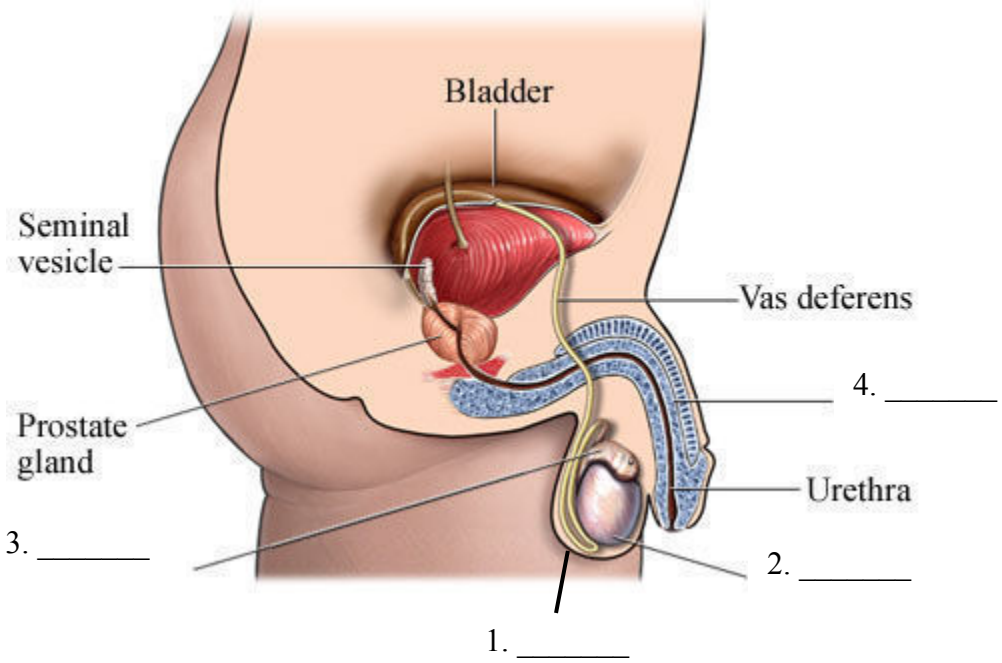


Lesson 1: Identifying the Male and Female Reproductive System and Its Major Parts (Competency I.1.1)

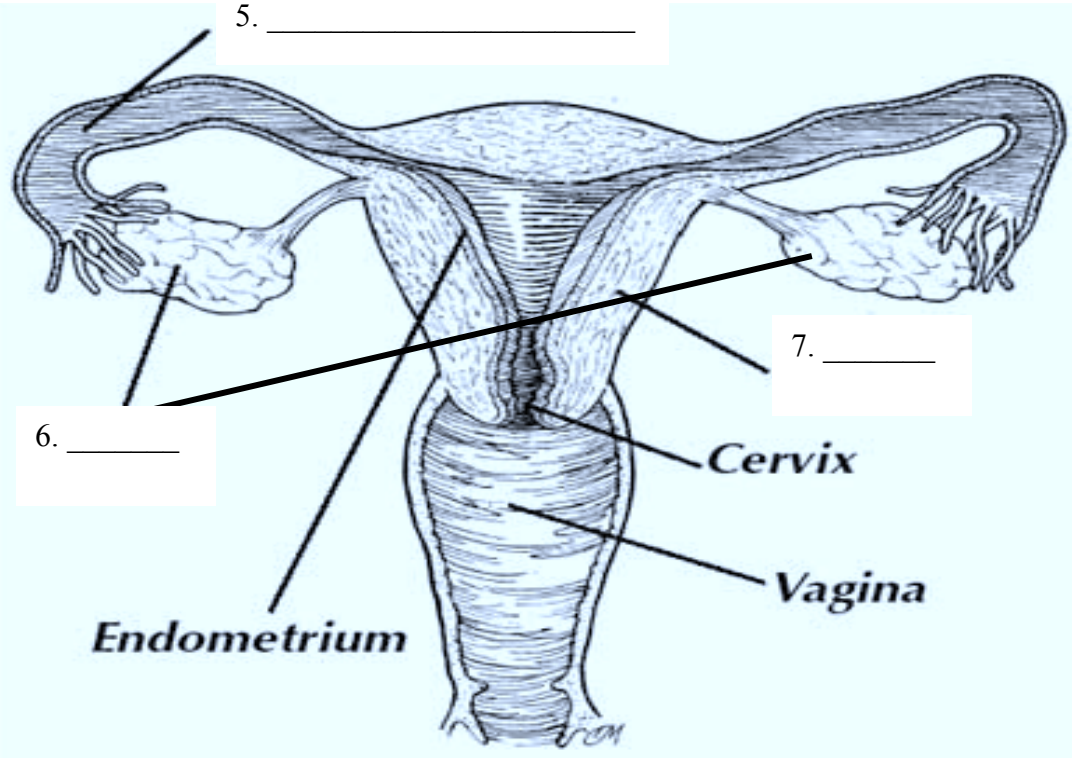
Exercise B

Directions: The drawings below show the male and female reproductive systems. Identify the parts marked with numbers.

A. Male Reproductive System



B. Female Reproductive System



Lesson 2: Relating the structure of the male/female reproductive system to its function in reproduction. (Competency I 1.2)

Exercise A

Directions: Read the statements below. Write Yes if the statement is correct or No if the statement is incorrect.

____ 1. The ovary produces the egg cells.

____ 2. The sperms are produced in the scrotum

____ 3. The fetus or unborn baby develops in the uterus.

____ 4. The seminal vesicles and the prostate produce white fluids.

____ 5. The matured egg released in the ovary goes to one of the fallopian tubes.

____ 6. In some cases, fertilization occurs and may develop in the vagina.

____ 7. The cervix and vagina expand during childbirth.

____ 8. The epididymis serves as a temporary storage tube and passage for the transport of matured sperms.

____ 9. The fluids and the sperms form semen.

____ 10. A fetus can develop in the fallopian tube for nine months.

Lesson 2: Relating the structure of the male/female reproductive system to its function in reproduction. (Competency I 1.2)

Exercise B

Directions: Match the parts of the reproductive system in column A with its function in Column B. Write only the letter of your answer.

A	B
_____ 1. Sperm	a. Produced in the scrotum.
_____ 2. Eggs	b. Where fertilization of the egg cell takes place.
_____ 3. Uterus	c. Produces the egg cells.
_____ 4. Ovary	d. It can contract or expand when the fetus or unborn baby develops.
_____ 5. Fallopian Tube	e. Fluid produced by the prostate that helps sperms to move around.
_____ 6. Epididymis	f. Temporary storage tube and a passage for the transport of mature sperms.
_____ 7. Semen	g. Produces the semen.
_____ 8. Vagina	h. Produced in the ovary.
_____ 9. Reproduction	i. A passage where menstruation flows out, also called the birth canal.
_____ 10. Prostate Gland	j. Happens only when a sperm fertilizes a female egg cell, that is when life begins.

Lesson 3: Explaining the process of fertilization in humans. Competency I.1.3

Exercise A

Directions: The paragraph tells how fertilization in humans occurs. Supply the missing word/words to make the statements correct. Choose from the box below.

embryo	uterus	implanted
zygote	sperm cell	unite
fertilized ovum	fertilization	development
egg cell		

A new life begins when a (1)_____ from a male and an (2) _____ from a female join together or (3) _____. This process is called (4) _____. During the process, a (5) _____ is formed then a zygote or (6) _____ develops into an (7) _____ and it stays and is (8) _____ in the (9) _____ to undergo its (10) _____.

Lesson 3: Explaining the process of fertilization in humans. Competency I.1.3

Exercise B

Directions: Supply the missing word/words to complete the paragraph about the process of fertilization in humans. Choose your answer from the box.

male	reproduction	union	embryo
sperm cell	ovum	zygote	fallopian tube
chromosomes	genetic information	uterus	

(1) _____ takes place when an (2) _____ or egg cell from a female unties with a sperm cell from a (3) _____. Each cell contains 23 (4) _____ that contain (5) _____. The sperm meets the ovum in the (6) _____ of the female and fertilizes it. From this (7) _____, the first cell of the new baby called (8) _____ is formed, attaching itself to the walls of the (9) _____. The zygote then develops into an (10)_____.

Lesson 4: Describing certain physical changes during puberty Competency I.2.1

Exercise A

Directions: Read the statements below. On the blanks, write 1 if the change during puberty occurs in boys, 2 if it occurs in girls and 3 if both.

_____ 1. Shoulders become broader.

_____ 2. Hips grow broader.

_____ 3. Hair grows under the arm.

_____ 4. Onset of a bust line

_____ 5. Pubic hair grows.

_____ 6. Tester produce sperms

_____ 7. Menstruation starts.

_____ 8. Height increases.

_____ 9. Height increases faster compared to the other sex.

_____10. Biceps and chest muscles become more defined.

Lesson 4: Describing certain physical changes during puberty Competency I.2.1

Exercise B

Directions: Identify the changes during puberty. Complete the table below.

1. Height increases more quickly compared to the other sex	6. Onset of bust line
2. Shoulders become broader	7. Pubic hair grows
3. Hips become broader	8. Voice become lower and deeper
4. Hair grows under the arms	9. Testes produce sperm
5. Height increases quickly	10. Menstruation starts

Changes During Puberty

Changes in Boys	Changes in Girls	Changes in Boys & Girls

Lesson 5: Relating the menstrual cycle to the ability to reproduce. (Competency I.2.2)

Exercise A

Directions: Encircle the letter of the correct answer.

1. An egg matures when a girl reaches puberty. If the egg is not fertilized, it comes out of the body as…

   a. ovulation b. menstruation c. puberty d. conception

2. What happens to the matured egg when there is no pregnancy?

   a. it dies b. it melts c. it becomes larger d. it is still alive

3. How many eggs in the ovary matures each month?

   a. five b. one c. one hundred d. one million

4. An egg cell in the ovary usually matures every _____.

   a. 31 days b. 28 days c. 15 days d. 5 days

5. A woman who has menstruation is already capable of _____

   a. respiration b. immunization c. reproduction

6. A normal menstrual flow usually stops after _____.

   a. 3 – 5 days b. 10-15 days c. 15-20 days d. 25-30 days

7. What happens to the mucus lining of the uterus when an egg dies?

   a. it breaks b. it multiplies c. it stretches d. it shrinks

8. When does mucus lining in the uterus develop?

   a. When an egg in the ovary matures
   b. Each time the menstruation stops
   c. Each time the mucus lining breaks
   d. Each time the egg dies

9. What occurs during the age of puberty when menstruation begins?

   a. an egg matures when a girl reaches puberty
   b. The eggs die during puberty
   c. The eggs do not mature.
   d. The eggs mature before puberty period.

10. Only girls menstruate and boys do not because _____.
    a. girls are not capable of bearing a child
    b. boys have two ovaries
    c. girls are capable of bearing a child
    d. boys have no reproductive organs

Lesson 5: Relating the menstrual cycle to the ability to reproduce. (Competency I.2.2)

Exercise B

Directions: Encircle the letter that gives the best answer.

1. What is the process of discharging the blood from the uterus at regular intervals?

   a. menstruation b. evaluation c. ovulation d. puberty

2. How many days does it take for an egg cell to mature?

   a. 5 days b. 10 days c. 20 days d. 28 days

3. When the matured egg is not fertilized, _____ does not happen.

   a. menstruation b. ovulation c. pregnancy d. growth

4. A female is capable of _____ upon the onset of menstruation.

   a. respiration b. immunization c. reproduction

5. Every month _____ egg/eggs mature/matures.

   a. five b. three c. two d. one

6. After 3-5 days, a normal menstrual flow usually _____.

   a. stops b. continue c. extends d. comes back

7. The mucus lining in the uterus develops for _____

   a. the menstruation to stop
   b. the mucus lining to break
   c. the blood to flow out
   d. the blood to stop circulating

8. The mucus lining in the uterus breaks when the egg cell _____.

   a. is fertilized
   b. flow out
   c. dies
   d. the egg cell does not mature

9. When a girl reaches puberty, menstruation occurs because _____.

   a. the egg cell matures
   b. the egg cell dies
   c. the egg does not mature
   d. the egg cell does not develop

10. Boys are not capable of bearing child because they _____.

    a. do not menstruate
    b. do not eat nutritious food
    c. do not have reproductive organs
    d. do not want to get pregnant

Lesson 6: Identifying health habits to keep the reproductive organs healthy. Taking precautionary / safety measures to keep the reproductive organs healthy (Competency I.3.1. – 3.2)

Exercise A

Directions: Put a check (✓) before the activity that keeps the reproductive organs healthy. Put X if it does not.

_____ 1. Wash your external organs with mild soap and water everyday.

_____ 2. Change your underwear once a week.

_____ 3. Wear clean underwear and change it as often as needed.

_____ 4. Wash your underwear with soap and water, rinse and dry them well.

_____ 5. Borrow the underwear of your friend.

_____ 6. Keep your underwear in a clean box or cabinet after pressing them.

_____ 7. Try using different medicines prescribed by a friend when you feel something wrong with your sex organs.

_____ 8. Ignore any ailment; it will just heal in time.

_____ 9. Consult a doctor if you feel that something is wrong with your sex organs.

_____ 10. Caring for the external parts is necessary to avoid infection.

Exercise B

Directions: Write Yes if it is a good habit and No if it is not a good habit.

_____ 1. Changing underwear as often as needed

_____ 2. Avoiding washing the external sex organs when sleepy

_____ 3. Using soiled underwear

_____ 4. Ignoring any disorder in the reproductive organ

_____ 5. Washing external sex organ with mild soap and water

_____ 6. Not seeing a doctor when an ailment is felt

_____ 7. Only asking advice from a friend in case you feel something wrong with your reproductive organs

_____ 8. If you feel something wrong with your sex organ, you must see the doctor.

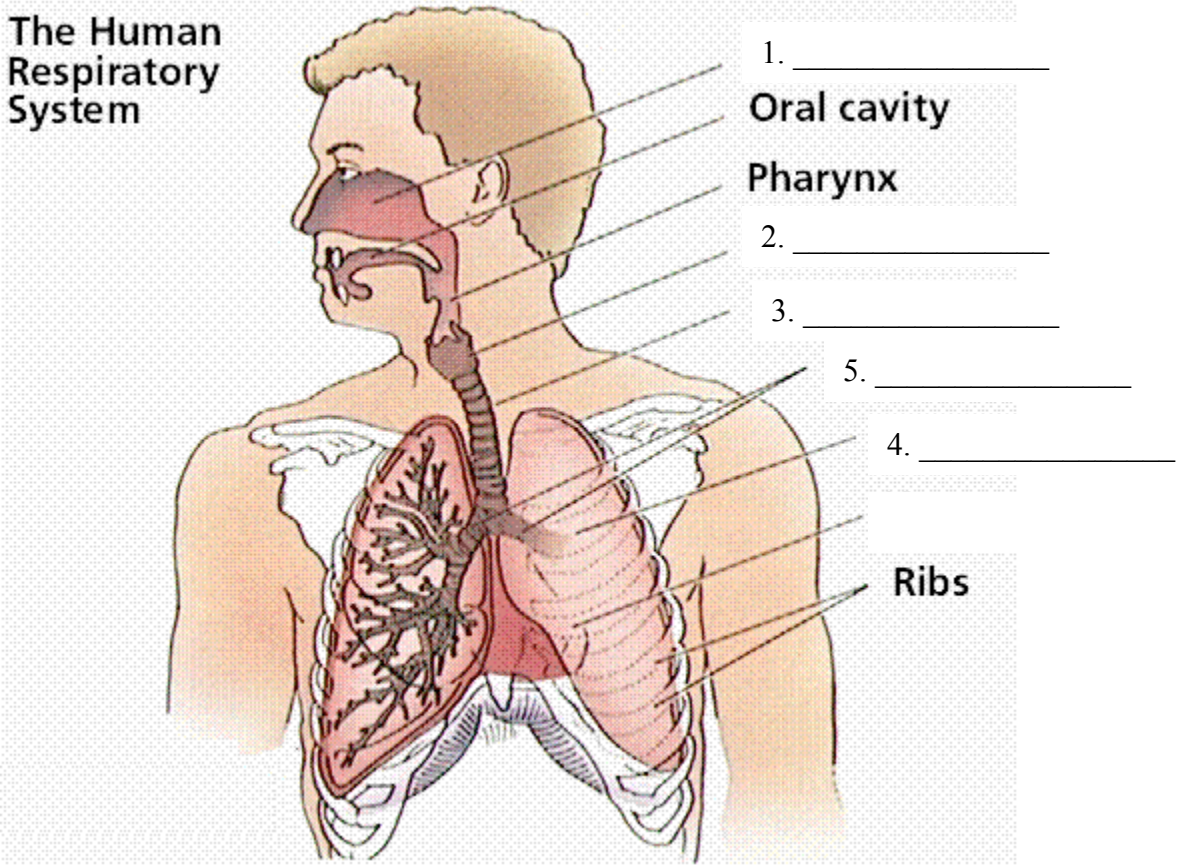
_____ 9. Only girls must wash their external sex organs.

_____ 10. Follow the advice of your doctor in case you have an infection in the reproductive organ

Lesson 7: Identifying the parts of the respiratory system. Competency I. 4.1

Exercise A

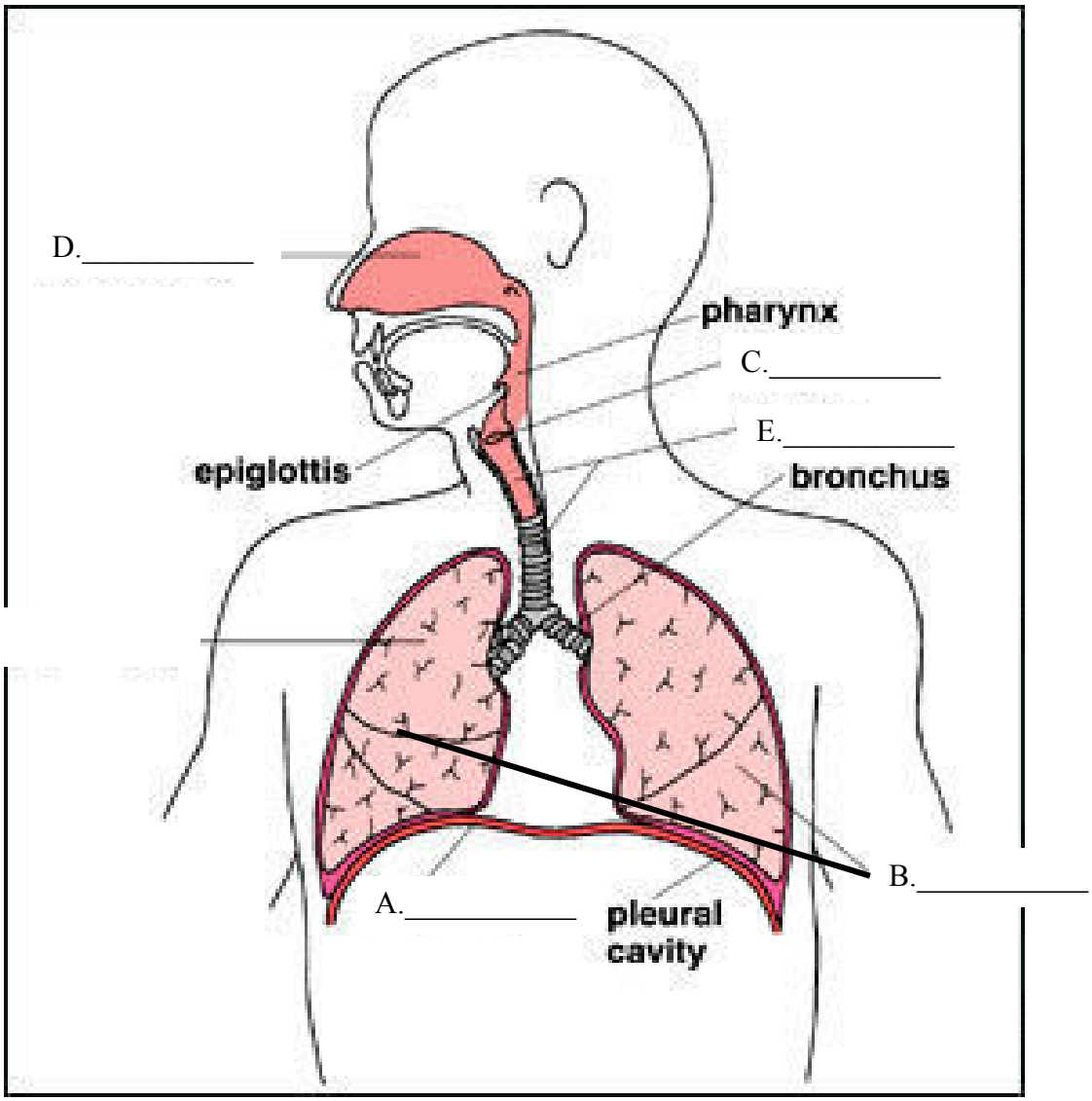
Directions: Identify the lettered part of the respiratory system. Label the numbered parts of the respiratory system properly.



Lesson 7: Identifying the parts of the respiratory system. Competency I. 4.1

Exercise B

Directions: Identify the lettered part of the respiratory system. Label the numbered parts of the respiratory system properly.



