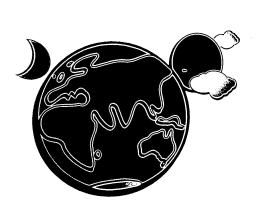
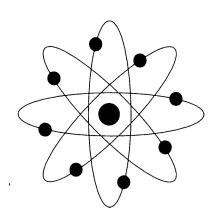
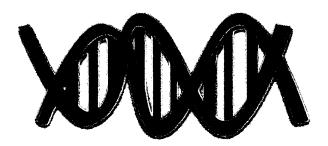
ABE & GED SCIENCE

VOCABULARY, ACTIVITIES, INFORMATION & STUDENT WORKSHEETS







Denise Reddington

2011 NH Bureau of Adult Education Grant



Life Science & the GED

Reading Skills

Pages 4 - 5

Pages 6 - 10

Human Body Trivia

Page 11

Food Web Page 12

Vocabulary Activities & Student Worksheets Pages 13 - 26



EARTH & SPACE SCIENCE

Earth & Space Science & the GED Page 27

Vocabulary Activities & Student Worksheets Pages 28 - 38

Solar System Crossword Page 39 - 40

The Solar System Page 41

Calculate Your Weight on Other Worlds Pages 42 – 43



PYHSICAL SCIENCE

Physical Science & the GED	Page 44
Chemistry Vocabulary & Worksheets	Pages 45 - 54
Periodic Table & Crosswords	Pages 48 – 50
Matter Reading & Activities	Pages 55 - 59

Electrical Charges

Static Electricity

Pages 61 – 62

Physical Science Vocabulary & Worksheets

Pages 63 – 71

Simple Machines

Pages 72 – 75

Science Bob Experiment

Pages 76 – 77

RESOURCES

Recommended Science Materials

Page 78

Science Websites & YOUTUBE

Page 79

Science Locator Test

Page 80

Scientific Method

Pages 81 - 82

The Language of Science

Pages 83 - 84

Life Science

Life Science questions make up about 45% of the GED Science Test.

A student is expected to demonstrate a basic understanding and **knowledge** of major Life Science topics and related vocabulary including the following topics that may be covered on the GED Test:

- The Cell
- Heredity and Genetics
- Biological Evolution
- Interdependence of Organisms, Ecosystems
- Matter, Energy, and Organizations of Living Systems
- Behavior of Organisms

A student is expected to apply **comprehension skills** to science passages and graphics.

Comprehension skills include:

- Restate Information
- Summarize Ideas
- Identify Implications
- Make Inferences

A student is expected to apply **application skills** to science passages and graphics. Application skills include:

- Use information in a new context or situation
- Identify an illustration of a generalization, principle or strategy

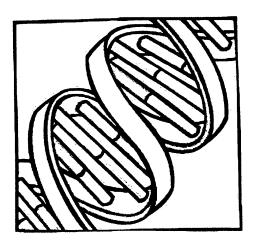
A student will apply analysis skills to science passages and graphics.

Analysis skills include:

- Distinguish facts from opinions
- Distinguish conclusions from supporting details
- Use questioning and reasoning abilities
- Recognize unstated assumptions
- Think critically and logically about relationships between evidence and explanations
- Compare and contrast points of view
- Make inferences or predictions

The student will apply **evaluation skills** to science passages and graphics. Evaluation skills include:

- Assess whether information is appropriate to substantiate conclusions or generalizations
- Assess the accuracy of facts presented in a text or graphic
- Recognize the roles that values, beliefs, and personal convictions play in decision making



The following pages include samples of activities and worksheets that I use with students. These activities and worksheets focus on developing a student's vocabulary and knowledge about the major science topics that are most likely to be found on the GED Science Test. Students do not need to memorize Science facts, but do need a general knowledge and understanding of major Science concepts. I've also included useful reference materials as well as recommended websites and resources. The study of Science can be fascinating and a lot of fun to teach and learn!

While I focus on the general knowledge and vocabulary needed to be successful on the GED Science Test, I've also included some sample reading skill activities. The successful GED candidate requires a combination of major Science knowledge and vocabulary, strong reading and test taking skills and lots of practice.

Main Idea

Read the paragraph. Write the topic, the main idea, and two details that support the main idea. The topic is one to two words that explain the subject being discussed. What would be a good title for this passage?

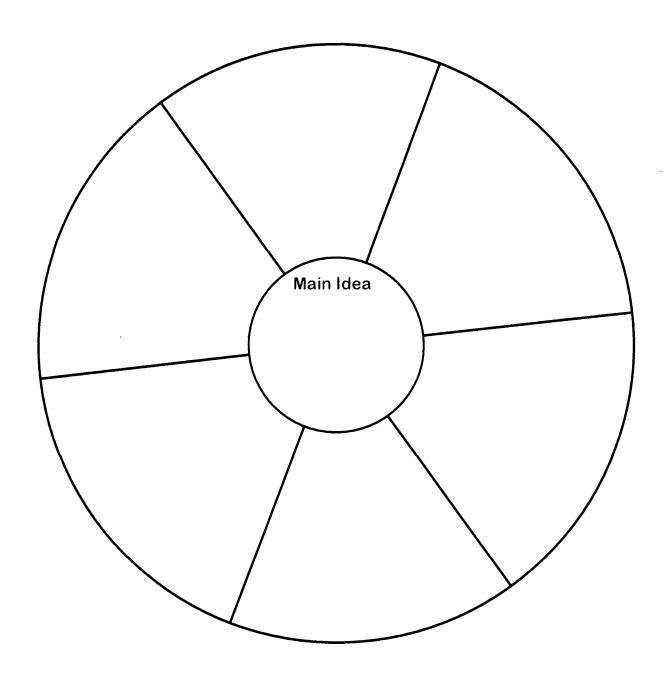
The main idea is one sentence that tells the most important idea for the paragraph. What is this passage mostly or mainly about?