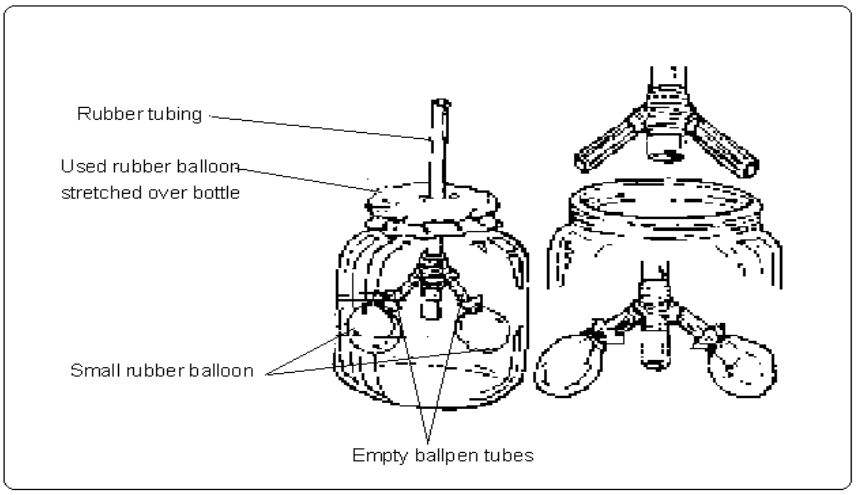
Lesson 8: Constructing a model to demonstrate the mechanism of breathing (Competency I 4.2)

Exercise A

Directions: Construct a lung-chest model by following the steps below then answer the following questions in your notebooks.

What you need:

Transparent plastic jar (11cm x 12 cm) without cover
1 rubber tubing (or plastic tubing) / short piece of water hose
used rubber balloon
2 small rubber balloons (or plastic bag)
rubber bands
scissors
glue
masking tape
2 empty ball pen tubes



What to do:

1. Make an inverted "Y" –shaped tube by inserting the two plastic ballpen tubes into the bigger rubber tubing. Seal the connections. Also seal the lower end of the rubber tubing. You can use masking tape or glue to seal them. (See illustration.) This will represent the trachea and the bronchial tubes.
2. To each end of the branching tube, fasten a small rubber balloon or plastic bag. Secure it with rubber band. Be sure that the bag contains only a very small amount of air inside. This will represent the left and right lungs.
3. At the bottom end of the jar, bore a hole of the same diameter as the rubber tubing. Place the "Y" tube into the jar such that the bigger tube is protruding outward through the hole in the jar and the two branches are inside. This jar will represent the chest cavity.
   Secure the tube to the jar with masking tape or glue.
4. Cover the jar with the used balloon. Secure it with the rubber bands. You may also add masking tape to be sure that the jar is airtight. This will represent the diaphragm.
5. Gently blow into the tube and seal the tube with your finger. What happens to the "lungs"? What happens to the "diaphragm"?
6. Slowly lift up your finger from the opening of the rubber tubing. What do you feel with your lifted finger? What happens to the lungs and the diaphragm?

Lesson 8: Constructing a model to demonstrate the mechanism of breathing (Competency I 4.2)

Exercise B

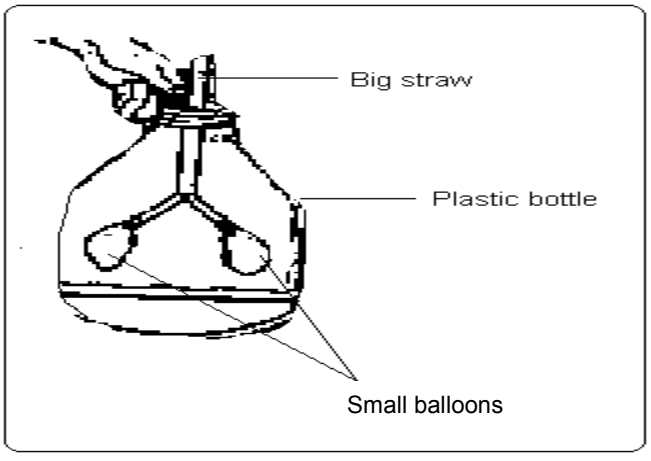
Directions: Construct a model of a respiratory system. Find out what happens when you breathe. Answer the questions given.

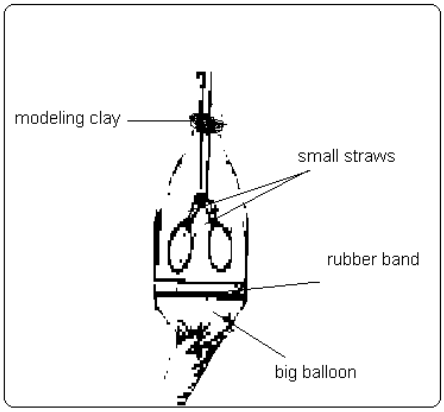
What You Will Need

- 1-liter plastic bottle
- 1 big plastic straw
- 1 small plastic straw
- scissors
- 1 big round balloon
- 2 small round balloons
- 3 rubber bands
- Modeling clay

What You Will Do

1. Cut the plastic bottle into two. Use the upper part of the bottle.
2. Attach a small balloon into each end of the two small plastic drinking straws. Insert the other ends of these straws into the big plastic straw. Hold them in place using the modeling clay. You have now made a model of the trachea, bronchi, and the lungs.
3. Put a hole on the cover of the bottle.
   Insert the model into the hole.
   Hold it in place using the modeling clay.
4. Cut the neck of the big balloon across the cut part of the bottle. Hold the stretched balloon in place with a rubber band.
   The balloon represents the diaphragm.





5. Pull down the stretched balloon. Observe what happens to the small balloons inside the bottle.
6. Push up the stretched balloon.

Directions: Answer the questions below.

1. What happened when you pulled down the stretched balloon?

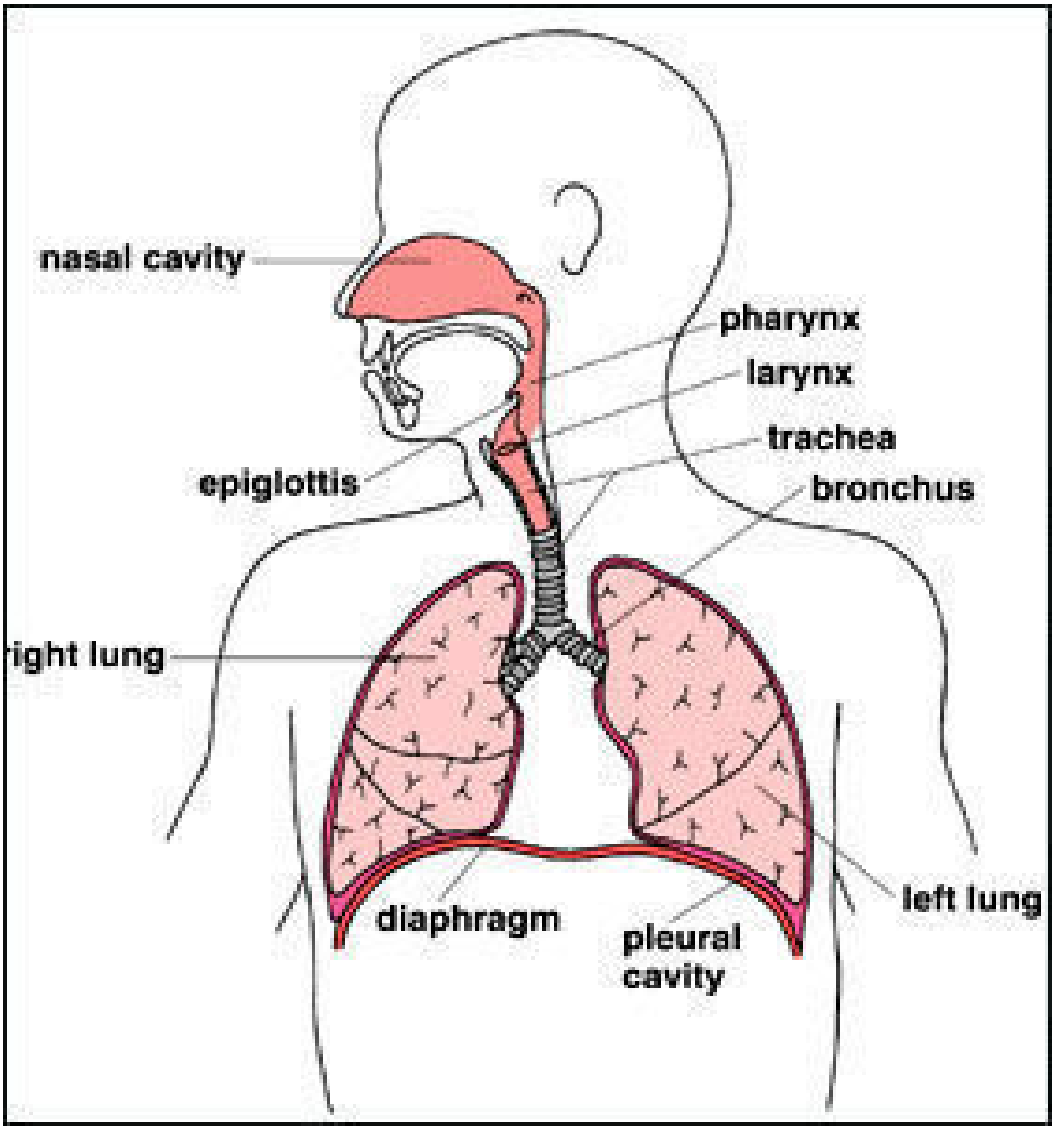
   _____

2. What happened when you pushed up the stretched balloon?

   _____

Lesson 9: **Tracing the path of air and what happens to it in different parts of the respiratory system (Competency I 4.3)**

Directions: Look at the diagram of the respiratory system below. Now trace the path of air as it enters or leaves the body. Be able to tell what happens to air in the different parts of the respiratory system.



Lesson 10: Naming the common ailments affecting the respiratory System (Competency I.5.1)

Exercise A

Directions: Find and circle each hidden word in the puzzle that names the common ailments affecting the circulatory system.

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

Lesson 10: Naming the common ailments affecting the respiratory System (Competency I.5.1)

Exercise B

Directions: Unscramble the word that names the ailments of the circulatory system. Use the given clues. Write the words on the line provided.

1. S D O L C _____Most common respiratory disease that affects the upper respiratory system

2. C L A U N N C G E R _____ A deadly disease because the lung cells grow abnormally without control. It is also caused by smoking.

3. R O B N C I S T H I _____ Inflammation of bronchial tubes.

4. L U I N F A Z E N _____ An acute infection of the respiratory tract.

5. N I A P E N U M O _____ Acute inflammation of the lungs.

6. BETURSISCULO _____ A communicable disease caused by bacteria called tubercle bacilli.

7. M A P E M H Y E S _____ Serious disease of the walls of the air sacs.

Lesson 11: Describing the causes, symptoms, preventions, and treatment of the respiratory diseases. (Competency I.5.2)

Exercise A

Directions: Match the ailments of the respiratory system in column **A** with its description in column **B.** Write your answer on the blanks.

____	1.	Lung cancer	a.	Caused by virus characterized by sneezing and runny nose
____	2.	Pneumonia	b.	Infection of sinuses due to colds
____	3.	Tuberculosis	c.	Swelling of the tonsils that is sometimes accompanied by fever
____	4.	Cold	d.	Respiratory disorder caused of temporary narrowing of the bronchi characterized by difficulty of breathing
____	5.	Sinusitis	e.	An infectious disease of respiratory tract caused by the influenza virus
____	6.	Throat infection	f.	Inflammation of the lungs caused by wide variety of viruses, bacteria and fungi or may occur also with the inhalation of various dusts and gases
____	7.	Emphysema	g.	Acute or chronic infectious respiratory disease caused by bacteria Tubercle Bacilli
____	8.	Tonsillitis	h.	Also called strep throat caused by streptococcus
____	9.	Influenza or flu	i.	Disorderly growth of cells in the lungs characterized by chronic cough, blood in the mucus, chest pains, loss of weight and poor appetite
____	10.	Asthma	j.	Serious disease of the walls of the air sacs

Lesson 11: Describing the causes, symptoms, preventions, and treatment of the respiratory diseases. (Competency I.5.2)

Exercise B

Directions: Using a line, match column A with column B. Column A lists some common respiratory diseases. Column B lists symptoms/causes or prevention/treatment

A		B	
1.	Influenza	a.	Bacille Calmette-Guérin (BCG) vaccine
2.	Tuberculosis	b.	Stuffy nose
3.	Colds	c.	Antibiotics and vaccines
4.	Asthma	d.	Bed rest, fluids, antibiotic
5.	Bronchitis	e.	Diptheria Pertussis Tetanus (DPT) vaccine
6.	Pneumonia	f.	Allergens

Lesson 12: Practicing good health habits to keep the respiratory system healthy (Competency I.6, 6.1 – 6.2)

Exercise A

Directions: Put a check / before a good health practice and leave it blank if it's not.

____ 1. Breathe clean fresh air. Avoid heavily polluted places.

____ 2. Eat proper foods, have regular exercise and enough rest.

____ 3. Consult the doctor at the first sign of an infection.

____ 4. Stay away from people who are infected with colds, bronchitis or tuberculosis.

____ 5. Do not smoke.

____ 6. Smoke once a day only if it could not be avoided.

____ 7. Visit the doctor only if the ailments are serious.

____ 8. Drink enough water

____ 9. Cover your nose while on dusty, polluted place.

____ 10. Vaccination of DPT for protection of children.

Exercise B

Directions: Write Yes if it is a healthy practice and No if not.

____ 1. Avoid heavily crowded and polluted places.

____ 2. Do not smoke.

____ 3. Take medicines prescribed by doctors in case of respiratory infection only when your ailment is so serious

____ 4. Eat healthy food.

____ 5. Stay away from people who are infected with respiratory disease.

____ 6. Consult the doctor at the first sign of infection.

____ 7. Have enough rest and exercise.

____ 8. Take a rest only when you get sick.

____ 9. Drink enough water if you have colds.

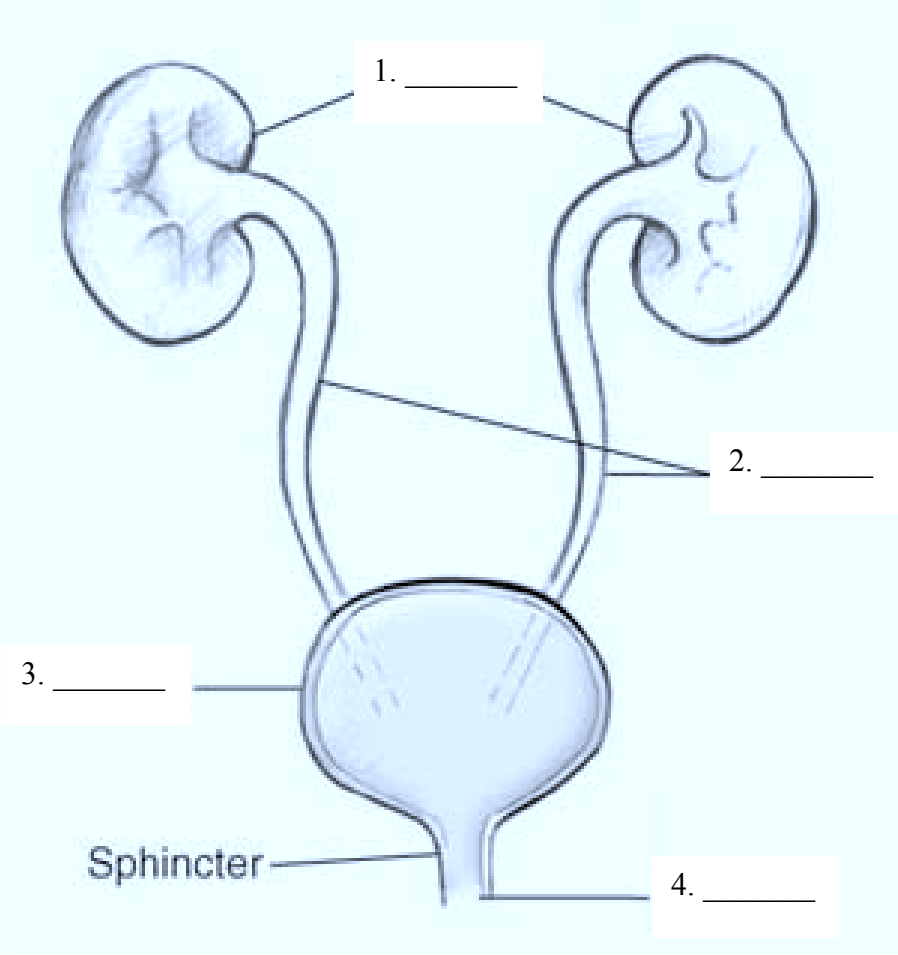
____ 10. Do not follow the doctor's advice.

Lesson 13: Identifying the parts of the urinary system. Competency I.7.1

Exercise A

Directions: Below is the diagram of the urinary system. Identify the numbered part. Write your answer on the (blanks) space provided.

The Urinary System



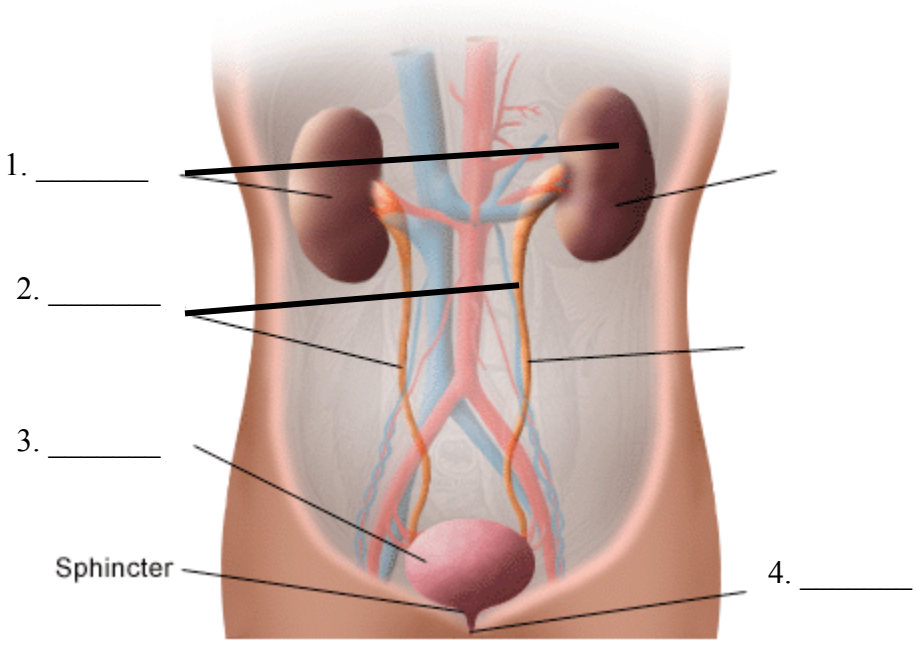
Lesson 13: Identifying the parts of the urinary system. Competency I.7.1

Exercise B

Directions: Below is the diagram of the urinary system. Label the parts properly. Use the words in the box.

kidney	ureter	urethra	bladder

The Urinary System



Lesson 14: Describing how urine is formed and eliminated from the body (Competency I.7.2)

Exercise A

Directions: The sentences below will help you describe how urine is formed and eliminated from the body. Sequence them and write your answer on your paper.

A. When the bladder is full the urethra eliminates the urine when you urinate.
B. Blood passes and filtered through the kidney.
C. Urine from each kidney is collected in the renal pelvis and passes into a hollow tube, the ureter
D. From the ureter, urine is emptied into the urinary bladder.

Your answer:

_____

_____

_____

_____

_____

_____

Lesson 14: Describing how urine is formed and eliminated from the body (Competency I.7.2)

Exercise B

Directions: Describe how urine is formed and eliminated from the body. Complete the sentences below. Choose your answer from the box.

urethra	filtered
kidney	urethra
urine	eliminates
urinary bladder	

Urine passes and (1) _____ in the (2) _____, (3) _____ from each kidney is collected in the renal pelvis and passes into a hollow tube, the (4) _____. From the ureter, urine is emptied into the (5) _____. When the bladder is full the (6) _____ (7) _____ the urine when you urinate.

Lesson 15: Explaining how other body wastes are removed
Competency I.7.3

Exercise A

Directions: Explain how the body wastes are removed in the different organs/body system. Complete the table below.

Organ / System of Excretion	How it removes waste from the body
1. lung-respiratory system	
2. skin	
3. digestive system	

Exercise B

Directions: Choose one excretory system or organ from the list below. Explain how it removes waste from the body. Write your answer on the space below the table.

Body Organ / System	Waste it removed
A. Skin	Excess water / perspiration
B. lungs or excretory system	Carbon dioxide
C. digestive system	Solid waste

Lesson 16: Practicing desirable health habits that help prevent control common ailments affecting the urinary system(Competency I.7.4)

Exercise A

Directions: Look at the pictures below. Which health habits should you practice to help control / prevent the common ailments affecting the circulatory system? Put a check on the picture.

a.

b.

c.

d.

e.

f.

Lesson 16: Practicing desirable health habits that help prevent control common ailments affecting the urinary system(Competency I.7.4)

Exercise B

Directions: There are some ways you can do to keep the circulatory system healthy and help prevent common ailments. Put a check on the line before the practices that are desirable.

____ 1. Take a bath regularly to eliminate dead cells.

____ 2. See a doctor when you notice irregularities in your urine or urination.

____ 3. Do not hold back urination and bowel movement.

____ 4. Avoid eating salty and fatty foods.

____ 5. Get enough rest, exercise, and fresh air.

____ 6. Drink plenty of water and juice every day to help get rid of toxic materials.

____ 7. Eat plenty of fruits and vegetables.

____ 8. Avoid too much exposure to the sun.

____ 9. Eat proper food in correct amount so that body will not have the excess nutrients to overwork the body organs.

____ 10. Check your urine. Normal urine is clear. Cloudy urine may indicate some ailments.

Lesson 17: Classifying animals according to the food they eat.