Details are pieces of information that tell about the main idea.

1.	compost bin is for. She s garden. Susan explained	ompost bin. She throws all sorts of scraps in it. I asked Susan what her aid a compost bin provides a way to create rich dirt to help her plants and that over time, her leftover vegetables, pieces of plants, grass clippings, on into new dirt. The dirt contains nutrients that help other plants grow.
	topic (1-2 words):	
	main idea:	
	detail #1:	
	detail #2:	
2.	sweeten foods and drinks to special animals. It has	ands of years ago. They found out that it was good! They used honey to s. In some places, honey was used instead of money. Sometimes it was fed been used to soften skin and heal small wounds. Honey is better than sugar weet, but honey has some good things in it that sugar does not have.
	topic (1-2 words):	·
	main idea:	
	detail #1:	
	detail #2:	

Adapted from edhelper.com

Main Idea Wheel



Distinguishing Between Fact and Opinion

A fact is a statement that can be checked or proved.
Example: Skin makes vitamin D for your body from sunlight.
Write 2 or more science facts.
·
An o pinion is a statement that cannot be proven. They tell what
someone thinks or feels. Opinions may contain words such as think, feel, believe, greatest, best, most, all or never.
Example: Science is the most important subject in school. All girls should study science if they want to succeed in life.
Write 2 or more science opinions.
A POLICE STATE OF THE PROPERTY

NT	Date	
Name	-	

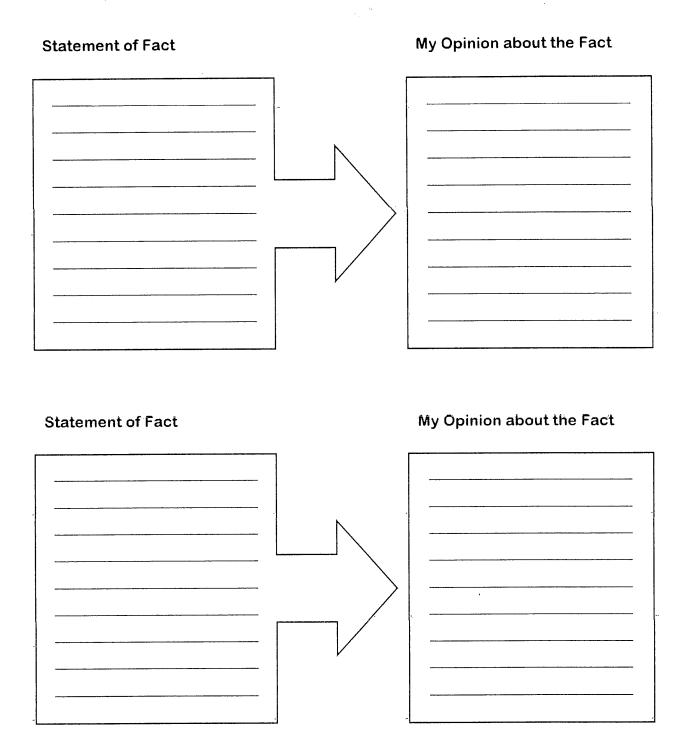
Fact or Opinion....Life Science

Write fact if the sentence is a fact. Write opinion if the sentence is an opinion.

1	Every living thing is made up of cells.
2.	A vertebrate is an animal with a backbone.
3.	Animals with backbones are stronger than animals without backbones.
4.	Photosynthesis is the best way to make food.
5.	Genetics is the study of heredity.
6.	DNA is the most important material of human life.
7	Everyone should believe in evolution only.
8.	The circulatory system is the most vital system in the body.
9.	The nervous system controls the body's responses.
10.	Most cells are so tiny you would need 10,000 to cover a pinhead.
11.	There are about 75 trillion cells in your body.
12.	Sight is the most important sense in the human body.
13.	Global Warming will one day destroy the Earth.
14.	Every person needs to sleep.
15.	Every person needs 8 or more hours of sleep a night to stay healthy.

Fact or Opinion?

Directions: Use this chart to list facts on the left and your opinion on the right.

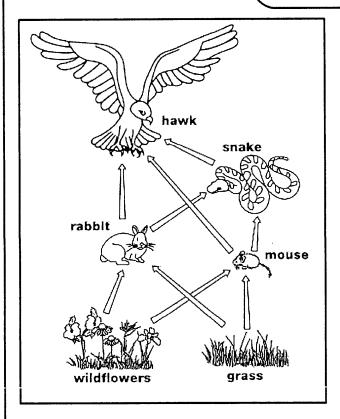


20 Little Known Facts about the Human Body

- 1. A human being loses an average of 40 to 100 strands of hair a day.
- 2. A cough releases an explosive charge of air that moves at speeds up to 60 mph.
- 3. Every time you lick a stamp, you're consuming 1/10 of a calorie.
- 4. A fetus acquires fingerprints at the age of three months.
- 5. A sneeze can exceed the speed of 100 mph.
- 6. Every person has a unique tongue print.
- 7. According to German researchers, the risk of heart attack is higher on Monday than any other day of the week.
- 8. After spending hours working at a computer display, look at a blank piece of white paper. It will probably appear pink.
- 9. An average human drinks about 16,000 gallons of water in a lifetime.
- 10. A fingernail or toenail takes about 6 months to grow from base to tip.
- 11. An average human scalp has 100,000 hairs.
- 12. It takes 17 muscles to smile and 43 to frown.
- 13. Babies are born with 300 bones, but by adulthood we have only 206 in our bodies.
- 14. Beards are the fastest growing hairs on the human body. If the average man never trimmed his beard, it would grow to nearly 30 feet long in his lifetime.
- 15. By age sixty, most people have lost half of their taste buds. By the time you turn 70, your heart will have beat some two-and-a-half billion times (figuring on an average of 70 beats per minute.)
- 16. Each square inch of human skin consists of twenty feet of blood vessels.
- 17. Every human spent about half an hour as a single cell.
- 18. Every person has a unique tongue print. Every square inch of the human body has an average of 32 million bacteria on it.
- 19. Fingernails grow faster than toenails.
- 20. Humans shed about 600,000 particles of skin every hour about 1.5 pounds a year. By 70 years of age, an average person will have lost 105 pounds of skin.

Submitted By: The Mad Scientist

Food Web



A <u>food web</u> shows how energy is passed on from one living thing to the next. It shows the feeding habits of different animals that live together in an ecosystem.

In the food web pictured on the left, energy is passed from the grass to the mouse to the snake to the hawk.

<u>Producers</u> are living things that make their own food with sun and air. The producers are pictured at the bottom of the food web.

<u>Consumers</u> are living things that eat other living things.

Use the food web in the picture above to answer the questions.

Name the living things in the food web that are producers.
 Name the living things in the food web that are consumers.
 Which living things does the snake eat?
 Which living things does the hawk eat?
 What is eaten by the rabbit?

Vocabulary Activities

Graph Paper Crossword

This can be done individually or in pairs.

Begin by giving each student (or pair) a piece of graph paper. The task is to make all the target vocabulary connect by writing one word at a time. The students use the graph paper boxes to write the target vocabulary, one letter in each box, as in Scrabble. Team to finish first is the winner. It is interesting to see how the students choose to connect the words. Graph paper is included on the following page.

Blackboard Bingo

Write 10-15 words on the board. Students choose any 5 and write them on a piece of paper. Teacher randomly reads from the list of words but not in the order on the board. The students cross off words on their papers as they hear them. First to get all five is the winner.

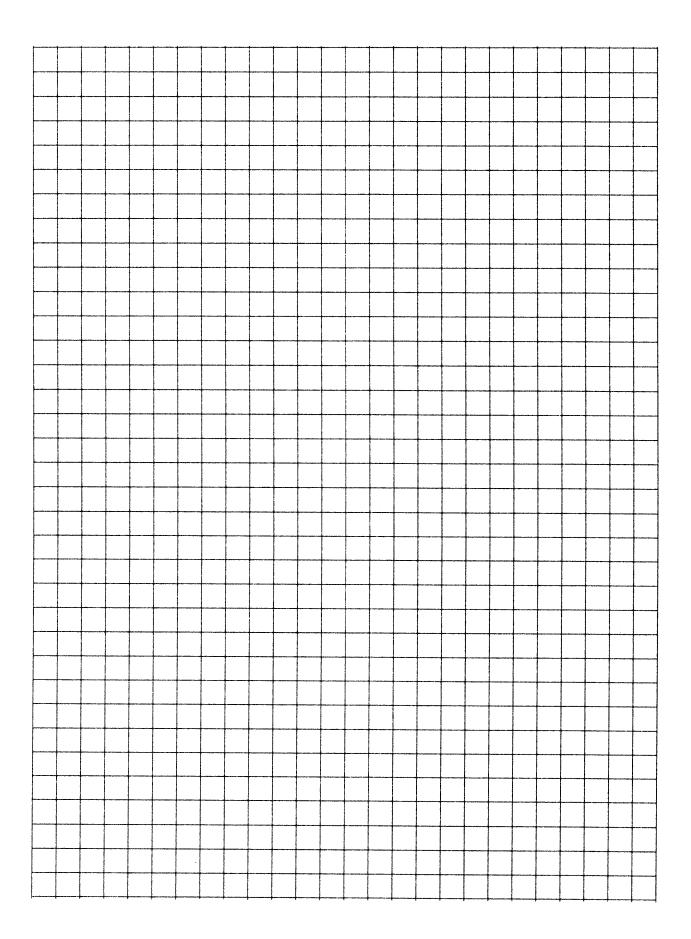
Variation: Instead of reading the words the teacher can say the definition of the word and the student must cross off the correct word.

Use Index Cards...Write each new vocabulary word on an index card. Use these cards to practice reading the words. Write each definition on an index card and have students match the word to its definition. Have students work in teams of two or individually.

Index Cards can be used for many different activities and are great to pull out for review.

Brainstorm... give students a topic and have them brainstorm vocabulary words that match that topic. Topic examples include: Nutrition, Genetics, Energy, Space, or Atoms.

Read about the topic with students and have them add words to their list. **Use those index cards** again and write the words from two different lists. Mix up the cards and have students match them to the correct topic. Have students work in teams of two if possible.



Life Science Vocabulary

adaptation antibody biology carnivore cell	diversity dna ecology ecosystem environment	extinct food chain gene genetics	mutation organism photosynthesis protein
cell	environment	global warming immune system	stimulus
cloning	evolution		vertebrate

Definitions

adaptation a trait that makes an animal or plant better able to live in its environment

antibody a protein made by white blood cells that attack and kill germs

biology the study of all living things

carnivore a consumer that eats other animals

cell the smallest part of a living thing that can carry out all the activities needed for life

cloning the process of creating an exact genetic copy of an organism

diversity differences among species

dna the material in a cell's nucleus that carries all the information about what traits a living thing may have

ecology the study of the relationship between organisms and their environment

ecosystem an area in which living and nonliving things interact

environment all the living and nonliving things that surround us and affect us

evolution the gradual change in a species over a long period of time
extinct no longer in existence

food chain the order in which organisms are eaten by other organisms

gene a part of DNA that carries a specific trait

genetics the study of heredity or how traits are passed from parents to offspring

global warming an increase of the average temperature of the earth and oceans

immune system the body's system for fighting disease causing germs

mutation a change in the genetic information within a cell

organism a living thing

photosynthesis the process by which plants use carbon dioxide, sunlight and water to make food

protein a molecule that is necessary for cell growth, repair and energy

stimulus something in the environment that causes the body to react, such as sight or sound

vertebrate an animal with a backbone

	(UFE)S@	IENGE Wordalijst	
adaptation	diversity	extinct	mutation
antibody	dna	food chain	organism
biology	ecology	gene	photosynthesis
carnivore	ecosystem	genetics	protein
cell	environment	global warming	stimulus
cloning	evolution	immune system	vertebrate