Exercise A

Directions: Classify the following animals in the box according to the food they eat. Write them in their proper column in the table.

rat	fish	lion	dog	elephant
heron	frog	mouse	cow	dugong
horse	starfish	eagle	cat	
owl	carabao	snake	duck	
goat	goose	rabbit	tiger	

Herbivores (plants only)	**Carnivores** (meat only)	**Omnivores** (both plants and meat)

Lesson 17: Classifying animals according to the food they eat.

Exercise B

Directions: Classify the following animals according to they type of food they eat. Write Herbivore, Omnivore, or Carnivore on the blank.

_____ 1. monkey

_____ 2. eagle

_____ 3. snake

_____ 4. sheep

_____ 5. horse

_____ 6. pig

_____ 7. dog

_____ 8. owl

_____ 9. man

_____ 10. caterpillar

Lesson 18: Describe how animals get / eat their food using certain body parts (PELC I. 1.2)

Exercise A

Directions: Read the statements below. Write True or False in the blanks.

_____ 1. Carabao and cows have wide teeth for chewing and grinding grass.

_____ 2. Horses have pointed teeth to tear the grass.

_____ 3. Giraffes have long necks to reach the leaves on trees.

_____ 4. Most carnivores have sharp-pointed teeth for cutting meat into small pieces.

_____ 5. Lions, tigers, and wolves are herbivores.

_____ 6. Horses, cows, and carabao are examples of animals which eat grass and other plants.

_____ 7. Omnivorous animals do not have sharp teeth in getting their foods.

_____ 8. Birds use their teeth to get their food.

_____ 9. Elephants are omnivores.

_____ 10. Butterflies have mandibles for getting their food.

Exercise B

Directions: Observe your favorite pet or animal and how it gets/eats its food. Draw your observation on the space below. Write a short explanation of drawing.

Lesson 19: Describe body parts used by animals for getting / eating food.

Exercise A

Directions: Encircle the letter of the correct answer.

1. Describe the teeth of horses and carabao

   a. flat teeth b. pointed teeth c. small teeth d. big teeth

2. Meat-eating animals have:

   a. sharp strong and pointed teeth b. wide and large mouth
   c. canine teeth d. upper and lower jaws

3. What body parts do birds use for getting food?

   a. beak b. between the teeth c. canine teeth d. upper teeth

4. How do you describe meat-eating animals?

   a. sharp pointed teeth b. sharp-edged upper teeth c. flat teeth

5. How do you describe the parts of the snake used for getting food?

   a. forked tongue b. elastic jaws c. flat teeth d. sharp teeth

6. In getting and eating food, grasshoppers use their _____

   a. sticky tongues b. mandibles in the mouth
   c. sucking mouth parts d. tiny tubes in getting their foods

7. What body parts of butterflies are used for getting food?

   a. sucking mouth parts b. tiny tube in mouth parts
   c. long sticky tongue d. piercing and sucking mouth parts

8. In getting and eating food, chickens use their _____

   a. sharp beaks b. flat bills c. mandibles d. sucking tube in eating seeds

9. How do omnivores eat?

   a. they have sharp and flat teeth b. wide teeth
   c. sharp-edged upper teeth d. sharp pointed teeth

10. What body parts do some animals use in eating?

    a. proboscis b. mandebtes c. piercing mouth parts d. sticky mouth

Lesson 19: Describe body parts used by animals for getting / eating food.

Exercise B

Directions: Encircle the letter of correct answer.

1. Which of the following animals have flat teeth?

   a. pig b. carabaos c. lions d. tiger

2. What do meat-eating animals have in common?

   a. wide teeth b. sharp & pointed teeth c. tongue d. jaws

3. What do rabbits have in using for getting their foods?

   a. lower teeth b. flat teeth c. two-large teeth d. pointed teeth

4. Which animal has sharp, strong and pointed teeth?

   a. rabbits b. tiger c. carabaos d. horses

5. Flesh-eating animals use the following body parts except one.

   a. upper jaw over the lower jaw c. fins
   b. beak for tearing meat d. fangs

6. Which animals have mandibles in the mouth?

   a. mosquitoes b. flies c. bees d. grasshopper

7. Which animal use tiny tubes in mouth parts in getting their foods?

   a. bees b. butterflies c. mosquitoes d. termites

8. What body parts of chickens are used for getting/eating foods?

   a. sucking tube b. mandibles c. flat bills d. beak

9. Birds use their

   a. teeth b. beaks c. nose d. feet in getting and eating their foods

10. Some animals have teeth while some have beaks, still others have tiny tubes. What does this show?

    a. animals live in different environment
    b. animals differ from sizes
    c. animals have different parts for eating
    d. animals eat food in order to grow

Lesson 20: Infers the kind of food an animal eats from the appearance of its mouth parts

Exercise A

Directions: Using a line, match the animals in Column A to the mouthparts used for getting and eating their food in Column B.

1.	Dogs, lions	a.	Tiny tubes for sucking
2.	Cows, horses	b.	Long sticky tongues
3.	Bees, flies	c.	Sharp, strong teeth
4.	Birds, ducks	d.	Flat teeth
5.	Frogs, toads	e.	Strong, hooked beaks
6.	Clams	f.	Sucking & piercing mouth parts
7.	Flies, mosquitoes	g.	Tube called siphon
8.	Owls, hawks	h.	Teeth in both upper & lower jaws
9	Sheep	i.	Hard beaks
10.	Cats, tiger	j.	claws

Lesson 20: Infers the kind of food an animal eats from the appearance of its mouth parts

Exercise B

Directions: In the boxes below, draw one animal that has the following appearances.

long and sticky mouth

hard beak

sharp and strong teeth

Lesson 21: Name animals that live in places where certain food services are found

Exercise A

Directions: Choose the letter of the correct answer.

1. Where do fishes live?

   a. water b. land c. forest d. anywhere

2. What kind of animals lives in the forest?

   a. dogs b. monkeys c. camel d. cat

3. An attractive animal that is also found in the mountains is

   a. snake b. elephant c. giant panda d. camel

4. The following are examples of animals whose diet includes animals found in bodies of water except _____.

   a. kingfisher b. heron c. chicken d. hawk

5. What animal lives in the rivers and lakes in the forest?

   a. baboy damo b. dog c. crocodile d. cat

6. It is one of the biggest animals that lives on land.

   a. cow b. horse c. elephant d. carabao

7. What specific kind of animal lives in grassland?

   a. goat b. horse c. cattle d. all of the above

8. What insect lives around the lake?

   a. grasshopper b. bees c. mosquitoes d. ants

9. What animal stays floating in the surface most of the time?

   a. camel b. crocodile c. lizard d. deer

10. An anthill is a place where _____ live.

    a. spiders b. birds c. dogs d. ants

Lesson 21: Name animals that live in places where certain food services are found

Exercise B

Directions: In the boxes below, draw one animal each that lives in the following places.

1. Forest	2. Farm	3. Desert

4. Sea	5. Lake	6. Swamp / Pond

Lesson 22: Describes how animals adapt to their environment for protection, food gathering effectiveness and survival

Exercise A

Directions: Write the body parts used by the following animals for their protection.

ANIMALS	BODY PROTECTION
1. crabs	
2. dogs	
3. mudfish	
4. lions	
5. toads and frogs	
6. snake	
7. skunk	
8. carabaos, goats	
9. grasshopper	
10. mosquitoes	

Exercise B

Directions: Observe your favorite animal or pet. Find out how it protects itself from harm. Draw it on the space below and write your observations under the drawing.

Lesson 23: Demonstrate a procedure to show how certain animals adapt to their environment through camouflage.

Exercise A

Directions: Put a check before the item which demonstrates animal adaptation through change of color.

_____ 1.A bird is hunting food along shrubs and grasses so the grasshopper hides itself in the grass by blending its color to the grass.

_____ 2. Mudfish burrow itself in the mud to keep itself unseen by its prey

_____ 3. Rats ran away from the cat to avoid it

_____ 4. A chameleon is threatened by a predator. It perches itself on tree branch.

_____ 5. Rat running away from the cat is to keep itself safe.

_____ 6. Frogs hide itself from the heron by blending its color with the mud.

Exercise B

Directions: Put a check before the item which demonstrates animal adaptation through change of color.

_____ 1. Mudfish burrow itself in the mud to keep itself unseen by its prey

_____ 2. A bird is hunting food along shrubs and grasses so the grasshopper hides itself in the grass by blending its color to the grass.

_____ 3. Frogs hide itself from the heron by blending its color with the mud.

_____ 4. Rat running away from the cat is to keep itself safe.

_____ 5. A chameleon is threatened by a predator. It perches itself on tree branch.

_____ 6. Rats ran away from the cat to avoid it

Lesson 24: Classify animals into vertebrates and invertebrates PELC 4.4.1

Exercise A

Directions: Classify these animals into animals with backbone (vertebrate) or animals without backbone (invertebrate). Put a check under the proper heading.

Animals	With backbone	Without backbone
1. fish		
2. kangaroo		
3. jellyfish		
4. penguins		
5. flat worms		
6. turtle		
7. starfish		
8. corals		
9. snakes		
10. roundworms		

Lesson 24: Classify animals into vertebrates and invertebrates PELC 4.4.1

Exercise B

Directions: Classify these animals into animals with backbone (vertebrate) or animals without backbone (invertebrate). Put a check under the proper heading.

Animals	Vertebrate	Invertebrate
1. kangaroo		
2. fish		
3. flat worms		
4. penguins		
5. jellyfish		
6. turtle		
7. corals		
8. starfish		
9. snakes		
10. roundworms		

Lesson 25: Classify vertebrates into mammals, birds, reptiles, and amphibians

Exercise A.

Directions: Classify the following animals. On the blanks, write F, if it is a fish; A, an amphibian; R, a reptile; B, a bird; or M, a mammal,

1. ostrich _____
2. snake _____
3. frog _____
4. whale _____
5. dolphin _____
6. milkfish _____
7. chicken _____
8. swordfish _____
9. toad _____
10. crocodile _____

Lesson 25: Classify vertebrates into mammals, birds, reptiles, and amphibians

Exercise B

Directions: Identify and classify the following animals. Write F. for fish; A, amphibians; R, a reptile, B, a bird and M, a mammal.

_____ 1. 

_____ 2. 

_____ 3. 

_____ 4. 

_____ 5. 

_____ 6. 

_____ 7. 

_____ 8. 

_____ 9. 

_____ 10. 

Lesson 26: Identify characteristic of each group of vertebrates. (PELC 4-2-1)

Exercise A

Direction: Fill in blanks with the correct answer. Refer to the words in the box below the statements.

1. _____ are warm-blooded animals. Their body temperature does not change with the environment or surroundings.

2. _____ are animals with tough, dry skin covered with horny scales.

3. _____ are warm-blooded animals and breathe through their lungs.

4. _____ are cold-blooded animals with moist and slippery skin.

5. This is a group of aquatic animals. They live in water all their life. We call this group of vertebrates as _____.

mammals
birds
fish
reptiles
amphibians

Lesson 26: Identify characteristic of each group of vertebrates. (PELC 4-2-1)

Exercise B

Directions: Using a line, match each vertebrate in Column A with their characteristics in Column B.

Column A	Column B
1. fishes	A. Feed their young with milk
2. amphibians	B. only animals with feathers
3. reptiles	C. breathe through their gills
4. birds	D. cold blooded animals with scales and shell coverings
5. mammals	E. live in both land and water

Lesson 27: Classify invertebrates into arthropods, coelenterates, annelids, crustaceans, echinoderms, insects, arachnids, and mollusk

Exercise A

Directions: Classify these animals by writing their names under the proper column

earthworm	sponges	crab
jellyfish	sea cucumber	squid
butterfly	corals	tarantula

Invertebrates

Coelenterates	Annelids	Crustaceans

Echinoderms	Insects	Arachnids	Mollusks

Lesson 27: Classify invertebrates into arthropods, coelenterates, annelids, crustaceans, echinoderms, insects, arachnids, and mollusk

Exercise B

Directions: Classify the following invertebrate. Write AR, if it is an arthropods; CO, coelenterates, AN, annelids; CR, crustaceans; E, echinoderms; I, insects; AA, arachnids and M, mollusk.

_____ 1. Cockroach

_____ 2. corals

_____ 3. lice

_____ 4. sea urchins

_____ 5. Squid

_____ 6. earthworm

_____ 7. snails

_____ 8. praying mantis

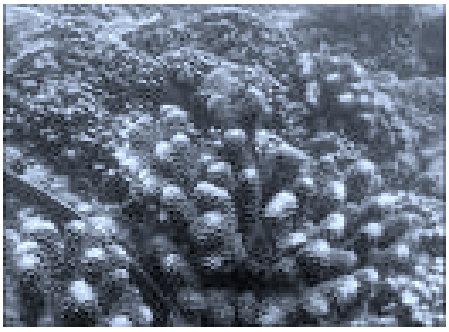
_____ 9. jellyfish

_____ 10. sea cucumber

Lesson 28: Explain the importance of coral reefs. (PELC 5.)

Exercise A

Directions: Read the paragraph and fill in the blanks the correct answer.

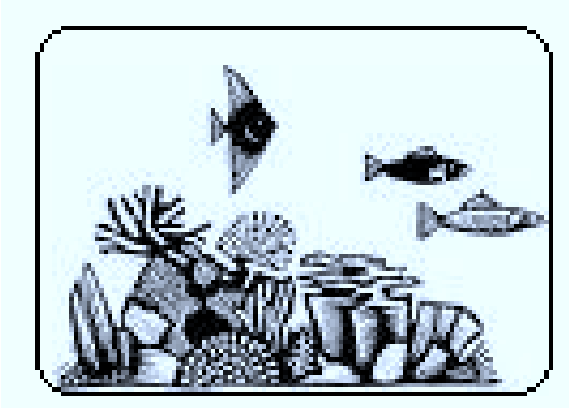


The coral reef is an underwater ridge or mound built of fragments of coral. It provides natural habitat to various marine plants and animals. They live in 1._____ at the sea bottom. There are three forms of coral reefs 2._____ reef when it is close to shore, 3._____ reefs are ;located offshore and 4._____, a ring shaped reef found far offshore. Coral reefs support a variety of 5._____. They are homes to many and beautiful fishes. The provide 6._____ materials for load building. Many corals are used making of 7._____ and 8._____ 9._____ use the coral reefs to study 10._____ of organism and their environment

Lesson 28: Explain the importance of coral reefs. (PELC 5.)

Exercise B

Directions: Explain the importance of coral reefs in our life. Write your answer in five sentences.



_____

_____

_____

_____

_____

_____

_____

_____

Lesson 29: Describing coral reefs

Exercise A

Directions: Fill in the blanks with the correct answer.

coral reef	barrier reefs	calcium carbonate	fringing reefs
atolls	shell-like	unconsolidated sediment	
colonies	rock-like	hermatypic	

1. _____ is an underwater ridge or mound built of fragments of coral
2. Coral reefs live in _____ at sea bottom.
3. _____ are located close to shore separated from land only shallow water.
4. _____ lie farther offshore, separated from land by lagoons more than 10 meters deep.
5. _____ are kind of reefs found far offshore and comprise a ring-shaped reef.
6. The basic structures of coral reef are _____ and
7. _____ materials.
8. _____ from the corals is deposited as reef framework or as unconsolidated sediment.
9. _____ comprise of eroded reef rock, sand and gravel
10. _____ are corals that build reefs.

Lesson 28: Explain the importance of coral reefs. (PELC 5.)

Exercise B

Directions: Match the words that pertain to coral reefs in column A with the descriptions in column B.

A	B
1. coral reefs	a. basic structure
2. colonies	b. far offshore
3. fringing reefs	c. sea bottom
4. barrier reefs	d. underwater ridge
5. atolls	e. basic structure
6. shell-like	f. corals that build reefs
7. marine biologists	g. calcium carbonate
8. rock-like	h. deposited corals
9. unconsolidated sediment	i. close to shore
10. hermatypic	j. farther offshore
	k. study ecological relationships of organisms

Lesson 30: Identifying the importance of coral reefs

Exercise A

Directions: Read the sentences. Write Yes if it tells the importance of coral reefs and No if not.

____ 1. Coral reefs are habitats of animals and birds.

____ 2. Coral reefs are habitats for marine animals.

____ 3. The marine inhabitants of the reef are a source of our food and livelihood for other people.

____ 4. The coral reefs act as wave breakers to soften the impact of typhoons to coastal areas.

____ 5. Since reefs are habitats, hatcheries and nurseries to a large number of marine animals, they become rich fishing grounds.

____ 6. Coral reefs protect the forest animals.

____ 7. The reefs provide important clues for environmental studies. Reefs have been found to be very sensitive to environmental changes.

____ 8. Coral reefs grow and develop in other environments, such as forest and rivers.

____ 9. Coral reefs can produce materials for building houses.

____ 10. Coral reefs constitute a natural laboratory where students can study relationships between organisms.

Exercise B

Directions: Encircle the statements that tell the importance of coral reefs.

A. They serve as homes for marine animals.

B. They can also be home for domesticated animals.

C. They are useful to farmers and factory workers only.

D. They become rich fishing grounds because they are habitats of a large number of marine animals.

E. They have been found to be very sensitive to environmental changes so it provide clues for environmental studies.

F. In coastal areas, they act as wave breakers to soften the impact of typhoons.

G. They protect plants in the fields.

H. Fishing can destroy coral reefs.

I. They are part of the ecological balance.

J. They protect and shelter the young fish.

Lesson 31: Predicting what will happen when coral reefs are destroyed Competency 5.4

Exercise A

Directions: The following are ways that cause destruction of coral reefs. Predict the effect in each case.

Cause	Effect
1. Dynamite fishing	
2. Muro – ami	
3. Using small mesh nets and traps	
4. Collecting corals/coral mining	
5. Improper disposal of waste	

Lesson 31: Predicting what will happen when coral reefs are destroyed Competency 5.4

Exercise B

Directions: Identify the effects for the given causes. Use a line to match the causes in column A with the effects in column B.

Cause	Effect
1. Dynamite fishing	a. Harmful chemicals may reach the lakes bays and seas during the rainy days.
2. Coral mining	
3. Industrial development/use of pesticides and fertilizer	b. Corals are taken away and less corals are left.
4. Increasing wastes/ improper garbage disposal	c. The coral reefs are broken, pulverized and destroyed because the divers repeatedly stump and drag heavy materials to drive the fish.
5. Trawl fishing	d. The blasting kill, crack and destroy the corals
	e. Excessive human wastes and garbage destroy the coral reefs

Lesson 32: Identifying ways of saving the coral reefs.

Exercise A

Directions: Identify the ways of saving coral reefs from the given sentences below. Put a check before the statements.

____ 1. Use dynamite fishing.

____ 2. Transport live corals to partly damaged area to hasten the recovery of the damaged reef.

____ 3. Help in conserving the coral reefs by information dissemination.

____ 4. Join volunteer groups like Bantay-Dagat.

____ 5. Do not purchase coral souvenirs.

____ 6. Do not steer boats close to the shore to avoid hitting coral reefs.

____ 7. Properly maintain ship engine to avoid oil spill

____ 8. Support marine-protected areas such as marine parks.

____ 9. The government should pass bills on coral preservation and should be strict in implementing them.

___ 10. When you own an aquarium, do not put coral pieces in your tank.

Exercise B

Directions: Identify the ways that could save coral reefs. Put a check before each correct statement.

____ 1. Using poisonous chemicals for fishing

____ 2. The government passes bills on coral preservation and is strict in implementing them.

____ 3. Maintaining ship engines to avoid oil spills

____ 4. Purchasing coral souvenir for collecting

____ 5. Protecting marine parks and sanctuaries

____ 6. Joining in campaign about saving marine life

____ 7. Using dynamite fishing

____ 8. Not practicing muro-ami fishing.

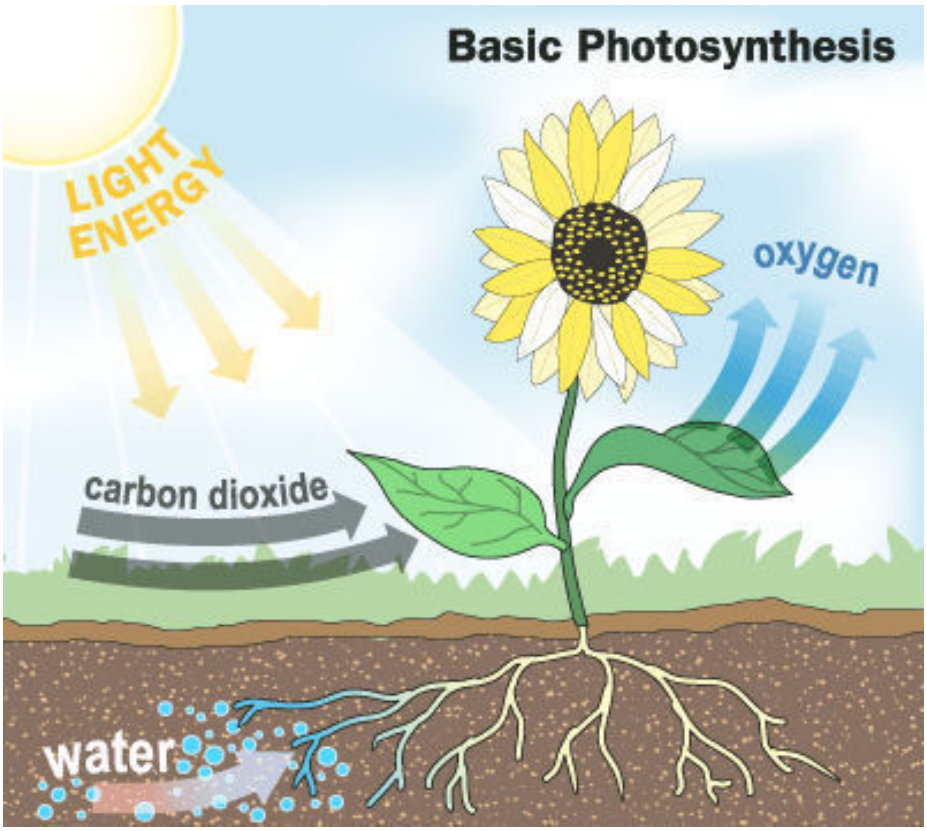
____ 9. Helping in the recovery of the damage reef

____ 10. Not throwing garbage in rivers, seas, and other bodies of water

Lesson 33: Explain the process of food making (photosynthesis) in plants.