MATCH THE VOCABULARY WORD WITH ITS DEFINITION

a part of DNA that carries a specific trait	2. differences among species
<u>gene</u>	
3. the study of all living things —————	4. the gradual change in a species over a long period of time
5. a consumer that eats other animals	6. the study of the relationship between organisms and their environment
7. the body's system for fighting disease causing germs	8. the material in a cell's nucleus that carries all the information about what traits a living thing may have
9. the process of creating an exact genetic copy of an organism ———————————————————————————————————	10. the process by which plants use carbon dioxide, sunlight and water to make food
11. the order in which organisms are eaten by other organisms ——————	12. no longer in existence

13. a living thing	14. the smallest part of a living thing that can carry out all the activities needed for life
15. a change in the genetic information within a cell —————	16. the study of heredity or how traits are passed from parents to offspring ———————————————————————————————————
17. a molecule that is necessary for cell growth, repair and energy —————	18. all the living and nonliving things that surround us and affect us —————
19. an increase of the average temperature of the earth and oceans	20. an animal with a backbone
21. something in the environment that causes the body to react, such as sight or sound	22. a trait that makes an animal or plant better able to live in its environment ——————
23. a protein made by white blood cells that attack and kill germs	24. an area in which living and nonliving things interact —————

Name		

Fill in the missing letter.

Hint: Cross off each letter from this list after using it.

rvlacnvttudsmnslaoaednat

1.	2.	3.
gee	extict	organim
4.	5.	6.
carniore	eology	gnetics
7.	8.	9.
bilogy	evoluion	photosynhesis
10.	11.	12.
foo chain	ecoystem	vertebrte
13.	14.	15.
antiboy	proein	adapttion
16.	17.	18.
da	stimuls	coning
19.	20.	21.
global wrming	cel	muttion
22.	23.	24.
imune system	diersity	envionment

Name Li		e Science Word search	
ADAPTATION	ANTIBODY	ECOSYSTEM	DNA
PHOTOSYNTHESIS	GLOBAL WARMING	GENE	DIVERSITY
STIMULUS	ORGANISM	PROTEIN	GENETICS
BIOLOGY	ENVIRONMENT	VERTEBRATE	CELL
CARNIVORE	EXTINCT	MUTATION	CLONING

ECOLOGY

EVOLUTION

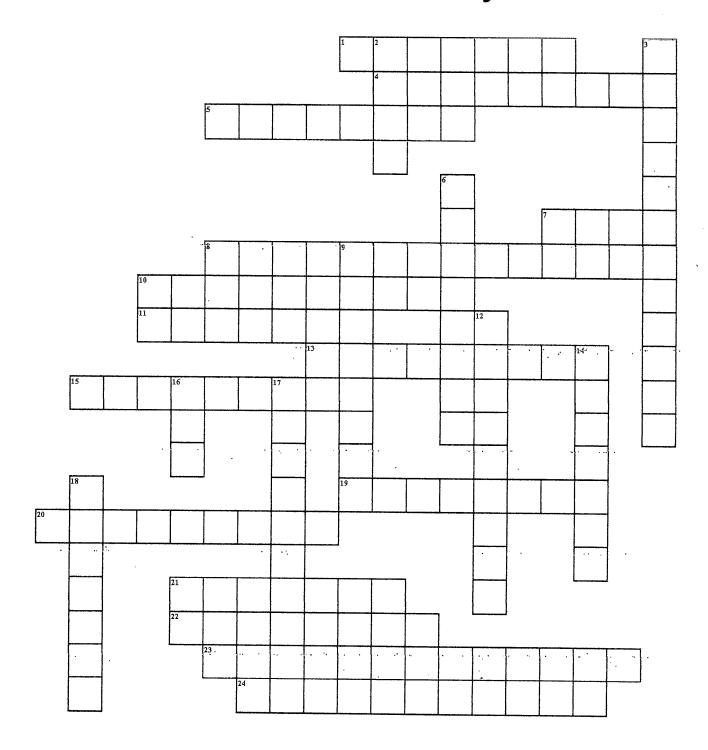
FOOD CHAIN

OCVNGIRLRVAISOTKOTAVG NARRLSOTSEIUGAVLHIST REGSRAOIONTRSENICACOE Y P B T D D E B S A E Y T C N O O G O V S LRCORAHXAERMGEITAHRNY BOASIPOATLHDNOBTTRGPN LTRAXTILSIDTIOLREBEAT AENGTAPNPBNWNVROANPNS OIIONTATCYLCAYEICTENS RNVRCIBFIIDMTRSRVEEGO DNOGEORLNSEONOMOSNROS NHRALNOPSTTSBOEITIEOG ATENLNNTSYLRRIBDNOTOP YGSITNIYRDCIPITOEGHYM CONSNMSENLEHXOUNCOIPI AROMUOEVOLUTIONRANCIM EONLCGENEOMTGTNGLEIGT IYUEENICOMUTATIONAUAS RSNEPNELVSTYBIOLOGYOR ANTIGBVRFOODSCHAINUOI

Name	
YOUTH C	

Date _____

Life Science Vocabulary





DNA GENETICS CARNIVORE PHOTOSYNTHESIS ADAPTATION GENE CELL

CLONING ECOSYSTEM DIVERSITY **ENVIRONMENT** GLOBALWARMING

ANTIBODY **IMMUNESYSTEM EXTINCT** PROTEIN **FOODCHAIN ECOLOGY**

STIMULUS **EVOLUTION** MUTATION BIOLOGY **ORGANISM VERTEBRATE**

Across

- the study of the 1 relationship between organisms and their environment
- an area in which living and nonliving things interact
- something in the environment that causes the body to react, such as sight or sound
- a part of DNA that carries a specific trait
- the process by which plants use carbon dioxide, sunlight and water to make food
- an animal with a 10 backbone
- the process of creating 11 an exact genetic copy of an organism
- a consumer that eats 13 other animals
- the order in which 15 organisms are eaten by other organisms (2 words)
- a change in the genetic information within a cell
- 20 differences among species
- 21 a molecule that is necessary for cell growth, repair and energy
- 22 a protein made by white blood cells that attack and kill germs
- an increase of the 23 average temperature of the earth and oceans (2 words)

all the living and nonliving things that surround us and affect

Down

- the smallest part of a living thing that can carry out all the activities needed for life
- the body's system for fighting disease causing germs (2 words)
- the study of heredity or how traits are passed from parents to offspring
- a living thing
- the gradual change in a 12 species over a long period of time
- no longer in existence 14
- the material in a cell's 16 nucleus that carries all the information about what traits a living thing may have
- a trait that makes an 17 animal or plant better able to live in its environment
- 18 the study of all living things

biology	organism	genetics
cell	environment	global warming
dna	ecosystem	photosynthesis
ecology	evolution	adaptation

the study of heredity or the study of all living how traits are passed from a living thing things parents to offspring the smallest part of a living an increase of the average temperature of the earth all the living and nonliving thing that can carry out all things that surround us the activities needed for and affect us and oceans life the material in a cell's the process by which nucleus that carries all the plants use carbon dioxide, an area in which living and information about what sunlight and water to nonliving things interact traits a living thing may make food have the study of the a trait that makes an the gradual change in a relationship between animal or plant better able species over a long period organisms and their to live in its environment of time environment

food chain	cloning	antibody
gene	immune system	protein
vertebrate	mutation	carnivore
stimulus	extinct	diversity

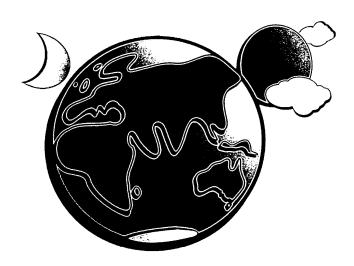
a protein made by white blood cells that attack and kill germs	the process of creating an exact genetic copy of an organism	the order in which organisms are eaten by other organisms
a molecule that is necessary for cell growth, repair and energy	the body's system for fighting disease causing germs	a part of DNA that carries a specific trait
a consumer that eats other animals	a change in the genetic information within a cell	an animal with a backbone
differences among species	no longer in existence	something in the environment that causes the body to react, such as sight or sound

Earth and Space Science

Earth and Space Science questions make up about 20% of the questions on the GED Science Test.

The student is expected to demonstrate a basic understanding and **knowledge** of major Earth and Space Science topics and related vocabulary including the following topics that may be covered on the GED Test:

- Energy in the Earth system
- Geochemical cycles
- Origin and evolution of the Earth System
- Origin and evolution of the universe



Supplement the following knowledge and vocabulary activities and worksheets with visuals whenever possible. There are amazing pictures and videos that are easy to find in books and on-line. Check out the Resources & Websites section for recommendations.

Be sure to use the vocabulary activities found on page 7 in the Life Science section for the following Earth and Space Science vocabulary words.

Earth and Space Vocabulary

astronomy big bang theory	fossil fuels galaxy	mantle ozone	stratosphere tropical
core	geology	precipitation	ultraviolet light
crust	light-year	solar system	

astronomy The study of space and the universe

big bang theory the idea that the universe began with a gigantic explosion

core the center of the Earth

crust the outer most layer of the Earth

fossil fuels A fuel, such as coal, oil or natural gas, formed by dead plants and animals that lived millions of years ago

galaxy a large group of stars

geology the study of the composition and structure of Earth

light-year the distance that light travels in one year, about 6 trillion miles

mantle the layer of Earth between the crust and the core

ozone a type of oxygen gas that surrounds Earth and absorbs ultraviolet rays

precipitation When rain, sleet or snow fall to Earth

solar system the sun and planets that revolve around it

stratosphere the second layer of Earth's atmosphere, contains ozone

tropical (tropihkuhl) adjective very warm or hot, usually near the Equator

ultraviolet light high-energy light from the sun that is harmful to people

astronomy big bang theory core crust	fossil fuels galaxy geology light-year	mantle ozone precipitation solar system	stratosphere tropical ultraviolet light
1. The study of spac astronomy	e and the universe	2. a large group of	stars
3. the center of the	Earth -	4. When rain, sleet	or snow fall to Earth —
5. the outer most lay	yer of the Earth	6. the layer of Earth and the core	n between the crust
7. very warm or hot, Equator	usually near the	8. the distance that year, about 6 tril	it light travels in one lion miles
9. the study of the c structure of Earth	composition and		coal, oil or natural dead plants and ed millions of years
11. the idea that the with a gigantic e	•	12. high-energy light harmful to peop	ht from the sun that is ple
1	n gas that surrounds bs ultraviolet rays —	14. the sun and pla around it	anets that revolve
15. the second laye atmosphere, co			

Name	

Fill in the missing letter. Hint: Cross off each letter from this list after using it.

aagesxetrypooln

1.	2.	3.
geoloy	astrnomy	big bang thory
4.	5.	6.
coe	crut	ultrviolet light
7.	8.	9.
slar system	lightear	troical
10. fossil fuls	precipittion	12. galay
13.	14.	15.
straosphere	ozoe	mante

Name		Dat	re
	Complete each sentence using the v	vords in the word lis	st.
precipitation	astronomy	mantle	crust
stratosphere	tropical	galaxy	core
light-year	geology	ozone	
	1. The ozone layer is part of the Earth's 2. The center of the earth is called the 3. A is equal to the distance that light 4 is the study of the earth's crust a 5. The layer of the atmosphere pro-	ght travels in one ye nd rocks.	
	6.The Earth's is mad of rock, such	as granite, sandstor	ne, and marble.
	7.We studied and learned about the different planets.		
	8.The of the earth is next to the co	re.	
	9.The earth is in the Milky Way		

_11.The climate is ____ and humid, with a heavy rainfall, averaging 183 inches.