Exercise A

Directions: The diagram below shows the process of photosynthesis. Study the diagram. Fill in the blanks to explain the process of food making (photosynthesis) in plants.

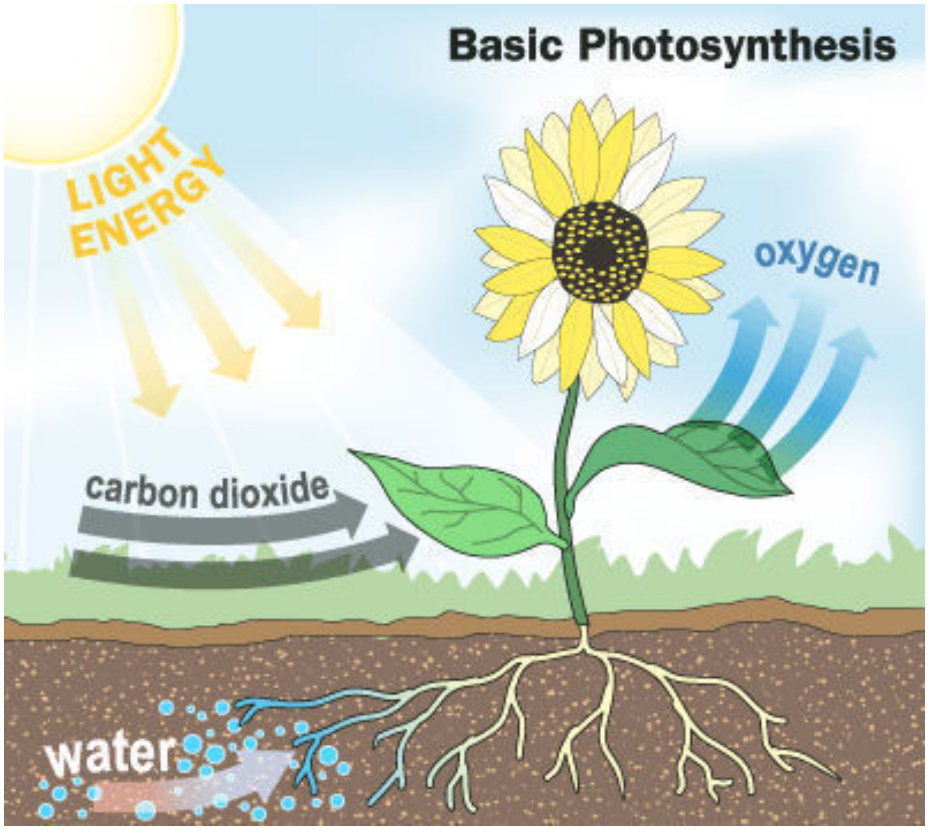


Photosynthesis is the process by which green plants use (1) _____ from the soil (2) _____ from the air, and (3) _____ that absorbs the sun's (4) _____ . With this, (5) _____ and (6) _____ are produced.

Lesson 33: Explain the process of food making (photosynthesis) in plants.

Exercise B

Directions: Study the illustration showing the process of photosynthesis in plants. Explain the process. Supply the needed information to complete the paragraph.



How Green Plants Make Food

Green plants make their food. This process is called photosynthesis.

With the help of (a) _____ from the sun, (b) _____, the green coloring in the leaf of the plants combine with (c) _____ from the soil and (d) _____ from the air to produce (e) _____ in the leaf. The air that enters the leaf contains carbon dioxide and oxygen. But the leaf needs only the carbon dioxide. Thus, (f) _____ is given off as waste product.

Lesson 34: Identifying plant and plant parts used for food, medicine, etc.

Exercise A

Directions: Identify the ten plants, their parts and their uses. Complete the chart by giving the necessary information.

Kind of Plant	Parts Used	Uses
Ex. malunggay	**leaves**	**Food**
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9		
10		

Lesson 34: Identifying plant and plant parts used for food, medicine, etc.

Exercise B

Directions: The following are common plants. Identify what is/are the uses of each. Put a check on its proper column.

Kind of Plant	Plant Parts	Uses	
		Food	Medicine
1. tomato	fruit		
2. malunggay	leaves		
3. atis	fruit		
4. sambong	leaves		
5. gumamela	leaves		
6. kangkong	leaves		
7. kalachuchi	bark		
8. gabi	stalk		
9. potato	tuber		
10. onion	bulb		

Lesson 35: Describing the special characteristics of plants which help them adapt to the environment and reproduce.

Exercise A

Directions: Describe how the plants adapt to the environment. Fill in the blanks with number of the corresponding special characteristics of plant/plants. Choose from the box.

1. thorns on stems	5. Needlelike leaves	9. thick stem filled with sap
2. aerial roots	6. big and bright colored petals	10. storage roots
3. prop roots	7. thick woody shells or husks	
4. hollow stems	8. stinging hairs and bristles	

1. Orchids have _____ which support the climbing stem and absorb moisture from the air.

2. Corns have _____ above the ground that help to support the plant.

3. Roses have _____ ,which they use for defense.

4. Cacti have _____, which enable these plants to live long without water.

5. The water lily and kangkong plants float in water because of their _____.

6. Coconuts float on water and may reach other places where they grow because they have _____.

7. Pine trees have _____ that can stand cold temperature.

8. Blue thistles have _____ on fruits, leaves and stems that cause itchiness, skin rashes, and blisters if you touch them.

9. Some flowers have _____ to attract insects for pollination.

10. Camote and yam have _____ that are adapted to reproduction of new plants.

Lesson 35: Describing the special characteristics of plants which help them adapt to the environment and reproduce.

Exercise B

Directions: Using a line, describe how the following plants in column A adapt to the environment or reproduce (Column B).

A Plant	B Adaptation to environment / reproduction
1. bougainvillea	a. grow aerial roots
2. ampalaya	b. strong scent/odor
3. atis	c. have thorns to protect themselves
4. camote	d. have needlelike leaves
5. ipil-ipil	e. have many tiny leaves
6. pine-tree	f. wax –like coating of the leaves
7. kataka-taka	g. bitter taste
8. orchids	h. plenty of seeds
9. amarillo	i. reproduce from cuttings of the vines
10. banana	j. have leaves that can produce new plants

Lesson 36: Citing examples of plants that can grow in specific environments

Exercise A

Directions: Cite examples of plants that grow in the given environments. Write your answers in the proper column. Choose from the box.

Bodies of Water	Forest	Desert	Cold Countries

cactus	water lily	lotus
date palm	kangkong	tamarind
mangrove	pine trees	ipil-ipil
	orchids	

Lesson 36: Citing examples of plants that can grow in specific environments

Exercise B

Directions: Cite the examples of plants that grow in given environments.

A. Bodies of Water

1. _____
2. _____

B. Forest

1. _____
2. _____

C. Desert

1. _____
2. _____

D. Cold Countries

1. _____
2. _____

E. Seashore

1. _____
2. _____

F. Tree trunks

1. _____
2. _____

Lesson 37: Identifying characteristics of certain plants.

Exercise A

Directions: Identify the characteristics of the given plants in Column A. Choose your answer from characteristics given in Column B. Write only the letter of your answer.

A	B
____ 1. angiosperms	a. make seeds but do not have flower
____ 2. gymnosperms	b. flowering plants that produce fruits
____ 3. ferns	c. do not have true roots or stems
____ 4. mosses	d. have true leaves, stems and roots. The lower surface of the leaves contains spores
____ 5. algae	e. they have vascular tissues that are used to transport water and minerals
____ 6. liverworts	f. plants without tissues for transporting water
____ 7. Nonvascular plants	g. single celled or many celled and reproduce sexually or asexually
____ 8. vascular plants	h. moss-like plants found along the banks or streams.

Lesson 37: Identifying characteristics of certain plants.

Exercise B

Directions: Read the characteristics of plants. Identify what plant/s is/are being referred to.

_____ 1. They may be single-celled or many-celled plants. They contain chlorophyll which gives them their colors.

_____ 2. Plants with vascular tissues, which carry water and food around the plant.

_____ 3. They lack tissues that transport food and water.

_____ 4. They are plants that grow in wet shady places, barks of trees, or on rocks.

_____ 5. They are usually found along the banks of streams.

_____ 6. Spore bearing plants, which grow, mostly in the tropics. Their spores are found in the capsules at the back of their leaves.

_____ 7. They are cone-bearing plants and have uncovered seeds. They do not bear flowers.

_____ 8. Flowering plants have flowers and seeds. Seeds develop inside the fruit.

angiosperms
gymnosperms
vascular plants
nonvascular plants
ferns
mosses
liverworts
algae

Lesson 38: Grouping plants according to characteristics.

Exercise A

Directions: The following are examples of plants. Classify them according to their common characteristics.

1. papaya	4. calachuchi	7. seaweeds	10. liverworts
2. ferns	5. mango	8. mosses	
3. pine tree	6. horsetails	9. cycad	

Angiosperms	Spore-bearing Plants	Gymnosperms	Non-vascular Plants

Lesson 38: Grouping plants according to characteristics.

Exercise B

Directions: Group the plants according to their common characteristics
On the blanks after each item, Write A – for flowering plant bearing seed in fruits
B – for non-flowering with seeds on scales of cones
C – for spore bearing
D – for non-vascular plants

1. atis _____
2. ginkgo _____
3. liverworts _____
4. seaweed _____
5. jackfruit _____
6. mosses _____
7. whisk ferns _____
8. cycad ____
9. horsetails _____
10. mango ____

Lesson 39: Describe simple physical and chemical changes in materials

Exercise A

Directions: Read the statement. Write PC if the change described is physical or CC if the change is chemical.

____ 1. Water vapor forms droplets.

____ 2. Rubbing alcohol evaporated fast.

____ 3. Fresh sampaguita flowers wither after a day.

____ 4. Milk curdles when vinegar is added to it.

____ 5. A rubber band is stretched

____ 6. Paper is cut into four equal parts

____ 7. Caramelized sugar tastes bitter

____ 8. Silvery iron turns reddish-brown after exposure to water and air.

____ 9. Uncooked fresh fish turns dark when placed over fire.

____ 10. Wet clothes hang under the sun.

Exercise B

Directions: Describe the kind of change of the following. Write PC for physical change and CC for chemical change on the blanks after each item.

1. ripening of fruits _____
2. burning plastics/rubbers _____
3. rusting of iron _____
4. melted margarine _____
5. ice water taken from the freezer _____
6. sugar, wood and paper turn black when burned. _____
7. milk turns sour after it is left outside the refrigerator _____
8. boiling water _____
9. melting gelatin _____
10. “kaingin” _____

Lesson 40: Observe that no new material is formed in physical change.

Exercise A

Directions: On the blank, write True if the statement is correct and False if it is wrong.

_____ 1. The physical properties of matter can be determined by observing the object.

_____ 2. The melting point and freezing point of a particular object are the same.

_____ 3. Matter can exist in a solid, a liquid, or a gas in any temperature and pressure.

_____ 4.The boiling point of a substance is the temperature at which liquid changes to gas.

_____ 5. Melting is a physical change.

_____ 6. By putting a spoonful of sugar into a glass of water, the sugar turns into a liquid.

_____ 7. Any change in the state of matter is a physical change.

_____ 8. The ability of a material to return to its original shape and size after

it is stretched, twisted or pressed.

_____ 9. Freezing is a chemical change.

_____ 10. Boiling is a physical change.

Lesson 40: Observe that no new material is formed in physical change.

Exercise B

Directions: Check the box if the situation is an example of a physical change.

- ☐ 1. chopping of wood
- ☐ 2. melting ice cream
- ☐ 3. crumpling of paper
- ☐ 4. rusting iron
- ☐ 5. melted margarine
- ☐ 6. ripening of fruits
- ☐ 7. burning of sugar
- ☐ 8. boiling water
- ☐ 9. water changes to ice
- ☐ 10. proper cut into pieces

Lesson 41: Cites the conditions / factors that bring about changes in materials

Exercise A

Directions: Write the condition that can cause changes in materials.

1. burning of paper	6. crumpled papers
2. broken toys	7. water becomes ice when cooled
3. burnt candles	8. rusting of nails
4. melted margarine	9. chewing of food
5. rusted window grills	10. caramelizing sugar

Physical Change	**Chemical Change**
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____

Lesson 41: Cites the conditions / factors that bring about changes in materials

Exercise B

Directions: On the blanks, write P if the condition describes a physical change and C if it describes a chemical change

_____ 1. chopping of wood

_____ 2. burning wood

_____ 3. melted ice cream

_____ 4. crumpling

_____ 5. baking of bread

_____ 6. slicing of bread

_____ 7. burning garbage

_____ 8. rusting nails

_____ 9. melting ice

_____ 10. burning dry leaves

Lesson 42: Infer that everything in the environment is changing

Exercise A

Directions: Give five correct answers to the question below.

What are some of the causes of the changes in our environment?

1. _____

2. _____

3. _____

4. _____

5. _____

Exercise B

Directions: Give five correct answers to the question below.

What are some of the good effects of human made changes in the physical environment?

1. _____

2. _____

3. _____

4. _____

5. _____

Lesson 43: Describing static electricity
Identifying Ways of Producing Static Electricity
Observing the effect of static electricity

Exercise A

Directions: Identify the word or group of words described in each sentence.

_____ 1. Electricity at rest or not moving and is found on the surface of any matter.

_____ 2. It produces static electricity.

_____ 3. This is what becomes of a material when it has static electricity.

_____ 4. It is a Greek word that means standing or staying still.

_____ 5. What do you do with two things in order to produce static electricity?

Directions: Identify which activities produce static electricity. Encircle them.

1. Rubbing the rubber balloon and the hair

2. Rubbing a plastic comb and the hair

3. Briskly rubbing a plastic ruler with wooden clothes

4. The fast movement of the lightning through the air

5. Boiling of water

Directions: Answer the given question.

What is the effect of static electricity?

_____
_____
_____
_____
_____
_____

Lesson 43: Describing static electricity
Identifying Ways of Producing Static Electricity
Observing the effect of static electricity

Exercise B

Directions: Identify answers to match the description. Choose from the box. Write only the letter of the correct answer.

A. static electricity	C. magnetic	E. rubbed
B. static	D. rubbing / friction	

1. When two unlike things are _____ together, it will produce static electricity.
2. It is electricity at rest found on the surface of any matter.
3. Matter becomes _____ when it has static electricity.
4. It is an English word, which means standing or staying still.
5. To produce static electricity, two things are _____ together.

Directions: Identify the ways that show how static electricity is produced. Encircle them.

1. Rubbing the rubber balloon on a cloth.
2. Plowing the rice field
3. Cooking rice
4. The heating of lightning as it moves through the air
5. Rubbing a plastic comb on the hair
6. Rubbing the comb on the hair

Directions: Ellen rubbed a comb briskly on a wooden cloth. Then she held the comb over the pencil shavings. What do you think was Ellen's observation? Put a check before it.

____ a. Pencil's shaving stocked to the electricity charged comb because its effect is temporary magnetism.

____ b. The shavings sparked and caused fire

____ c. The shavings made a loud cracking sound

____ d. The shavings was blown by the wind

Lesson 44: Describing an electric circuit
Identifying parts of electric circuit
Competency V.2 – V.2.1

Exercise A

Directions: Identify what is being described. Choose your answer from the list given and write your answer on the space provided.

_____ 1. Electricity is flowing on a complete patch of electric current. It is composed of interconnected electrical components; the source, the conductor and the load.

_____ 2. Electricity that flows in a complete and closed electric unit. Produced when free electrons flow.

_____ 3. Gives protection in case a short circuit occurs and when the circuit is overloaded.

_____ 4. Materials through which electricity does not flow.

_____ 5. Materials through which an electric current flow. Metal is a good example of it.

_____ 6. Supplies the power, maybe a generator or battery or a solar cell

_____ 7. It happens when exposed wires touch each other.

_____ 8. When the knob is switched on the metals touch so electricity flows.

_____ 9. When the knob is switched OFF, electricity does not flow, so the circuit is _____.

complete circuit	incomplete circuit	source	insulators
current electricity	switch	conductor	
circuit	fuse	short circuit	

Lesson 44: Describing an electric circuit
Identifying parts of electric circuit
Competency V.2 – V.2.1

Exercise B

Directions: Identify the word that fits the description below. Choose your answer from the words in the box.

current electricity	switch	fuse
complete circuit	load	conductor
electric circuit	insulator	short circuit

1. It is an electricity that flows in a complete and closed electric unit, can be carried over a long distance and can be converted easily. _____
2. A safety device that controls the flow of large amount of electricity. It gives protection when short circuit occurs. _____
3. Happens when exposed wires touch each other, sometimes can cause fire. _____
4. A material through which electricity can't flow easily so it is used to ensure that electricity flows along the right path only and prevents the short circuits. _____
5. Transport electricity from the source to the load. One example is metal. _____
6. An interconnected electrical components that form a complete path of electric current. _____
7. The power supply, it maybe a dry cell battery, generator or solar cell. _____
8. An output device that works only when there is a flow of electricity. A bulb and a speaker are examples. _____
9. When the knob is switched on and the metals in the circuits touched each other so electricity flows _____

Lesson 45: Classifying materials into conductors and insulators Competency V 2.1.1

Exercise A

Direction: How do you classify the materials below? Write C for conductor and I for insulators.

_____ 1. copper wire

_____ 2. plastic

_____ 3. iron

_____ 4. glass

_____ 5. silver

_____ 6. wood

_____ 7. rubber

_____ 8. aluminum

_____ 9. wax

_____ 10. gold

Exercise B

Directions: Write INS for insulators and CON for conductors

____ 1. a plastic glass

____ 2. spoon made of metal

____ 3. golden fork

____ 4. wooden ladle

____ 5. rubber

____ 6. plastic spoon

____ 7. paper plate

____ 8. needle

____ 9. coins

____ 10. pencil eraser

Lesson 46: Describing how electrical energy is produced
Competency V.4

Exercise A

Directions: Match the sources of electricity with the way it is produced. Write only the letter of the best answer.

Sources	How Electrical Energy is Produced
1. geothermal energy ____	a. electricity is produced from moving water or dynamo
2. generator or dynamo ___	b. through chemical reaction
3. hydroelectric energy ___	c. heat energy from underground produces electricity
4. solar energy ___	d. burning of fuel like crude oil and gasoline
5. fossil fuel ___	e. sunlight falls on certain materials, electrons flow and make electricity through solar panels
6. wind or tidal energy ___	f. through the forces from the wind or tide
7. nuclear energy ___	g. splitting or combining of atoms that causes electricity because of its tremendous power
8. battery or dry cell ___	h. uses magnet fixes to a rod that cause the coil to rotate and produce electricity

Directions: Arrange the following words in sequence to form a concept on how electrical energy is produced.

IN ELECTRICAL DIFFERENT ENERGY IS WAYS PRODUCED.

_____

Lesson 46: Describing how electrical energy is produced
Competency V.4

Exercise B

Directions: Match the sources of electricity with the way it is produced. Write only the letter of the best answer.

Sources	How electrical energy is produced
A. battery / dry cell	1. electricity is produced from a force coming from moving water
B. nuclear energy	2. through chemical reaction, electricity is produced
C. generator or dynamo	3. burning of fuel such as gasoline and crude oil
D. geothermal energy	4. heat from the under ground produces electricity
E. hydroelectric energy	5. the flow of electrons from sunlight make electricity through solar panels or solar cells
F. fossil fuel	6. through forces from the winds or tide
G. wind or tidal energy	7. a tremendous energy released during fission or fusion of atoms which produces electricity
H. solar energy	8. convert heat energy from burning fuel or natural resources to obtain electrical energy.

Directions: Form a concept on how electricity is produced. Fill in the blanks the appropriate words to complete it.

(1) _____ energy is produced in different ways coming from different (2) _____.

Lesson 47: Observing transformation of electrical energy to other Forms. Observing that electricity can produce heat and light (Competency V.5 – 5.1)

Exercise A

Directions: Electricity can produce heat and light and other forms of energy. Write H if electricity is transformed into heat only, L if light only and HL if its heat and light, and OF if its other forms in the following situations:

1. using flat iron _____
2. cooking in an electric stove _____
3. lighting a bulb for 5 minutes _____
4. a running bus of the Light Railway Transit (LRT) _____
5. beating an egg using electric egg beater _____
6. lighting a lamp shade _____
7. using electric fan _____
8. using the hair blower _____
9. washing clothes in the washing machine _____
10. heating a bun on an oven toaster _____

Exercise B

Directions: Identify the transformation of electrical energy occurs when you use the following. On the blanks, write whether it is heat, light or other form.