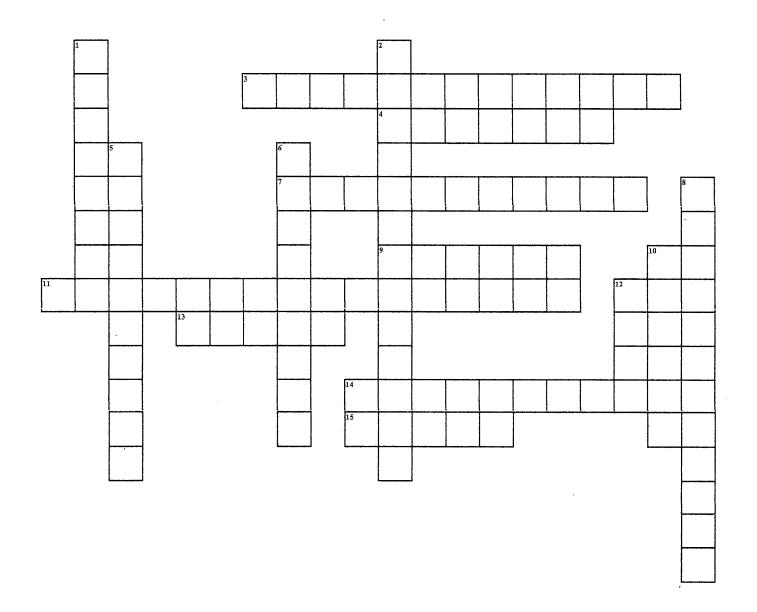
10.Deserts get very little ____.

A.T.	Date
Name	

TROPICAL CRUST ASTRONOMY SOLAR SYSTEM CORE GALAXY FOSSIL FUELS LIGHT-YEAR BIG BANG THEORY MANTLE PRECIPITATION GEOLOGY OZONE STRATOSPHERE

L R R F G R S I G E O L R O B L R H R ONOYGOLOEGAICENTOTA ORTTAEXRTCOTIYROMAI S S I T Y S I S I O T E R R P G O N Z CEIALETPYMONORTSAOA IRASOIOSSABITBMLOIM LSURORLIBIYNTTBSZTR R P S S T L A I G F G U O T T R O A R ACIGTEMCSLDLGBHONTU EMANTLEYCRTOEAMPEII Y E R E H P S O T A R T S N G I O P A Q T B I G B A N G T H E O R Y R Y I B T B I B A A R G R A O C S G I S N C I HAMTMSOLARSYSTEMMEE G R N A T E T A O L L E R O C T A R A I L Z I O T C M M O A C V N O Y O P E LZONXUCONOPXIESEFSZ SLEUFVLISSOFYUYRSTL P F I U T P R O N E R L G N T E V S T

Earth and Space Science



OZONE CRUST GALAXY FOSSILFUELS LIGHT-YEAR STRATOSPHERE BIGBANGTHEORY TROPICAL

GEOLOGY PRECIPITATION MANTLE CORE SOLARSYSTEM ULTRAVIOLETLIGHT ASTRONOMY

Across

- 3 When rain, sleet or snow fall to Earth
- 4 the study of the composition and structure of Earth
- 7 the sun and planets that revolve around it (2 words)
- 9 a large group of stars
- 11 high-energy light from the sun that is harmful to people (2 words)
- 13 a type of oxygen gas that surrounds Earth and absorbs ultraviolet rays
- 14 A fuel, such as coal, oil or natural gas, formed by dead plants and animals that lived millions of years ago (2 words)
- the outer most layer of the Earth

Down

- 1 very warm or hot, usually near the Equator
- 2 the idea that the universe began with a gigantic explosion (3 words)
- 5 the distance that light travels in one year, about 6 trillion miles
- 6 The study of space and the universe
- 8 the second layer of Earth's atmosphere, contains ozone
- 10 the layer of Earth between the crust and the core
- 12 the center of the Earth

<u></u>		r
tropical	core	geology
precipitation	crust	light-year
astronomy	fossil fuels	mantle
big bang theory	galaxy	ozone

the study of the composition and structure of Earth	the center of the Earth	very warm or hot, usually near the Equator
the distance that light travels in one year, about 6 trillion miles	the outer most layer of the Earth	When rain, sleet or snow fall to Earth
the layer of Earth between the crust and the core	A fuel, such as coal, oil or natural gas, formed by dead plants and animals that lived millions of years ago	The study of space and the universe
a type of oxygen gas that surrounds Earth and absorbs ultraviolet rays	a large group of stars	the idea that the universe began with a gigantic explosion

	the sun and planets that revolve around it
	the second layer of Earth's atmosphere, contains ozone
	high-energy light from the sun that is harmful to people

solar system	
stratosphere	
ultraviolet light	

Name: Solar System Crossword 10 15 Down 2. our sun and the objects that orbit around it 3. It takes Earth 365 days to __ the sun. 4. the force that pulls you towards the center of a planet or star Across 6. instrument used for seeing stars and planets clearly 1. warmest planet; cloudy planet 7. an American space traveler 5. to turn on an axis 8. Saturn, Jupiter, Uranus and Neptune 12. place where astronauts live and work in space have ___ around them. 13. number of planets in our solar system 9. large planet known for the Great Red Spot 14. Neil Armstrong was the first person to walk on the... 10. the red planet; humans have sent robots 15. planet with the brightest rings 11. furthest planet from the sun 16. number of stars in our solar system 12. the star closest to earth 17. planet that rotates on its side