1. electric iron _____
2. egg beater
3. fluorescent bulb
4. egg beater
5. washing machine
6. lamp shade
7. hair blower
8. electric stove
9. electric fan
10. bus in the Light Railway Transit (LRT)

Lesson 48: Describing how electromagnet works Competency V.6.

Exercise A

Directions: Describe how electromagnets work. Fill in the blanks to describe how electromagnets work. Choose the words from the box.

An electromagnet is a (1) _____ which is made by letting (2) _____ pass through a (3) _____ of wire (4) _____ around an (5) _____ core. An (6) _____ can be made (7) _____ by using (8) _____ coils. Each turn of (9) _____ adds (10) _____ to the electromagnet.

electromagnet	wound
magnet	iron
electricity	stronger
coil	more
wire	force

Lesson 48: Describing how electromagnet works Competency V.6.

Exercise B

Directions: Describe how electromagnets work. Fill in the blanks with the words to complete the paragraph. Choose your answers from the box.

An (1) _____ is a temporary (2) _____. It is produced by (3) _____ passing through a (4) _____. An electromagnet can have (5) _____ force only when (6) _____ current is flowing through it. An electromagnet can be made (7) _____ by using _____ wire. Each turn of (9) _____ adds (10) _____ to it.

coils	stronger
magnetic	force
electricity	wire
magnet	electric
electromagnet	more

Lesson 49: Telling the use of electricity in the home and community Competency V.7

Exercise A

Directions: Put a check (√) if the sentence tells the use of electricity and an X if it does not.

____ 1. Using an electric fan when its hot.

____ 2. Cooking rice in the rice cooker.

____ 3. Using buri fan on sunny days.

____ 4. Plowing of the ricefield with a carabao.

____ 5. Using the computer in the office.

____ 6. Watching television programs at night.

____ 7. Using washing machine to wash clothes.

____ 8. Playing computer games

____ 9. Making charcoal.

____ 10. Turning on the aircon on a hot room.

Exercise B

Directions: Put a check (√) if the sentence tells the use of electricity and an X if it does not.

____ 1. Lighting a dark room with a fluorescent bulb

____ 2. A lighted candle

____ 3. Washing clothes by hand

____ 4. Using family computer

____ 5. Working on the field during the day

____ 6. Writing during night time

____ 7. Planting vegetables

____ 8. Using an overhead projector

____ 9. Watching a movie

____ 10. Starting buses, cars, jeepneys and the LRT

Lesson 50: Practicing precautionary measures related to electricity Competency V.8

Exercise A

Directions: Draw a ☆ if it is a good practice and a ☐ if it is not.

____ 1. Don't touch electrical wires if any part of your body is wet,

____ 2. Wipe the bulb with a dry cloth to clean it.

____ 3. Leave electrical appliances on even when not in use. It's a waste of time switching them on again.

____ 4. Let the authorized personnel put up the electrical wirings in your homes.

____ 5. Never touch the plug nor put your fingers into an empty socket.

____ 6. Report to the MERALCO any sign of malfunctioning such as when electric wires break or fall.

____ 7. Avoid using worn out cods and exposed wires it may cause fire or electrocute you

____ 8. Turn off electrical appliances when not in use. They can overheat and cause fire.

____ 9. Use standard not substandard electrical wirings.

____ 10. Do not switch on too many electrical appliances with only one extension cord.

Lesson 50: Practicing precautionary measures related to electricity Competency V.8

Exercise B

Directions: Draw a happy face  if the practice is correct and  if it is not.

____ 1. It is safe to touch electric wires when you are taking a bath.

____ 2. Use wet cloth to wipe or clean light bulbs.

____ 3. When electric motor are not in use, pull out their plugs.

____ 4. Call only authorized personnel to put up electrical wiring.

____ 5. Put your fingers into an empty socket.

____ 6. Use inexpensive, substandard materials for electrical wiring to lessen expenses

____ 7. Report to authority any illegal electrical connections. This may cause high distribution charge.

____ 8. When electric wires break or fall, report it immediately to the MERALCO

____ 9. Do not use worn-out cords. Exposed wires can electrocute you or cause fire.

____ 10. Avoid "octopus" connections. Overloading may cause short circuits and fire.

Lesson 51: Practicing electrical energy conservation measures Competency V.9

Exercise A

Directions: Identify the statements that show conservation of electrical energy. On the blanks, write Y if it is a statement that shows conservation of electrical energy and N if it does not show conservation of electrical energy.

_____ 1. Switch off appliances when not in use.

_____ 2. If possible use natural ventilation instead of using electric fan or airconditioner.

_____ 3. If possible, make use of the solar energy. Use natural light during daytime

_____ 4. During fiestas or festive occasions, use bulbs with high wattage so that you can have your party until morning.

_____ 5. Avoid opening and closing the refrigerator or freezer unnecessarily.

_____ 6. Do not iron your clothes. Ironing clothes is unnecessary and a waste of electricity.

_____ 7. Read in the dim light to conserve electricity.

_____ 8. Agree to watch the same T.V. shows in the same room instead of switching on more TV sets or electric fans.

_____ 9. Always use electricity in cooking and boiling water. It is the fastest and economical way to cook.

_____ 10 Check the gaskets of your refrigerator or freezer. A lot of energy is wasted, if the refrigerator is properly is closed, so open it a little.

Lesson 51: Practicing electrical energy conservation measures Competency V.9

Exercise B

Directions: Identify the statements that show conservation of electrical energy. On the blanks, write T if it is a statement that shows conservation of electrical energy.

_____1. Switch off the light and appliances when not in use or before leaving the home.

_____2. Turn on air-conditioners when leaving the room to give you a cool feeling once your enter your room

_____3. Never read during daytime. It's good to read at night with proper lighting

_____4. Keep the freezer, and refrigerator closed unless necessary

_____5. Open the lights the whole night to keep the ghosts away

_____6. If possible use natural light and ventilation while day working.

_____7. Use bulbs at home such as fluorescent bulbs, that consume less electricity but give off more light. Frequently dust off bulbs so they can give off more light.

_____8. Buy another TV set for your rooms so you can choose and watch your favorite shows.

_____9. If possible do not use electricity in cooking, Do not leave what you are cooking boiling unnecessarily

_____10. Close the refrigerator property and check its gaskets. A lot of energy is wasted if the refrigerator is not properly closed.

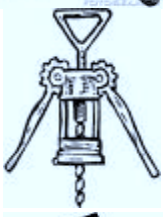
Lesson 52: Identifying the kinds of simple machines (Competency V.10.1)

Exercise A

Directions: Identify the kind of simple machine in the lettered pictures.

wedge	wheel and axle	screw
lever	inclined plane	pulley

_____ A. 

_____ B. 

_____ C. 

_____ D. 

_____ E. 

_____ F. 

_____ G. 

Lesson 52: Identifying the kinds of simple machines (Competency V.10.1)

Exercise B

Directions: Identify the kind of simple machine in each number.

wedge	wheel and axle	screw
lever	inclined plane	pulley

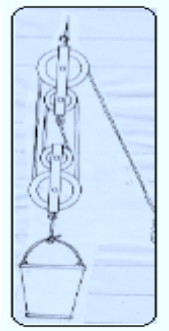
_____ 1. 

_____ 2. 

_____ 3. 

_____ 4. 

_____ 5. 

_____ 6. 

Lesson 53: Describing how each simple machine makes work easier and faster (Competency V.10.3)

Exercise A

Directions: The numbered sentence at the right describes how the simple machines make work easier and faster. Write that number beside the simple machine it describes.

A. Lever ____

B. inclined plane ___

C. wedges ____

D. wheel and axle ___

E. pulley ___

F. screw ___

G. simple machines ____

1. It is a rigid bar used to pull, push or lift objects. A heavy load can be moved with little effort.
2. Used to pull, push or lift objects, so heavy objects can be moved with little effort. It has a resistance fulcrum and effort.
3. It is a force multiplier. A little force on the wheel produces a large force in the axle.
4. It can make a large objects smaller by cutting and splitting it with less force.
5. It can hold two pieces of wood or other objects like metal together.
6. The teeth have thick bases and sharp edges for cutting food.
7. It can bore holes thick wood or metals.
8. It is used to change direction of a force.
9. When the angle is less, the distance is longer and the effort needed is also less, so it is easier to move over the longer distance.
10. Make work easier and faster because they help you gain in force or gain in speed with small effort.

Lesson 52: Identifying the kinds of simple machines (Competency V.10.1)

Exercise B

Directions: Describe how each simple machine makes work easier and faster. Match column A with column B. Write the letter of your answer.

A	B
1. simple machine ____	a. It is a force multiplier; with little force on the wheel it can produce a force in the axle.
2. lever ____	b. It can hold two pieces of wood or metal together.
3. inclined plane ____	c. Used for cutting or splitting things easily with less effort or force.
4. wedges ____	d. They are used to make work easier and faster with less effort.
5. pulley ____	e. It is a rigid bar used to pull, push or lift objects. A heavy load can be moved with little effort.
6. screw ____	f. Used to move things to a higher place with less effort because its flat surface is raised at one end
7. wheel and axle ____	g. A grooved wheel or combination of wheel over which a rope passes. It is used to lift or lower loads or change the direction of force or effort.

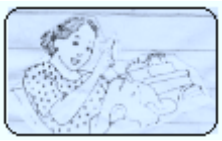
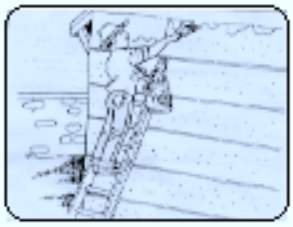
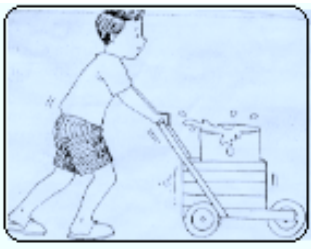
Directions: Fill in the blanks to complete the statement.

(8) _____ make work (9) _____ and easier with less (10) _____

Lesson 54: Identifying activities where simple machines are used. Competency V.10.4

Exercise A

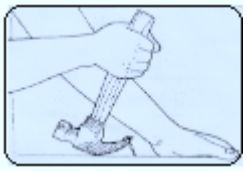
Directions: Which activity in the picture shows the used of simple machine. Put a check if a simple machine is used.

ACTIVITIES	SIMPLE MACHINE USED
1. 	
2. 	
3. 	
4. 	
5. 	

Lesson 54: Identifying activities where simple machines are used. Competency V.10.4

Exercise B

Directions: Which activity in the picture shows the used of simple machine. Put a check if a simple machine is used.

ACTIVITIES	SIMPLE MACHINE USED
A. 	
B. 	
C. 	
D. 	
E. 	

Lesson 55: Identifying simple machines which multiply force / speed Competency V.10.5

Exercise A

Directions: Identify the kind of simple machine shown in the picture/drawing that has helped or will help multiply speed or force.

What simple machine helped in :

1. raising the flag 

_____

2. joining 2 pieces of wood 

_____

3. catching fish 

_____

4. pushing the ice cream box 

_____

5. cutting pieces of paper 

_____

What will be used to multiply force or speed in:

6. to lift a car 

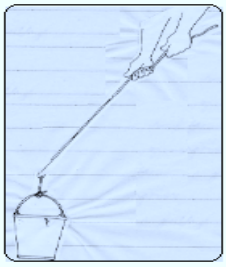
_____

7. carrying a pail of water 

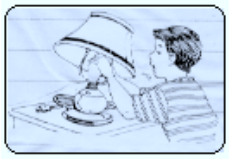
_____

8. loading the sacks of rice up the truck 

_____

9. lifting up a heavy pail 

_____

10. connecting the parts of a lamp shade 

_____

Lesson 55: Identifying simple machines which multiply force / speed Competency V.10.5

Exercise B

Directions: Using a line, identify the kind of simple machine used or to be used to make work easier and faster by multiplying force/speed.

A. What machine is used:

1. beating egg faster	staircase
2. going up the top of a two-storey building	egg beater
3. unloading heavy boxes from the truck	scissors
4. cutting pieces of cloth	crane
5. joining two pieces of metals	screw

B. Which simple machine will multiply the speed/force in order to make work easier/faster?

6. to sharpen a pencil	door knob
7. to raise a flag on the pole	can opener
8. to open a can of sardines	knife
9. to cut a piece of bread	sharpener
10. open a door	fixed pulley

Lesson 56: Practicing precautionary measures in using simple machines (Competency V.10.6)

Exercise A

Directions: Read the statements below. On the blanks, put a check (√) if it is a good practice and X if it is not.

____ 1. Put the machines or tools inside the cabinets or tool box after use.

____ 2. Use simple machines properly.

____ 3. Carry sharp objects on your shoulders.

____ 4. Hold simple machines by their handles.

____ 5. Carry knives with sharp edge pointing down.

____ 6. Keep your finger or any part of your body away from moving wheels and gears.

____ 7. Leave your tools outside after working.

____ 8. Check the condition of your machine before using it.

____ 9. Run fast when carrying pointed objects.

____ 10. Don't leave machines lying around, especially in passageways, they could cause accidents.

Exercise B

Directions: Read the statements below. On the blanks, write OK if it's a good practice and NO if it is not.

____ 1. Put together all kinds of machine in one big box.

____ 2. Keep simple machines in proper conditions so that they can be used safely.

____ 3. Do not run when holding a sharp or pointed tool.

____ 4. Use simple machines properly especially sharp and pointed ones.

____ 5. Place the tools back in their own boxes or safe places when you are through using them.

____ 6. Keep sharp edge of a tool away from you when cutting things.

____ 7. Use only machines or tools which are in good condition to avoid accident.

____ 8. To avoid getting hurt, do not play with simple machines.

____ 9. Keep simple machines and sharp tools out of reach of children.

____ 10. Stay right in the place where big machines are being used for lifting cutting or transporting heavy objects to see how they work.

Lesson 57: Observe how rocks differ in color, hardness, texture. Competency VI.1

Exercise A

Direction: Observe the rocks how they differ in color, hardness, texture. Fill up the chart properly how rocks differ in color, hardness and texture.

Rocks	Hardness	Color	Texture
1. Igneous			
2. Sedimentary			
3. Metamorphic			

Lesson 57: Observe how rocks differ in color, hardness, texture. Competency VI.1

Exercise B

Direction: Observe the rocks how they differ in color, hardness and texture. Fill up the chart properly how rocks differ in shape, color, hardness and texture.

Rocks	Texture	Hardness	Color
1. Igneous			
2. Sedimentary			
3. Metamorphic			

Lesson 58: Identifies igneous, sedimentary and metamorphic rocks.

Exercise A

Directions: Describe how igneous, sedimentary and metamorphic rocks are formed. Fill up the table.

Kind of Rock	How it is formed

Lesson 58: Identifies igneous, sedimentary and metamorphic rocks.

Exercise B

Directions: Using a line, Match the kind of rock in column A with how it is formed in column B

A.	B
1. sedimentary	a. changed in form from igneous and sedimentary
2. igneous	b. formed from volcanic materials
3. metamorphic	c. brought about by the formation of layers of sediment

Lesson 59: Differentiate igneous, sedimentary and metamorphic rocks from one another (Competency V 4.4.3)

Exercise A

Directions: Fill in the blanks. Write igneous, sedimentary or metamorphic rocks.

1. _____ are brought about by formation of layer of rocks.

2. _____ are rocks that were once sedimentary or igneous.

3. _____ rocks are formed as magma coals.

4. A change in rock forms is called _____.

5. _____ rocks are formed when igneous rocks weather and it become sediments that are deposited on the sea beds.

Exercise B

Directions: Fill in the blanks. Write igneous, sedimentary or metamorphic rocks.

1. Rocks which are brought about by formation of layer is called _____.

2. Rocks which came from very, very hot and melted magma below the earth's crust are _____ rocks.

3. A change in rock forms is called _____.

4. When magma cools _____ rocks are formed.

5. _____ rocks are formed when igneous rocks weather and it become sediments that are deposited on the sea beds.

Lesson 60: Identifies the forces that contribute to breaking down of Rocks e.g. plants, water, weather, man and animals Competency 5.5.1

Exercise A

Directions: Supply data on the chart. Write down situations that involve the following forces that cause the breaking down of rocks.

Man	Plants	Weather Elements	Animals
Ex. Drilling	Ex. Growing of roots	Ex. typhoon	Ex. stampede

Lesson 60: Identifies the forces that contribute to breaking down of rocks e.g. plants, water, weather, man and animals Competency 5.5.1

Exercise B

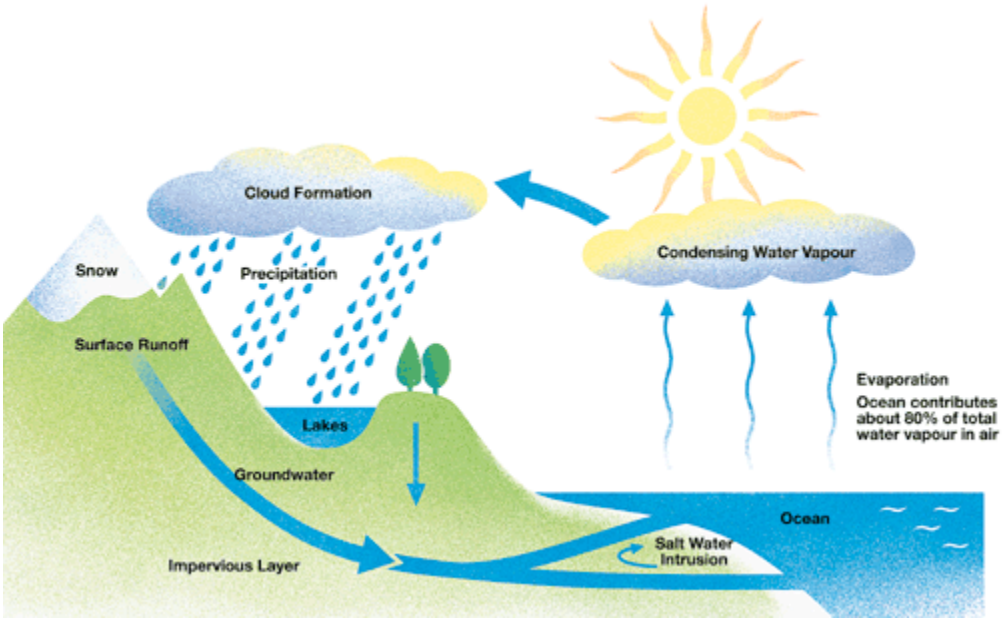
Directions: Supply data on the chart. Write down situations that involve the following forces that cause the breaking down of rocks.

Man	Plants	Weather Elements	Animals
Ex. Construction	Ex. Roots growing	Ex. Strong wind and rain	Ex. Stampede

Lesson 61: Explain how water cycle occurs
Competency 7

Exercise A

Directions: Study the water cycle below. Fill in the blanks with the correct word from the answer box to complete the explanation of water cycle. Refer to the words in the box.



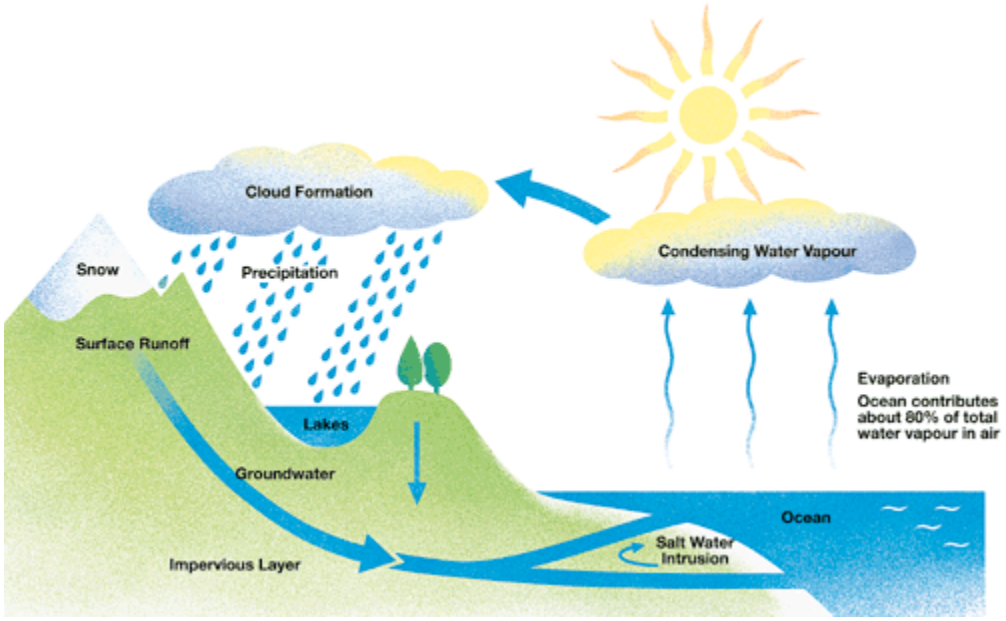
The heat of the sun dries up wet surface and changes 1. _____ to 2. _____ which rises to form 3. _____. This process is called 4. _____. When water vapor mixes with cool air in the sky, it condenses. The changing of water vapor to water droplets is called 5. _____. As more water droplets are formed, these become visible as clouds. When cloud become to heavy, they fall to the ground as 6 _____. Rain is common form of 7. _____, 8 _____, 9 _____, and _____ as forms of precipitation in cold countries. Water from the different forms of precipitation goes back by evaporates, condenses and fall to the ground. The process goes on and on.

precipitation	evaporation	sleet
water	condensation	hailstone
water vapor	rain	
clouds	snow	

Lesson 61: Explain how water cycle occurs
Competency 7

Exercise B

Directions: Study the picture. Answer the questions that follow.