18. dwarf planet with two moons

13. third planet from the sun; only planet

people have walked on

14. planet closest to the sun

Solar System Crossword - Word Box

(All words will not be used in the puzzle.)

asteroid Jupiter Pluto satellite

astronaut Mars rings Sun

comet Mercury rocket telescope

constellation meteor rotate ten

cosmonaut Moon Saturn two

Earth nine solar system Uranus

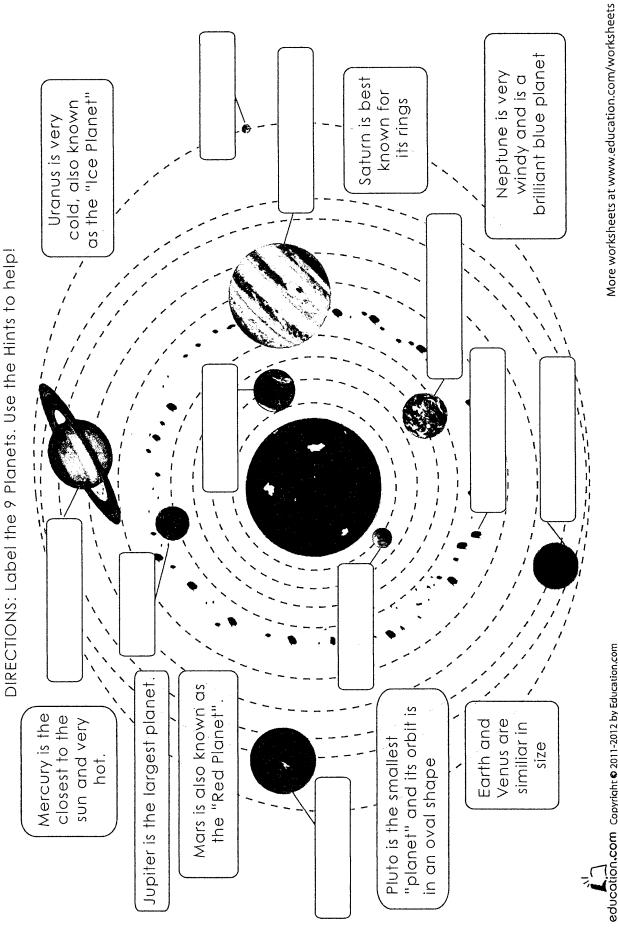
eight one space shuttle Neptune

gravity orbit space station Venus

EXPLORE OUR SOLAR SYSTEM

Our Solar System contains nine Planets. The inner and outer planets are

seperated by the Asteroid Belt



Calculate Your Weight on Other Worlds



Mercury is the smallest planet, and the planet closest to the sun. The gravity of Mercury is 38% of Earth's gravity.

To calculate your weight on Mercury, multiply your weight by 0.38.

		Х		=		
(Your Weight on Earth)	(units - lbs or kg)		(Multiply by)		(Your weight on Mercury)	(units - lbs or kg)



Venus is known as the "Cloudy Planet" because it is covered with thick, yellow clouds. The gravity of Venus is 90% of Earth's gravity.

To calculate your weight on Venus, multiply your weight by 0.9.

		Х		=		
(Your Weight on Earth)	(units - lbs or kg)		(Multiply by)		(Your weight on Venus)	(units - Ibs or kg)



The Earth's moon is the only heavenly body that people have walked on. The gravity of the moon is 17% of Earth's gravity.

To calculate your weight on the Moon, multiply your weight by 0.17.

		Χ		=		
(Your Weight on Earth)	(units - lbs or kg)		(Multiply by)		(Your weight on the Moon)	(units - lbs or kg)



Mars is known as the "Red Planet" because the soil is filled with orange-red particles. The gravity of Mars is 38% of Earth's gravity.

To calculate your weight on Mars, multiply your weight by 0.38.

		X	=		
(Your Weight on Earth)	(units - lbs or kg)	(Multiply by)		(Your weight on Mars)	(units - lbs or kg)

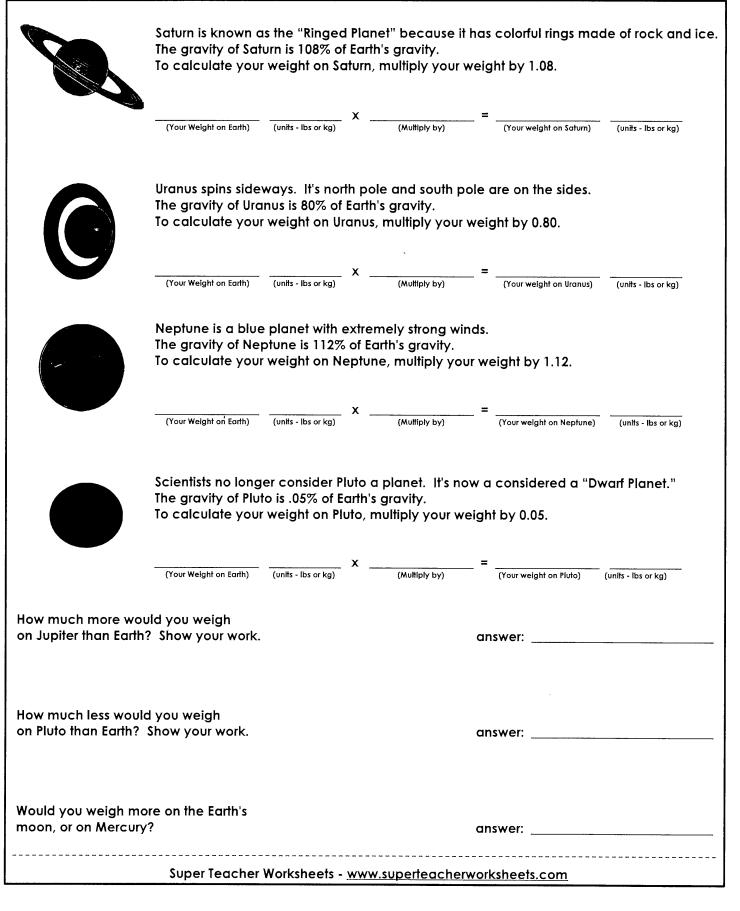


Jupiter has more moons than any other planet. So far, scientists have discovered 63! The gravity of Jupiter is 234% of Earth's gravity.