1. How does water go into the air?

2. How are clouds formed?

3. Why does it rain?

Lesson 62: Identifies the processes involved in the water cycle Competency 7.7.1

Exercise A

Directions: Encircle the letter of the correct answer.

1. What is a water cycle?

a. It is a precipitation c.. It is the water vapor meeting with the cool air in sky.
b. It is evaporation of water d. It is the continuous process of evaporation, condensation and precipitation

2. What is the correct sequence of the processes in the water cycle?

a. evaporation, condensation, precipitation c. condensation, evaporation, precipitation
b. evaporation, precipitation, condensation d. precipitation, condensation, evaporation

3. Which of the following is not a solid form of precipitation?

a. mist b. hail c. sleet d. snow

4. What describes the process in the water cycle which returns water from the air to the earths surface?

a. liquid water turns into gas c. liquid water falls from back clouds
b. water escapes from plant leaves d. water in the air turns to liquid

5. What happens to water when heated?

a. It evaporates b. It condenses c. It does not change d. It produces wind

6. which best processes are involved in the water cycle?

a. heating and cooling of the air c. heating of water and cooling of water vapor.
b. heating and cooling of the soil d. Cooling of water and then heating it under the sun

7. How does water vapor come out of the air?

a. by heating it b. by cooling it c. by blowing d. by placing under the sun

8. What happens to water when heated?

a. It evaporates b. It condenses c. It changes its color d. It produces wind

9. In the water cycle, water from the earth's surface evaporates. What is the source of energy for this process?

a. wind b. heat of the sun c. gravity d. air pressure

10. Here is a drawing of the water cycle. What happens during the encircle stage?

A. evaporation
B. condensation
C. evaporation and condensation
D. evaporation, condensation and precipitation

Lesson 62: Identifies the processes involved in the water cycle Competency 7.7.1

Exercise B

Directions: Fill in the blanks the correct answer to complete the statement. Select from choices in the box.

1. _____ is the continuous process of evaporation, condensation and precipitation.

2. When water is heated it _____.

3. Process where in clouds become heavy and it fall as rain or snow is _____.

4. When clouds become heavy they fall as _____.

5. _____ is a form of precipitation which shows water vapor condenses directly into crystals.

6. _____ is the process of changing water vapor or cold air in the sky and back to liquid water.

7. The _____ is the source of energy in the water cycle for the water from the earth's surface evaporates.

8-9. _____ and _____ are the two processes involved in the water cycle.

10. The atmosphere contains _____.

water cycle	rain	heat of the sun
evaporates	snow	heating, cooling
precipitation	condensation	

Lesson 63: Relates temperature to the process in water cycle Competency 7.3

Exercise A

Direction: Write T if the statement is true and F if it is false.

___ 1. The different parts of the earth receive different amounts of heat from the sun.

___ 2. The land is cooler at daytime than at night time.

___ 3. When the air moves from land to sea, we experience a sea breeze.

___ 4. Rain is a common form of precipitation in tropical countries like the Philippines.

___ 5. Necessary precautions should be observed during weather disturbance.

Lesson 63: Relates temperature to the process in water cycle Competency 7.3

Exercise B

Directions: Choose the best answer and write the letters on the blank.

___ 1. When water vapor condenses and changes into drops of water, the tiny drops of water form.

a. clouds b. rain c. water droplets d. none of these

___ 2. What causes water to evaporate?

a. air b. heat c. clouds d. rain

___ 3. Which is a common form of precipitation in tropical countries like the Philippines?

a. snow b. sleet c. hailstones d. rain

___ 4. Water from different forms of precipitation goes back to

a. seas b. lakes c. springs d. all of the above

___ 5. The continuous changing of water to water vapor and back to water is called __.

a. condensation b. evaporation c. precipitation d. none of the above

____ 6. Water undergoes chemical change as it goes through ____

a. evaporation, precipitation, condensation
b. evaporation, condensation, precipitation
c. evaporation, precipitation, condensation
d. Both A and B

____ 7. Much of the purification of water in the water cycle happens during _____

a. evaporation
b. condensation
c. precipitation
d. water is not purified on the water cycle.

Lesson 64: Describes the condition in the environment before, during and after a typhoon (Competency 9.9.4)

Exercise A

Directions: Perform the activity individually**.**

The Philippines is often visited by typhoons. Use your imagination and creativity to design something which you can use during or after a typhoon. Draw it on the space below. Then, write a few sentences to discuss your purpose for inventing such thing and what your thing can do.

Exercise B

Directions: Perform the activity as a class.

The Philippines is often visited by typhoons. Use your imagination and creativity to design something which you can use during or after a typhoon. Draw it on a manila paper. Write a few sentences to discuss your purpose for inventing such thing and what your thing can do.

Lesson 65: Observing typhoon signals
Competency 9.9.5

Exercise A

Directions: Tell what you observe during the following typhoon signals. Write it down below each item.

1. Typhoon Signal No. 1

2. Public Storm Signal No. 2

3. Public Storm Signal No. 3

4. Public Storm Signal No. 4

Lesson 65: Observing typhoon signals
Competency 9.9.5

Exercise A

Directions: Group yourselves into 4 groups. Each group will be assigned to a typhoon signal. Each group will act out what is observed during their assigned typhoon signal. Write what you see during their performance.

Typhoon Signal No. 1

Public Storm Signal No. 2

Public Storm Signal No. 3

Public Storm Signal No. 4

Lesson 66: Practice precautionary measures before, during and after a typhoon. (Competency 9.9.6)

Exercise A

Directions: During a typhoon, it is essential that you stay calm and must know what to do. Read the sentences below. Which of these things should you do before, during and after a typhoon? Put a check (√) before each correct sentence.

_____ 1. Stay indoors all the time.

_____ 2. Fly a kite since the winds are strong and it would be more fun.

_____ 3. Store food, flashlight, candles and matches

_____ 4. Wear thick clothes to keep yourself warm.

_____ 5. Strengthen house posts and check roof leaks.

_____ 6. Wade and swim in the flood waters.

_____ 7. Watch out for hanging live wires.

_____ 8. Share food, clothing and medicines to people affected by the typhoon.

_____ 9. Always listen to the latest weather report to know what is happening

_____ 10. Evacuate or go to relocation houses if you are staying in very low areas.

Lesson 66: Practice precautionary measures before, during and after a typhoon. (Competency 9.9.6)

Exercise B

Directions: Identify the practices that show precautionary measures before, during and after a typhoon. Fill in the chart below.

Before	During	After
Ex. Store food	Ex. Stay at home	Ex. Check for broken things

Lesson 67: Relates weather condition to planning family and community activities (Competency 10.1)

Exercise A

Direction: Identify the weather conditions showed by the following pictures. Write sunny or rainy beside the picture.

Activities	Weather Conditions
1.  swimming at the beach	
2.  planting rice	
3.  Staying at home	
4.  picnic at the beach	
5.  Reading in the room	

Lesson 67: Relates weather condition to planning family and community activities (Competency 10.1)

Exercise B

Directions: Encircle the letter of the correct answer.

1. On some days, the air is warm. On the other days, the air is cold. Sometimes the sun shines. Sometimes it rains. What do you call these changes?

a. rain b. sunshine c. storm d. weather

2. When do you want to know about the weather, what do you observe or look at?

a. the sky b. the plants c. the animals d. soil

3. You see the sky is clear. There are no clouds. There is no rain. What kind of weather is it?

a. fine weather b. stormy weather c. rainy weather cloudy weather]

4. The wind is blowing hard. There is rain. What kind of weather is it?

a. stormy weather b. fine weather. c. sunny weather d. cloudy weather

5. Which symbol below stands for fair weather?

a. 

b. 

c. 

6. How does bad weather affect the daily life of people?

   a. Some people do not go to work
   b. Some people go to picnics
   c. Some people go to sleep
   d. Some people do not eat

7. When should people go swimming?

   a. during stormy weather
   b. during fine weather
   c. during rainy days
   d. during windy days

8. What should you wear on sunny days?

   a. sweater
   b. umbrella
   c. hat
   d. jacket

9. What should you not wear during rainy day?

   a. umbrella
   b. jacket
   c. boots
   d. sando

10: Why should you not go out, when there is a storm

   a. There might be falling objects
   b. The sun is bright
   c. There are many people swimming
   d. There are cars passing by

Lesson 68: Identifies ways to conserve the environment to lessen the harmful effects of cyclone / floods. Competency 10.3

Exercise A

Direction: Put a check on the good ways to conserve the environment to lessen harmful effects of cyclone.

____ 1. Planting trees

____ 2. Starting a bonfire in the forest

____ 3. Cutting all trees in the forest

____ 4. Building and using a composting pit

____ 5. Reuse materials

____ 6. Dispose wastes properly

____ 7. Make bodies of water as dumping ground of wastes

____ 8. Moved into the city and cut trees to build houses

____ 9. Classifying wastes into biodegradable and non-biodegradable

____ 10. Join the program about environmental activities

Lesson 68: Identifies ways to conserve the environment to lessen the harmful effects of cyclone / floods. Competency 10.3

Exercise B

Directions: Put a check if the picture shows ways to conserve the environment to lessen harmful effects of cyclone.

____ 1. 

____ 2. 

____ 3. 

____ 4. 

____ 5. 

____ 6. 

___ 7. 

___ 8. 

Lesson 69: Identifying the members of the solar system
Competency VII.I.I

Exercise A

Directions: Identify the members of the solar system. Unscramble the words. Write your answer on the space provided.

1. UNS _____

2. TESALTILSE _____

3. LAPSTEN _____

4. SATERIODS _____

5. STEMOC _____

6. STEMEOR _____

7. MESTEORIET _____

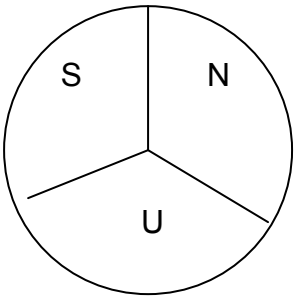
Directions: Complete the sentence that tells about the solar system.

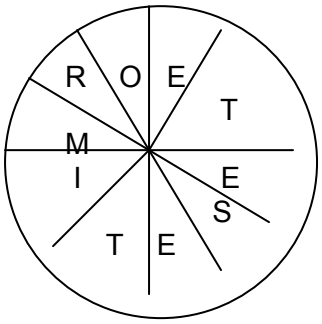
The solar (8) _____ is a group of (9) _____ bodies revolving around the (10) _____.

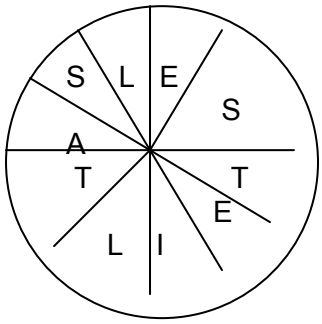
Lesson 69: Identifying the members of the solar system
Competency VII.I.I

Exercise B

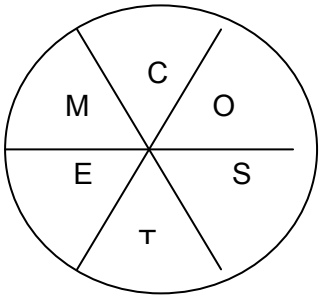
Directions: Identify the members of the solar system. Unscramble the letters.

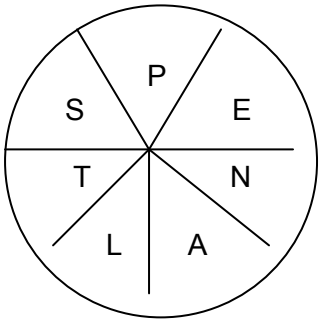


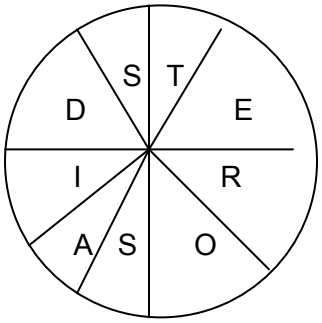




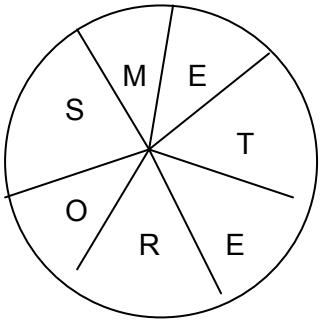
1. _____2. _____ 3. _____







4. _____ 5. _____6. _____



7. _____

Directions: Complete the statement about the solar system.

The solar system is an orderly arrangement of the (8) _____ and the (9) _____ bodies (10) _____ it.

Lesson 70: Describing some members of the solar system Competency VII.I.2

Exercise A

Directions: Using a line, match the member of the solar system in column A with its description in column B.

A	B
1. planets	a. The nearest star to the earth. It is the center of the solar system.
2. asteroids	
3. comets	b. Heavenly bodies that revolve around the sun and have no lights of their own.
4. satellites	
5. dust rings	c. Heavenly bodies that travel around the sun, they look like stars with glowing tails.
6. solar system	
	d. Small planets made of rocks and metal that shine like stars and revolve around the sun found between the orbits of Mars and Jupiter
	e. Bodies that rotate in orbits around other bodies of greater mass
	f. Group of celestial bodies revolving around the sun

Lesson 70: Describing some members of the solar system Competency VII.I.2

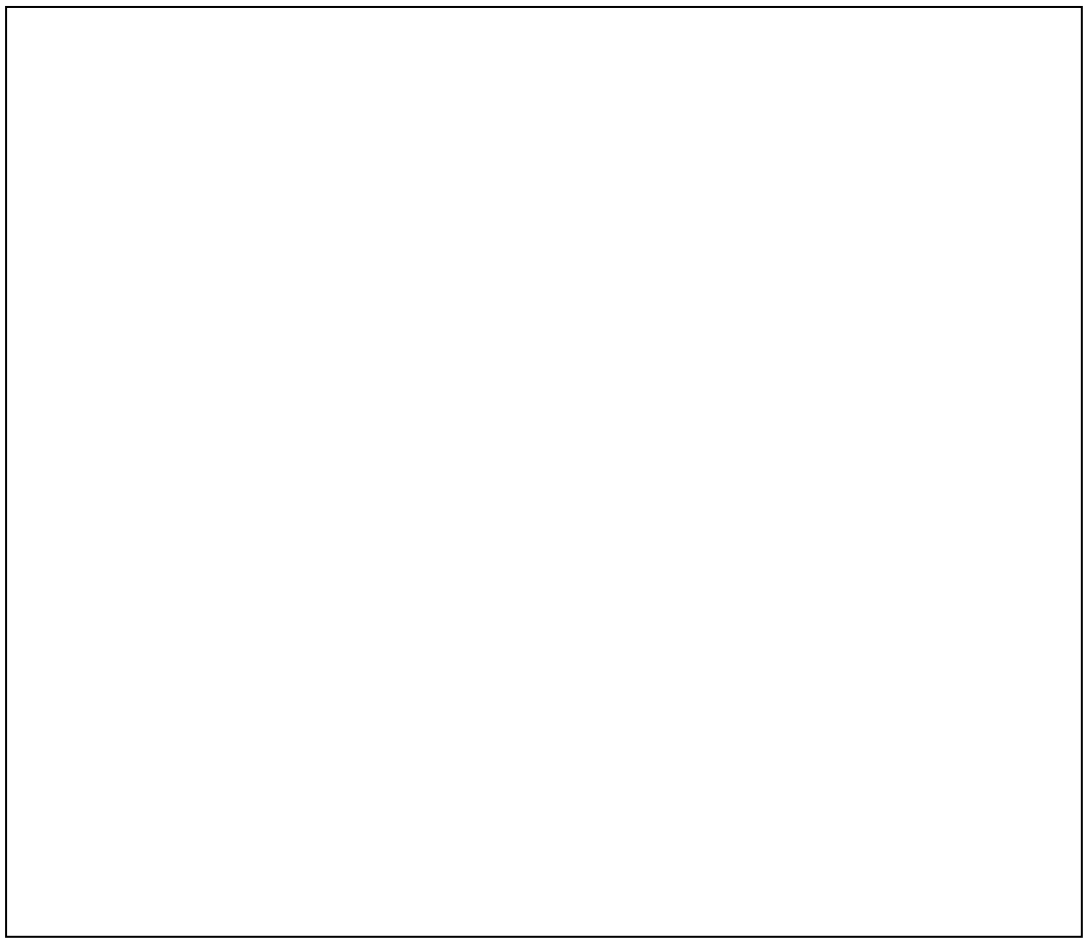
Exercise B

Directions: Using a line, match the member of the solar system in column A with its description in column B.

A	B
1. planets	a. Heavenly bodies that revolve around the sun and have no lights of their own.
2. asteroids	b. Heavenly bodies that travel around the sun, they look like stars with glowing tails.
3. comets	c. The nearest star to the earth. It is the center of the solar system.
4. satellites	d. Small planets made of rocks and metal that shine like stars and revolve around the sun found between the orbits of Mars and Jupiter
5. dust rings	e. Bodies that rotate in orbits around other bodies of greater mass
6. solar system	f. Group of celestial bodies revolving around the sun

Lesson 71: Illustrating through a diagram hoe the members of the solar system revolve around the sun as they follow their own orbit (Competency VII.I.3)

Directions: On the space below, illustrate the solar system through a diagram showing the sun at the center and the 8 planets revolving around it following their own orbit.

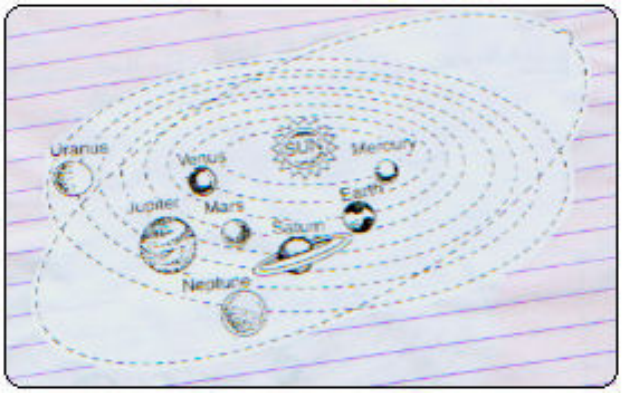


Lesson 72: Describing the orbit of each planet ellipse. Explaining why planets stay in orbit as they revolve around the sun Competency VII 1.4 -1.5

Exercise A

Directions: Perform the activity below.

1. Trace the orbit of each planet in the illustration
2. Observe how they are arranged and imagine how they move around the sun following the path.
3. Answer the following questions below. Refer to the words in the box.



Straight
Orbit
Ellipse
gravity

1. All planets move around the sun following its own path. What do you call this path?_____

2. How do the shape of the planets' look like? Draw the shape._____

3. The shape of the planets' orbit is _____

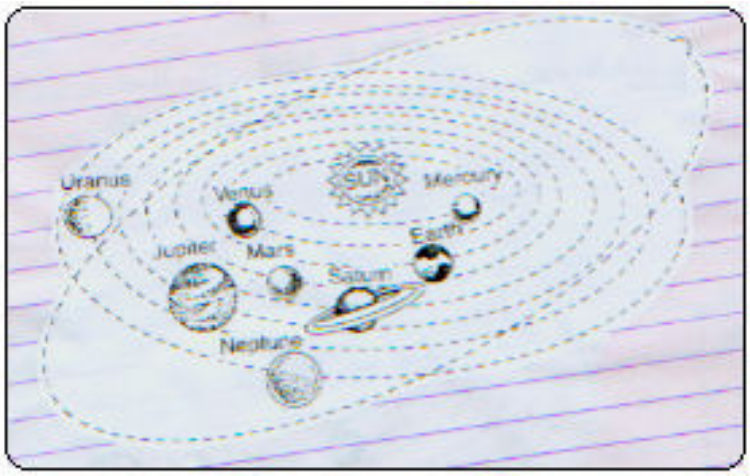
4. The planet has inertia of motion, however it does move in a _____ line.

5. The sun's _____ pulls the planet so it swerves around instead of flying of into space

Lesson 72: Describing the orbit of each planet ellipse. Explaining why planets stay in orbit as they revolve around the sun Competency VII 1.4 -1.5

Exercise B

Directions: Study the illustration of the planets and their orbits. Imagine their movement around the sun. Answer the questions below. Refer to the words in the box.



orbit
motion
straight
sun's
ellipse

1. Planets revolve around the following the path called _____

2. A planet's orbit is _____

3. Planets have inertia of _____, however it does not move in a

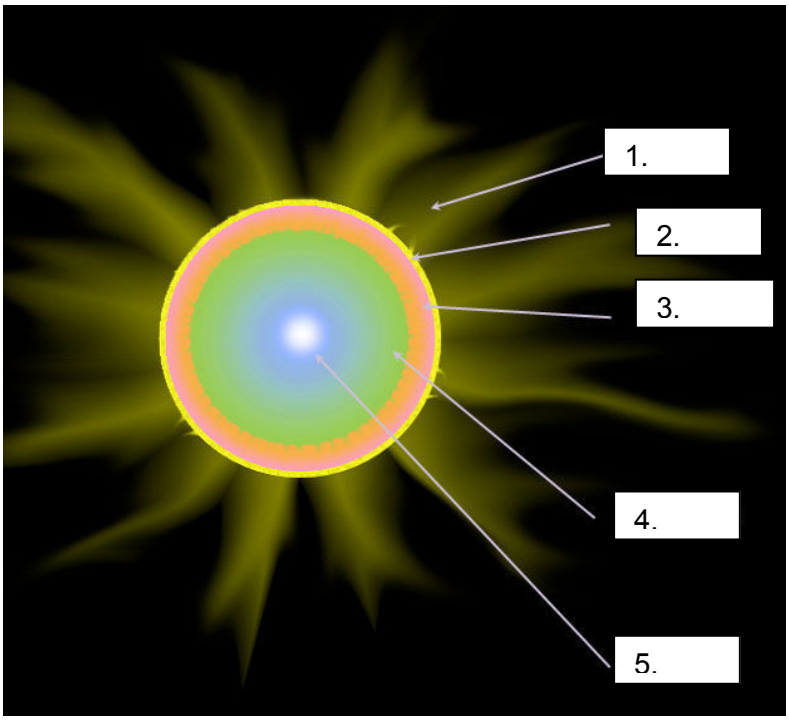
4. _____ line

5. The _____ gravity pulls the planets so it swerves around instead of flying into space.

Lesson 73: Telling that the sun is also a star. Identifying the parts of the sun Describing each part of the sun Competency VII 2.1 -2.2-2.3

Exercise A

Directions: Identify the parts of the sun in the drawing then answer the question below.

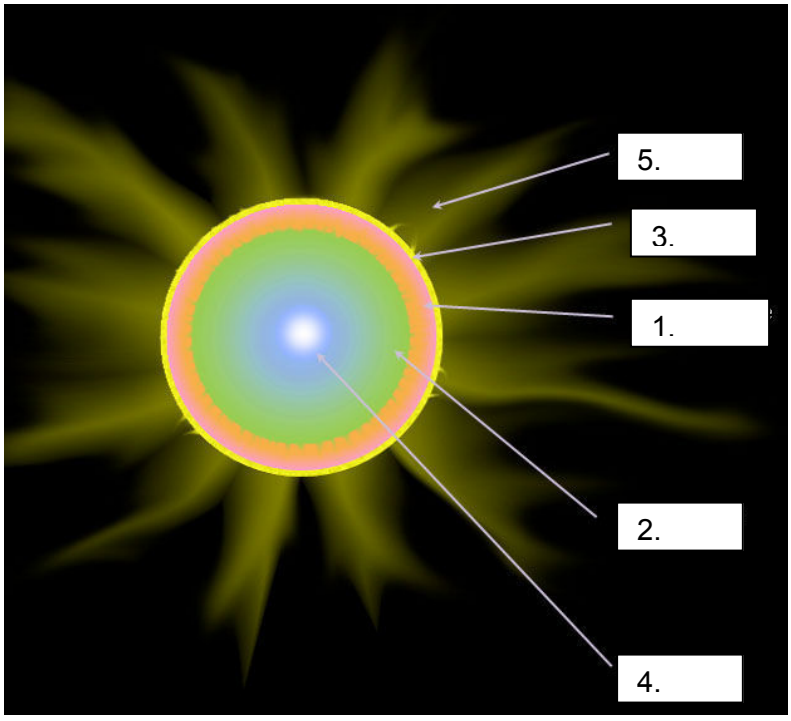


What type of heavenly body is the sun? _____

Lesson 73: **Telling that the sun is also a star. Identifying the parts of the sun Describing each part of the sun Competency VII 2.1 -2.2-2.3**

Exercise B

Directions: Identify the parts of the sun in the drawing then answer the question below.



The sun is the center of what system in the universe? _____

Lesson 74: Telling that sunspots are formed in the photosphere
Identifying the effects of sunspot on earth
Competency Vii 2.4 – 2.5

Exercise A

Directions: The paragraph below tells about the formation of sunspots. Fill in the blanks with the correct word to complete the explanation. Choose your answer from the box.

photosphere	magnetic
umbra	
penumbra	
sunspot	

A (1) _____ is a dark area formed in (2) _____ of the sun. It is also characterized by very strong (3) _____ fields.

There are 2 regions in the sunspot. The darker area is called (4) _____. The lighter area is called (5) _____. These are relatively cooler their surroundings.

Lesson 74: Telling that sunspots are formed in the photosphere
Identifying the effects of sunspot on earth
Competency Vii 2.4 – 2.5

Exercise B

Directions: The paragraph below tells about the formation of sunspot. Fill in the blanks with the correct word to complete the explanation. Choose your answer from the box.

A sunspot is a (1) _____ area formed in the (2) _____ of the sun. It is also characterized by very strong magnetic fields. There are two regions in the (3) _____. The (4) _____ is the darker area and the lighter area is called (5) _____. These areas are relatively cooler than their surroundings.

Sunspot dark penumbra Photosphere umbra

Lesson 75: Identifying ways by which solar energy is used by plants, animals and humans (Competency VII.2.6)

Exercise A

Directions: Identify whether solar energy is used by human, write H. Write A when it is used by animals and P if used by plants.

____ 1. Solar energy is used to produce electricity.

____ 2. To produce food by photosynthesis.

____ 3. To germinate seeds

____ 4. Sunlight is used for the body to produce vitamin D

____ 5. To disinfect beddings

____ 6. To dry the laundry and other wet things

____ 7. Keep themselves warm

____ 8. To bear fruits

____ 9. To bloom

____ 10. To brighten the surroundings

Exercise B

Directions: Write I if solar energy is used by plants, II if used by animals and III when used by humans.

____ 1. for drying wet clothes

____ 2. to germinate seeds

____ 3. to grow healthy

____ 4. to develop other plant parts fully

____ 5. to brighten the study room

____ 6. to warm the body

____ 7. to disinfect beddings and other materials at home

____ 8. to bear flowers

____ 9. to work in the office

____ 10. to dry themselves

Lesson 76: Explaining why the sun is the main source of energy on earth (Competency VII.2.7)

Exercise A

Directions: Explain why the sun is the main source of energy on earth. The guide questions will help you.

1. What does the sun give off?
2. What happens to the light given off by plants?
3. What is photosynthesis?
4. What do you think would happen on earth if there is no sun?
5. Why is the sun the main source of energy on earth?

Lesson 76: Explaining why the sun is the main source of energy on earth (Competency VII.2.7)

Exercise B

Directions: Explain why the sun is the main source of energy on earth. The guide questions will help you.

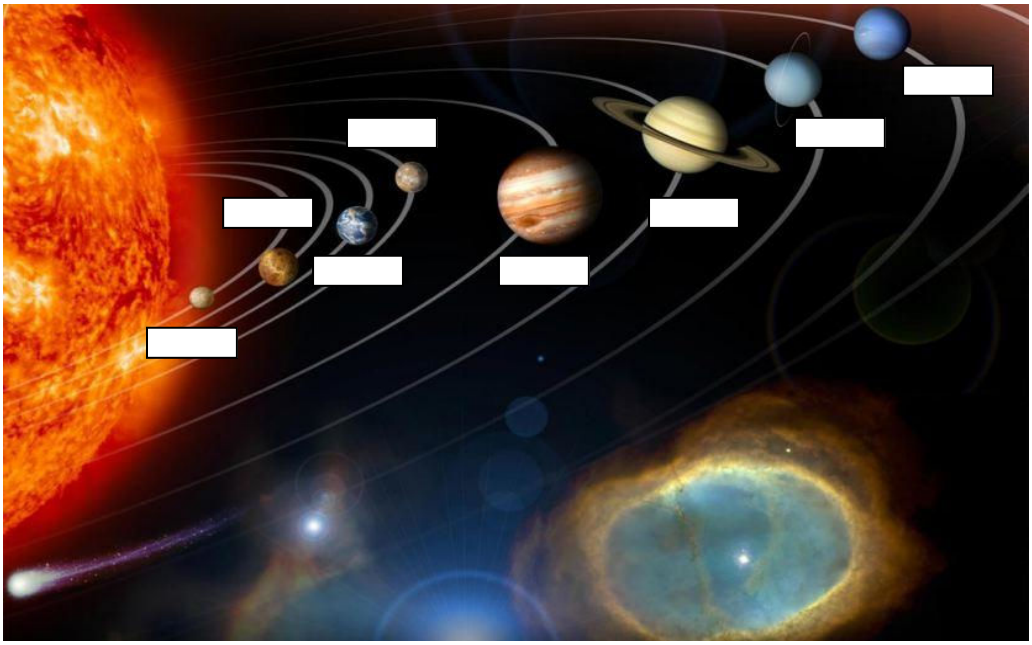
1. What do you think would happen on earth if there is no sun?
2. What does the sun give off?
3. What is photosynthesis?
4. Why is the sun the main source of energy on earth?
5. What happens to the light given off by plants?

Lesson 77: Illustrate the relative distances of the planets from the sun. Competency 3.3.1

Exercise A

Directions: Study the picture of the solar system carefully. Label the planets properly.

Sizes and Distances of Plants		
Planet	Distance from the Sun (km)	Diameter (km)
1. Mercury	58 million	4880
2. Venus	108 million	12100
3. Earth	150 million	12756
4. Mars	228 million	6787
5. Jupiter	778 million	142800
6. Saturn	1427 million	120000
7. Uranus	2870 million	51800
8. Neptune	4497 million	49500



Lesson 77: Illustrate the relative distances of the planets from the sun. Competency 3.3.1

Exercise B

Directions: Match the planets in column A and with their description in column B.

A	B
1. Neptune	a. nearest planet to the sun
2. Jupiter	b. hottest planet
3. Mercury	c. 3rd nearest planet to the sun
4. Venus	d. fifth planet from the sun and the largest
5. Uranus	e. planet with rings
6. Earth	f. the coldest and farthest planet from the sun
7. Mars	g. it is called the red planet
8. Saturn	h. 2nd farthest planet

Lesson 78: Identifies the other members of the solar system Competency 4.1

Exercise A

Directions: Study the table below and answer the questions the follow

Planet	Distance from the Sun (km)	Surface Temperature	
		Day	Night
Mercury	58 million km	430oC	-170oC
Venus	108 million km	470 oC	327 oC
Earth	150 million km	28 oC	26oC
Mars	228 million km	-23oC	-101oC
Jupiter	778 million km	-145oC	
Saturn	1427 million km	-136oC	
Uranus	2869 million km	-210oC	
Neptune	4498 million km	-220oC	

1. What is the distance of Mercury from the sun? _____

2. What is its surface temperature during the day? _____ During the night? ____

3. What is the distance of Earth from the sun? _____

4. What is its surface temperature? _____

5. What is the coldest planet? _____

6. What is the hottest planet? _____

7. Does the distance of planets relate to its temperature? _____

Directions: Complete the statements.

8. The nearer the planet to the sun, the _____ is its temperature

9. The temperature of stars depends on its _____ from the sun.

Lesson 78: Identifies the other members of the solar system Competency 4.1

Exercise B

Directions: Study the table below. Identify the distance of planet from the sun related to its surface temperature. Answer the questions below.

Planet	Distance from the Sun (km)	Surface Temperature	
		Day	Night
Mercury	58 million km	430oC	-170oC
Venus	108 million km	470 oC	327 oC
Earth	150 million km	28 oC	26 oC
Mars	228 million km	-23oC	-101oC
Jupiter	778 million km	-145oC	
Saturn	1427 million km	-136oC	
Uranus	2869 million km	-210oC	
Neptune	4498 million km	-220oC	

1. What is the nearest planet? _____
2. What is its distance in kilometer? _____
3. What is its surface temperature during the day? _____ Night? _____
4. What is the farthest planet? _____
5. What is its distance from the sun? _____
6. What is its surface temperature? _____
7. The nearest planet has a _____ temperature than the farthest planet.
8. Does the distance of the planet affect its temperature? _____

Directions: Complete the statement.

The nearer the planet to the sun, the (a) _____ the temperature is. This is because when the planet is very far away from the sun it cannot get (b) _____ sunlight.

Lesson 79: Relating the relative period of revolution of each planet to their relative distance from the sun. I (Competency VII.3.3)

Exercise A

Directions: Study the table below. Identify the distance of planet from the sun related to its surface temperature. Answer the questions below.

Planet	Distance from the Sun (km)	Time To Revolve around the Sun
Mercury	58 million km	88 days
Venus	108 million km	224 days
Earth	150 million km	365 days/ 1 year
Mars	228 million km	687 days
Jupiter	778 million km	12 years
Saturn	1427 million km	29 years
Uranus	2869 million km	84 years
Neptune	4498 million km	165 years

1. What planet has the farthest distance from the sun? _____
2. How many years does it take the earth to complete its revolution? _____
3. What planet has the shortest period of revolution around the sun? _____
4. Does the distance of the planet affect its revolution around the sun? _____
5. Which planets take less than a year to revolve around the sun? _____
6. What is the distance of mercury from the sun? _____

Directions: Complete the statement.

The nearer a planet is to the sun, the (7) _____ it makes a complete turn. The father planet take a (8) _____ time to make a complete revolution.

Lesson 79: Relating the relative period of revolution of each planet to their relative distance from the sun. I (Competency VII.3.3)

Exercise B

Directions: Study the table and answer the questions below.

Planet	Distance from the Sun (km)	Time To Revolve around the Sun
Mercury	58 million km	88 days
Venus	108 million km	224 days
Earth	150 million km	365 days/ 1 year
Mars	228 million km	687 days
Jupiter	778 million km	12 years
Saturn	1427 million km	29 years
Uranus	2869 million km	84 years
Neptune	4498 million km	165 years

1. What is the farthest planet? _____
2. What is the nearest planet? _____
3. How many days It takes Mercury to revolve around the sun? _____
4. Which planets take more than one hundred years to revolve around the sun?

   _____
5. Which planets take less than a year to revolve around the sun? _____

Directions: Complete the statement.

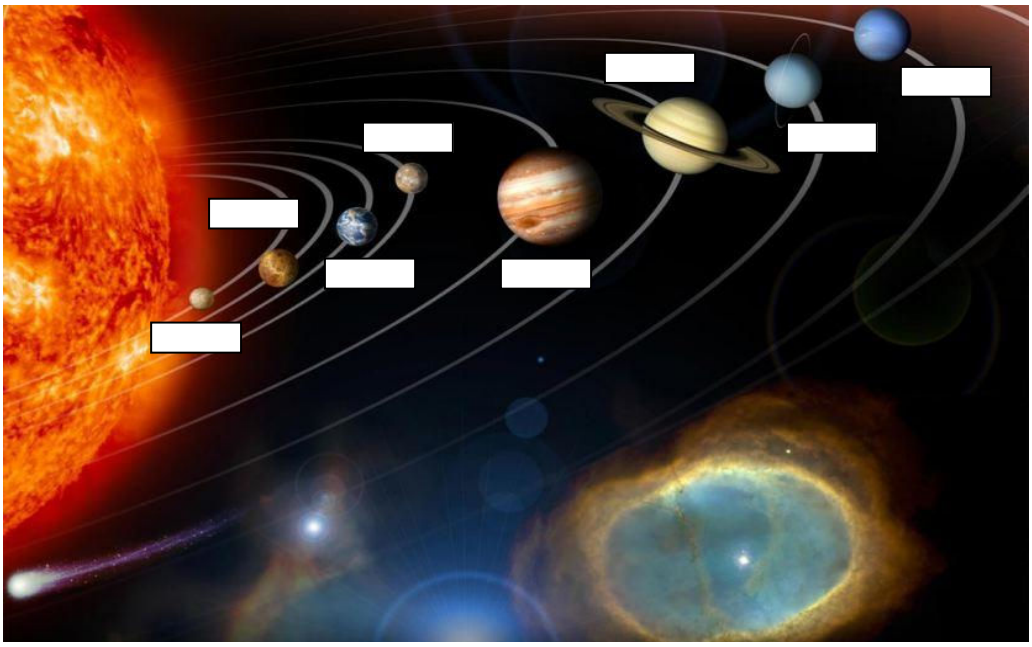
Planets have (6) _____ distances from the sun. The nearer the planet is to the sun, the (7) _____ it revolves around the sun. Farther planets take a (8) _____ time to make a complete turn.

Lesson 80: Relates the relative period of revolution of each planet to their relative distances from the sun. II (Competency 3.3)

Exercise A

Direction: Study the drawing of the solar system and the table. On the space beside each planet, write each one's revolution time.

Planet	**Time To Revolve around the Sun**
Mercury	88 days
Venus	224 days
Earth	365 days
Mars	687 days
Jupiter	12 years
Saturn	29 years
Uranus	84 years
Neptune	165 years



Lesson 80: Relates the relative period of revolution of each planet to their relative distances from the sun. II (Competency 3.3)

Exercise B

Direction: Match the planet in column A and its distinct characteristics in column B.

1. Mercury	a. the only planet that has air, water and soil
2. Venus	b. the red planet named after the Greek God of War
3. Earth	c. the smallest and the fastest planet
4. Mars	d. the brightest heavenly body aside from the sun and the moon
5. Jupiter	
6. Saturn	e. has beautiful rings that surround it
7. Uranus	f. largest planet
8. Neptune	g. farthest planet
	h. 11 dark rings which circle the planet from top to bottom
	i. the hottest planet

Lesson 81: Describe the occurrence of tides. Competency 5.1

Exercise A

Directions: On the blanks, write T if the answer is True or F if the answer is False.

_____ 1. The sun and the moon are the closest neighbors of the earth.

_____ 2. Low tides occur in paces of the earth between the high tides.

_____ 3. As the moon revolves around the earth, the earth also rotates.

_____ 4. Tides occur because the moon pulls the water parts of the earth.

_____ 5. High tides happen on the side of the earths facing the moon and on its

opposite side.

Lesson 81: Describe the occurrence of tides. Competency 5.1

Exercise B

Directions: Fill in the blanks to complete the statement. Choose your answers from the box below.

1. Tide is the regular _____ and _____ of water level in oceans, seas and rivers.

2. The nearest neighbor of earth that affect the movement of water is the _____.

3. It is _____ on the part of the earth facing the moon.

4. It is _____ on the part of the earth between the high tide zones.

5. As the moon _____ around the earth, the earth also _____.

6. Another force that causes tides is the earth's _____.

moon	low tide	rise and fall	rotates
high tide	flow	revolves	spring tide
Neap tide	full moon	centrifugal force	

Lesson 82: Explain why there are high tides and low tides about every 12 hours. (Competency 5.3)

Exercise A

Direction: Fill in the blanks the correct answer to complete the explanation.

As the moon attracts the earth's water places, the level of water (1)_____ causing (2)_____ on places facing the moon and its opposite side. (3)_____ tides occur in places of the earth between the high tides. The earth keeps on (4) _____ so different parts of (5)_____ and (6)_____ get tides. The regular rise and fall of the water level about every (7)_____ is called (8)_____.

oceans seas
rotating 12 hours
Rises high tides tide
Rivers low tides

Lesson 82: Explain why there are high tides and low tides about every 12 hours. (Competency 5.3)

Exercise B

Direction: Draw some situations showing the importance of tide. Write a few sentences to explain your drawings.

Lesson 83: Observing High Tide and Low Tide

Exercise A

Direction: Observe situations during high tide and low tide. On the boxes below, draw your observations. Write 2-3 sentences explaining your drawing.

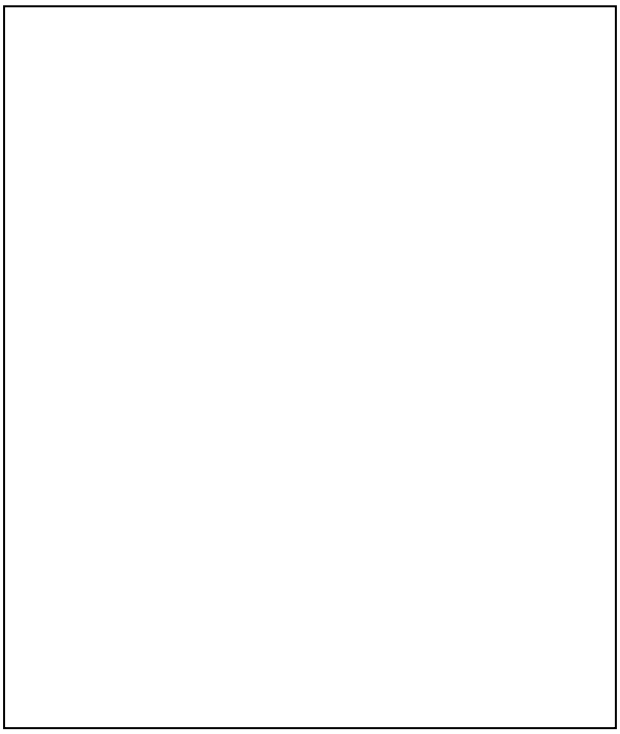
HIGH TIDE

LOW TIDE

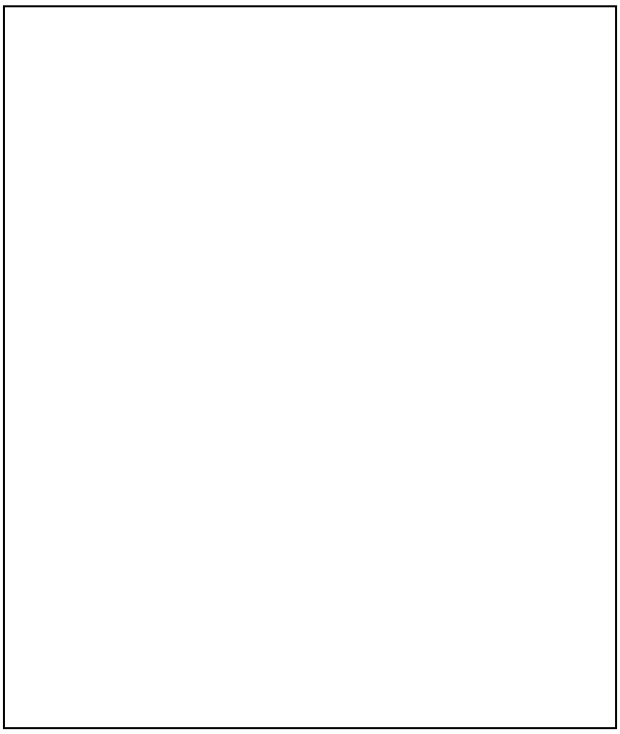
Lesson 83: Observing High Tide and Low Tide

Exercise B

Directions: Observe situations during high tide and low tide. On the boxes below, draw your observations. Write 2-3 sentences explaining your drawing.



HIGH TIDE



LOW TIDE

ANSWER KEY FOR GRADE 5 SCIENCE

Lesson 1: Exercise A A. scrotum B. testis C. penis D. epididymis E. prostate F. ovary G. uterus H. cervix I. fallopian tube J. vagina **Exercise B** 1. Scrotum 2. Testis 3. Epididymis 4.Penis 5. Fallopian tube 6. Ovaries 7. Uterus **Lesson 2: Exercise A 1.** Yes 2. No 3. Yes 4. Yes 5. Yes 6. No 7. Yes 8. Yes 9. Yes 10. No **Exercise B 1.** A 2. H 3. D 4. C 5. B 6. F 7. E 8. I 9. J 10. G **Lesson 3:**

Exercise A	Exercise B
1. sperm cell	1. Reproduction
2. egg cell	2. ovum
3. unite	3, male
4. fertilization	4. chromosomes
5. zygote	5. genetic information
6. fertilized ovum	6. fallopian tube
7. embryo	7. union
8. implanted	8. zygote
9. uterus	9. uterus
10. development	10. embryo

Lesson 4: Exercise A 1. 1 2. 2 3. 3 4. 2 5. 3 6. 1 7. 2 8. 1 9. 2 10. 1 **Exercise B** Changes in Boys: 1,2,8,9 Change in Girls: 3, 5,6, 10 Changes in both: 4,7

Lesson 5: Exercise A 1. B 2.a 3.b 4.b 5.c 6.a 7.a 8.a 9.a 10.c **Exercise B 1.** A 2.d 3.c 4.c 5.d 6.a 7. C 8. C 9.a 10.a **Lesson 6: Exercise A** Check: 1,3,4,6,9,10 X: 2,5,7, 8 **Exercise B** Yes: 1, 5, 8 ,10 No: 2,3,4,7,9

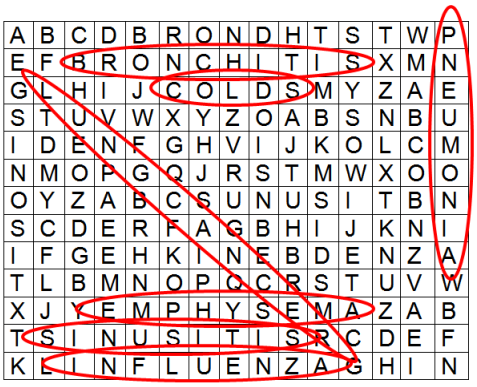
Lesson 7: Exercise A 1. Nasal Passage 2. Larynx 3. trachea or wind pipe 4. Lungs 5. Brochi **Exercise B** A. diaphragm B. lungs C. larynx D. nose E. trachea or wind pipe

Lesson 8: Exercise A & B (Answer will be based on the student's observation activity)

Lesson 9: Exercise A and B

The body gets air through the nose or mouth. Then air goes down the pharynx and down to the larynx. From the larynx the moist air enters the trachea. The trachea branches out into two air tubes called bronchi. The bronchi divide into smaller tubes called bronchioles. The purify the air that reaches the lungs. Each bronchioles has tiny air sacs called the alveoli where the exchange of gases between the blood and the lungs occur. The blood takes in oxygen goes to the heart, and is pumped to the different parts of the body and the waste and other gases are exhaled.

Lesson 10: Exercise A



Exercise B 1. Colds 2.lung cancer 3. Bronchitis 4. Influenza 5.pneumonia 6. Tuberculosis 7.emphysema

Lesson 11: Exercise A 1. I 2.f 3.g 4.a 5.b 6.h 7.j 8.c 9.e 10.d **Exercise B 1.** D 2.a 3.b 4.f 5.e 6.d **Lesson 12: Exercise A** Check: 1-5,8,9 **Exercise B 1.** Yes 2.Yes 3.No 4.Yes 5.Yes 6.Yes 7.Yes 8.No 9. Yes 10. No

Lesson 13: Exercise A I. kidney II. Ureter III. Bladder IV. Urethra **Exercise B** 1. Kidneys 2. Ureter 3. Bladder 4. urethra

Lesson 14: Exercise A In correct sequence: B, C, D, A **Exercise B 1.** Filtered 2. Kidney 3. Urine 4. Ureter 5. urinary bladder 6. Urethra 7.eliminates

Lesson 15: Exercise A and B 1. Lungs remove gaseous waste (carbon dioxide) through exhaling 2. Skin excretes the wastes and water from the blood in the form of perspiration or sweat. 3. Digestive System gets rid of solid waste from the large intestine to the rectum going out of the body. **Lesson 16:**

Exercise A: Check: A,B,C,E **Exercise B:** Check all numbers

Lesson 17: Exercise A

Herbivores	Carnivores	Omnivores
horse	eagle	eagle

goat cow carabao dugong elephant starfish goose	lion tiger snake frog cat dog lion heron owl	mouse rat fish rabbit duck starfish

Exercise B 1. Omnivore 2.carnivore 3.carnivore 4.herbivore 5.herbivore 6.omnivore 7.carnivore 8.carnivore 9.onivore 10.herbivore **Lesson 18: Exercise A 1.** True 2. False 3. True 4. True 5. False 6. True 7. False 8. False 9. False 10. True **Exercise B**
(answers may vary) J **Lesson 19: Exercise A. 1.** A 2.a 3.a 4.a 5.b 6.b 7.b 8.b 9.d 10.a **Exercise B 1.** A/b 2.b 3.c 4.b 5.d 6.d 7.b 8.c 9.b/d 10.c **Lesson 20: Exercise A 1.** C 2.d 3.a 4.e 5.b 6.g 7.f 8.i 9.h 10.j **Lesson 21: Exercise A 1.** A 2. b/d 3. C 4.c 5.c 6.c 7.d 8.d 9.b 10.d **Exercise B** (Answer May Vary) **Lesson 22: Exercise A** 1. Claw/shell 2. canine teeth 3. Swim bladder 4. canine teeth 5. Color/poison 6. Venom 7. Scent glands 8. Horn 9. color 10. tongue
Exercise B: Answers may vary **Lesson 23: Exercise A:** check: 1,2,4,6 **Exercise B:** check: 1,2,3,5 **Lesson 24 Exercise A**

Animals	With backbone	Without backbone
1. fishes	/	
2. kangaroo	/	
3. jelly fish		/
4. penguins	/	
5. flat worms		/
6. turtle	/	
7. starfish		/
8. corals		/
9. snakes	/	
10. roundworms		/

Exercise B

Animals	Vertebrate	Invertebrate
1. kangaroo	/	
2. fishes	/	
3. flat worms		/
4. penguins	/	
5. jelly fish		/
6. turtle	/	
7. corals		/
8. starfish		/
9. snakes	/	
10. roundworms		/

Lesson 25: Exercise A 1. B 2.r 3.a 4.m 5.m 6.f 7.b 8.f 9.a 10.r **Exercise B 1.** F 2. M 3. F 4. A 5. M 6.B 7. A 8. R 9. B 10.F **Lesson 26: Exercise A. 1.** Mammals 2. Reptiles 3.birds 4. Amphibians 5.fishes **Exercise B 1.** C 2. E 3. D 4. B 5. A **Lesson 27 Exercise A:** coelenterates: coral, jellyfish annelids: earthworm crustaceans: crab echinoderm: sea cucumber insects: butterfly mollusk: squid Exercise B: 1. I 2. CO 3. I 4. E 5.M 6.AN 7.CO 9.CO 10.E **Lesson 28: Exercise A** 1. Colonies 2.fringing reef 3.barrier reefs 4.atolls reef 5.marine reef 6.limestone 7.jewelry 8.home ornaments 9.marine biologist 10.ecological relationship **Exercise B** Coral reefs serve as shelter and source of food for fish, thus it helps in the ecological balance of the sea
Lesson 29: Exercise A 1. coral reef 2.colonies 3.fringing reefs 4.barrier reefs 5.atolls 6.shell-like 7.rock-like 8.calcium carbonate 9.unconsolidated sediment 10.hermatypic **Exercise B 1.** D 2.c 3.i 4.j 5.b 6.g 7.k 8.e 9.h 10.f **Lesson 30 Exercise A** 1. No 2.Yes 3.Yes 4.Yes 5.Yes 6.No 7.Yes 8.No 9.No 10.Yes
Exercise B Encircle: A, D,E,F,I,J
Lesson 31: Exercise A

1. Dynamite fishing: When dynamite blasts, fishes and corals are destroyed.
2. Muro-ami: When the divers repeatedly drag and stump heavy materials to confuse and drive the fish towards the fishing net, coral reefs are destroyed.
3. Fish net with small holes: Corals are destroyed as nets are dragged over the reefs.
4. Collecting corals: The corals are taken and sold so less and less corals are left.

5. Dumping of wastes in bodies of water: Human wastes surely destroy coral reefs around the cities.

Exercise B 1. D 2.b 3.a 4.e 5.c

Lesson 32: Exercise A 1. Check: 2-10.

Exercise B Check: 2,3,5,6,8,9,10 **Lesson 33: Exercise A** 1. Water 2.carbon dioxide 3. Chlorophyll 4. Light 5. Starch 6.oxygen **Exercise B 1.** Sunlight 2. Chlorophyll 3.water and minerals 4. carbon dioxide 5. Starch 6.oxygen **Lesson 34 Exercise A** (Answers may vary) Exercise B 1. Food 2.food, medicine 3.food 4.medicine 5.medicine 6.food 7.medicine 8.food 9.food 10. Food **Lesson 35 Exercise A**

1. aerial roots 2. prop roots/aerial 3. thorns on stems 4. thick stem filled with sap 5. hollow stems 6. thick woody shells or husks 7. Needlelike leaves 8. stinging hairs and bristles 9. big and bright colored petals 10. storage roots

Exercise B 1. C 2.g 3.h 4.i 5.e 6.d 7.j 8.a 9.b 10.f **Lesson 36: Exercise A.**

Bodies of Water	Forest	Desert	Cold countries
Lotus Water lily Kangkong mangrove	Tamarind Ipil-ipil orchids	Date palm cactus	Pine trees

Exercise B (suggested answers: A. 1. Hyacinth 2 lotus B 3. ipil-ipil 4. Tamarind C 5. date palm 6. Cactus D 7. pine tree 8. Mangrove E 9. seaweeds

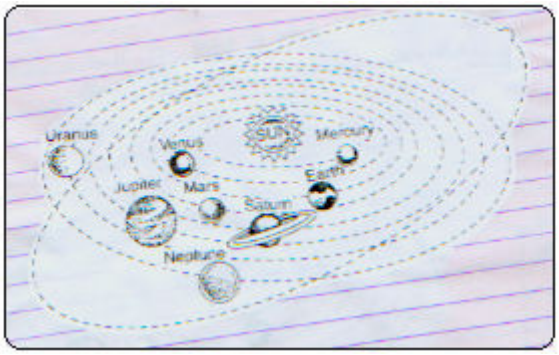
10. orchids **Lesson 37: Exercise A 1.** B 2.a 3.d 4.c 5.g 6.h 7.f 8.e **Exercise B 1.**algae 2.vascular plants 3.nonvascular plants 4.mosses 5.liverworts 6.ferns 7.gymnosperms 8.angiosperms **Lesson 38: Exercise A** Angiosperm: 1,4,5 Spore-bearing: 2,6,8,10 Gymnosperm: 3,9 Non-vascular: 7,8,10 **Exercise B 1.** A 2.B 3.D 4.D 5.A 6.C/D 7.C 8.B 9.C 10.A **Lesson 39: Exercise A 1.** PC 2. PC 3. CC 4.CC 5.PC 6.PC 7.CC 8.CC 9.CC 10.PC **Exercise B** 1. CC 2. CC 3. CC 4.PC 5.PC 6. CC 7. CC 8. PC 9. CC 10. CC **Lesson 40 Exercise A 1.**True 2.True 3.False 4.True 5.True 6.True 7.True 8.True 9. False 10. True **Exercise B** Check: 1-3,5,8-10 **Lesson 41 Exercise A:** Physical Change: Water become ice when cooled; broken toys; burnt candles; melted margarine; crumpled papers Chemical Change: Burning of paper; rusted Window grills

Chewing of food; carmelizing; rusting of nails **Exercise B 1.** P 2.C 3.P 4.P 5.C 6.P 7.C 8. C 9.P 10.C **Lesson 42 Exercise A & B**. (answers may vary)

Lesson 43: Exercise A I. 1. Static 2. Friction 3. Magnetic 4. Static 5. Rub II. Encircle 1-3 III. Magnetic force

Exercise B 1. E 2.A 3.C 4. B 5.E II. Encircle: 1, 5, and 6 III. A **Lesson 44 Exercise A** 1. Complete circuit 2. Current 3. Fuse 4. Insulator 5. Conductor 6. Source 7. Short circuit 8. Switch 9. Incomplete circuit **Exercise B 1.** Current electricity 2. Fuse 3. Short circuit 4. Insulator 5. Conductor 6. Complete circuit 7. Source 8. Load 9. Switch **Lesson 45: Exercise A** 1. C 2.I 3. C 4. I 5.C 6.I 7.I 8.C 9.I 10.C **Exercise B** INS: 1,4-7,10 CON: 2,3,8,9 **Lesson 46: Exercise A** 1.C 2.H 3.A 4.E 5.D 6.F 7.G 8. B 9-10. Electrical energy is produced in different ways **Exercise B I.** A.2 B. 7 C.8 D.4 E 1 F 3 G. 6 H 5. II. 1. Electrical 2. Source **Lesson 47: Exercise A** 1. H 2. H 3.L 4. OF 5. OF 6.L 7.OF 8.H 9.OF 10.H **Exercise B** 1. Heat 2. Heat 3. Light 4. Other 5. Other 6.light 7. Heat 8. Heat 9. Other 10. Other **Lesson 48: Exercise A** 1. Magnet 2. Electricity 3. Coil 4. Wound 5. Iron 6. Electromagnet 7. Stronger 8. More 9. Wire 10. Force **Exercise B** 1. Electromagnet 2. Magnet 3. Electricity 4. Wire 5. Magnetic 6. Electric 7. Stronger 8. More 9. Wire 10. Force **Lesson 49: Exercise A** Check: 1,2,5,6,7,8,10 X: 3,4. 9 **Exercise B** Check: 1,4,8,9,10 X: 2,3,5-7 **Lesson 50: Exercise A** Star: 1,2,4-10 box: 3 **Exercise B :** ☺: 3,4,7-10 ☹ 1,2,5,6 **Lesson 51: Exercise A** Y: 1-3,5,8,9 N: 4,6,7,9 **Exercise B** T: 1,4,6,7,9,10 F: 2,3,5,8 **Lesson 52: Exercise A** A. Wedge B. Screw C. Wedge D. Wedge E. Lever F. Pulley G. Inclined plane **Exercise B** 1. Lever 2. Wedge 3. Inclined plane 4. Screw 5. Lever 6. Pulley **Lesson 53: Exercise A** A. 1 B. 9 C. 4 D. 3 E. 2 F. 7,5 G. 10 **Exercise B** 1. D 2. E 3.F 4.C 5.G 6. B 7. A 8. Simple machine 9. Faster 10. Effort **Lesson 54: Exercise A:** Check all **Exercise B:** Check A-D **Lesson 55: Exercise A** 1. Pulley 2.

Screw 3. Pulley 4. Wheel and axle 5. Wedge 6. Lever 7. Lever/wheel and axle 8. Inclined plane 9. Pulley 10. Screw **Exercise B** 1. Egg beater 2. Staircase 3. Crane 4. Scissor 5. Screw 6. Sharpener 7.fixed pulley 8. Can opener 9. Knife 10. Door knob **Lesson 56: Exercise A** Check: 1,2,4,5,6,8,10 X: 3,7,9 **Exercise B** OK: 2-9 NO: 1,10 **Lesson 57: Exercise A & B** Igneous: Color: black, white, gray, like molten lava Hardness: Hard texture: coarse Sedimentary: gray, black Hardness: hard Texture: smooth Metamorphic: varied colors, hard, smooth **Lesson 58: Exercise A:** Igneous: formed from volcanic materials Sedimentary: brought about by layers of sediment Metamorphic: changed in form from igneous and/or sedimentary **Exercise B:** 1. C 2. B 3. A **Lesson 59: Exercise A:** 1. Sedimentary 2. Metamorphic 3. Igneous 4. Metamorphic 5. Sedimentary **Exercise B** 1. Sedimentary 2. Igneous 3. Metamorphic 4. Igneous 5. Sedimentary **Lesson 60: Exercise A & B:** Answers may vary **Lesson 61: Exercise A:** 1. Water 2. Water vapor 3. Clouds 4. Evaporation 5. Condensation 6. Rain 7. Precipitation 8. Sleet 9. Hailstone 10. Snow **Exercise B** 1. Sun heats up the sea, water evaporates 2. Water droplets are formed 3. Clouds become heavy thus it precipitates. **Lesson 62: Exercise A** 1. D 2.A 3.A 4.D 5.A 6.C 7. B8.A 9. B 10.A Exercise B: 1. Water cycle 2. Evaporates 3. Precipitation 3. Rain 5. Snow 6. Condensation 7. Sun 8. Heating 9. Cooling 10. Water vapor **Lesson 63: Exercise A** 1. T 2. F 3. T 4. T 5. T **Exercise B** 1. B 2.B 3.D 4.D 5.D 6.B 7.A **Lesson 64: Exercise A & B** activity: answers may vary **Lesson 65: Exercise A & B:** answers may vary **Lesson 66: Exercise A:** Check: 1,3-5,7-10 **Exercise B:** Answers may vary **Lesson 67: Exercise A** 1. Sunny 2. Sunny 3. Rainy 4. Sunny 5. Rainy **Exercise B** 1.d 2. A 3. A 4. A 5.a 6.a 7. B 8. C 9. D 10. A **Lesson 68: Exercise A** Check: 1,3,4,5,9,10 Exercise B Check: 2, 4,5,8, **Lesson 69: Exercise A** 1. Sun 2. Satellites 3. Planets 4. Asteroids 5. Comets 5. Meteors 6. Meteorite 8. System 9. Celestial 10. Sun **Exercise B** 1. Sun 2. Meteorites 3. Satellites 4. Comets 5. Planets 6. Asteroids 7. Meteors 8. Sun 9. Celestial 10. Revolving **Lesson 70: Exercise A** 1. A 2.d 3.c 4b 5.e 6.f **Exercise B** 1. C 2. D 3. B 4. A 5. E 6. F **Lesson 71:**



Lesson 72: Exercise A 1. Orbit 2. Ellipse 3. Ellipse 4. Straight 5. Gravity **Exercise B** 1. Orbit 2. Ellipse 3. Motion 4. Straight 5. Sun's **Lesson 73: Exercise A**: 1. Corona 2. Chromosphere 3. Photosphere 4. Convection zone 5. Core; The sun is a star. **Exercise B:** 1. Photosphere 2. Convection zone 3. Chromospheres 4. Core 5. Corona ; The sun is the center of the solar system. **Lesson 74 Exercise A** 1. sunspot 2. Photosphere 3. Magnetic 4. Umbra 5. Penumbra **Exercise B** 1. Dark 2. Photosphere 3. Sunspot 4. Umbra 5. penumbra **Lesson 75: Exercise A** 1. H 2.p 3.p 4.h 5.h 6. H 7. H 8.p 9.p 10. H **Exercise B:** I: 2-4,8,10 II: 3,6,10 III: 1,3,5,3,7,9,10 **Lesson 76: Exercise A & B**: The sun is our main source of light and heat. It gives us energy. It helps plants make their own food. Without the sun, there will be no light, heat, energy and most especially, life. **Lesson 77: Exercise A:** from left to right: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune **Exercise B:** 1.f 2.d 3.a 4.b 5.h 6.c 7.g 8.e **Lesson 78: Exercise A** 1. 58 million km 2. 430°C, 170°C 3. 150 million km 4. 28 °C 5. Neptune 6. Venus 7. Yes, they are inversely proportional 8. higher 9. Distance **Exercise B** 1. Mercury 2. 58 million km 3. 430°C, 170 °C 4. Neptune 5. -220°C 6. Higher 8. Yes a. higher b. enough **Lesson 79 Exercise A** 1. Neptune 2. 1 year 3. Mercury 4. Yes 5. Closer than the earth 7. 58 million km 7. Shorter the time 8. Longer **Exercise B** 1. Neptune 2. Mercury 3. 88 days 4. Neptune

5. Mercury and Venus 7. Different 8. Shorter the time 10. Longer **Lesson 80 Exercise A** from left to right: 88 days, 224 days, 365 days, 687 days, 12 years, 29 years, 84 years, 165 years **Exercise B:** 1. C 2.I 3.a 4.b 5. F 6.e 7.h 8. G **Lesson 81: Exercise A** 1. F 2. T 3. T 4. T 5. T **Exercise B:** rise, fall 2. Moon 3. High tide 4. Low tide 5. Revolves, rotates 6. Centrifugal force **Lesson 82: Exercise A** 1. Rises 2. High tides 3. Low 4. Rotating 5. Oceans 6. Seas 7. 12 hours 8. Tide **Exercise B:** Answers may vary **Lesson 83 Exercise A & B:** possible answer: The seashore is smaller during high tide, larger during low tide.

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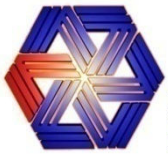

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