To calculate your weight on Jupiter, multiply your weight by 2.34.

		Х		=			
(Your Weight on Earth)	(units - lbs or kg)		(Multiply by)		(Your weight on Jupiter)	(units - lbs or kg)	

Super Teacher Worksheets - <u>www.superteacherworksheets.com</u>

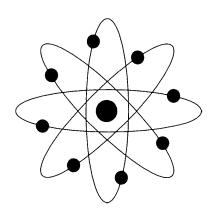


Physical Science

Physical Science questions make up about 35% of the GED Science Test.

The student is expected to demonstrate a basic understanding and **knowledge** of major Physical Science topics and related vocabulary including the following topics that may be covered on the GED Test:

- Structure of Atoms
- Structures and Properties of Matter
- Chemical Reactions
- Motion and Forces
- Conservation of Energy
- Interactions of Energy and Matter



Supplement the following knowledge and vocabulary activities and worksheets with visuals whenever possible. There are amazing pictures and videos that are easy to find in books and on-line. Check out the Resources & Websites section for recommendations.

Be sure to use the vocabulary activities found on page 7 in the Life Science section for the following Physical Science vocabulary words.

Chemistry Vocabulary

atom chemical symbol element nucleu	s
atomic number chemistry mass proton	
chemical change compound matter	
electron neutron	

atom the smallest particles of an element that can exist alone atomic number the number of protons in the nucleus of an atom **chemical change** a change in matter that creates one or more new substances **chemical symbol** an abbreviation for an element's name chemistry the study of matter and how it changes a substance made up of 2 or more elements compound electron a particle in an atom that orbits the nucleus and has a negative charge a pure substance that can't be broken down into simpler substances element the amount of matter an object contains mass anything that has weight and takes up space matter **neutron** a particle in the nucleus of an atom with no electric charge **nucleus** the center of an atom that contains protons and neutrons

a particle in the nucleus of an atom with a Positive electric charge

proton

Chemistry Vocabulary Matching

en Maria de Carlos d		그 10년 1945년 시간 시간 시간 시간 사람이 되었다.	
atom	chemical symbol	element	nucleus
atomic number	chemistry	mass	proton
chemical change	compound	matter	
	electron	neutron	

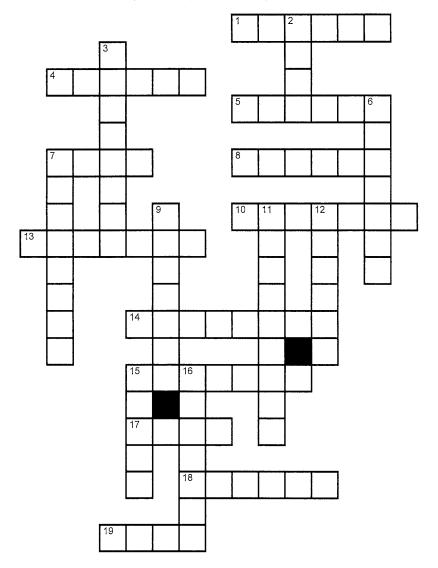
1.	the amount of matter an object contains	2. a particle in the nucleus of an atom with no electric charge
	mass	
3.	the smallest particles of an element that can exist alone	4. a substance made up of 2 or more elements
5.	a particle in the nucleus of an atom with a Positive electric charge	6. the center of an atom that contains protons and neutrons
7.	a pure substance that can't be broken down into simpler substances	8. the number of protons in the nucleus of an atom
		9. the study of matter and how it changes
10). a particle in an atom that orbits the nucleus and has a negative charge	11. anything that has weight and takes up space
12	2. a change in matter that creates one or more new substances	13. an abbreviation for an element's name

Chemistry Vocabulary

NUCLEUS	ATOM	PROTON	ELEMENT
MATTER	CHEMICAL SYMBOL	ELECTRON	COMPOUND
ATOMIC NUMBER	MASS	NEUTRON	CHEMISTRY

L R T M O E I N O R T C E L E U R T O C M LCOCORMMOEYLEEMTORIAM EICOOTELCOCHEMISTRYNI LALIPPANTOEMNCYOAMOAY UMLASNRAYPARATUTNNCME LMTSMEAMOMOMEEOIOSLEN NAAUAUS BIONARMUCDS ERS LMDROTUTMEOII-TYTCDEA ELRRORHBOMHCSOUYCNHTB U U E N Y O R U A N - C M O E O C O E T N MM MUN EBNELOTMAETHAS NIONNBETUUTNEMELEO NUSEEEMMCMOMTIPLOROAR UMOY-YBMOECNEOHORPHAR CAMINEMYMEUMCNOUUAEIS AEOMRBPCELCAOOLLHNHTP ENSRSCOC-TRICMIINDAS NTHCHEMICAL - SYMBOLNBO N L N U M T I T E - C M L U M O S A L L M SOSO-RLLNUCLEUSSEESYC NMONOCUEEBNRLNEUERACS

Elements of the Periodic Table



Across

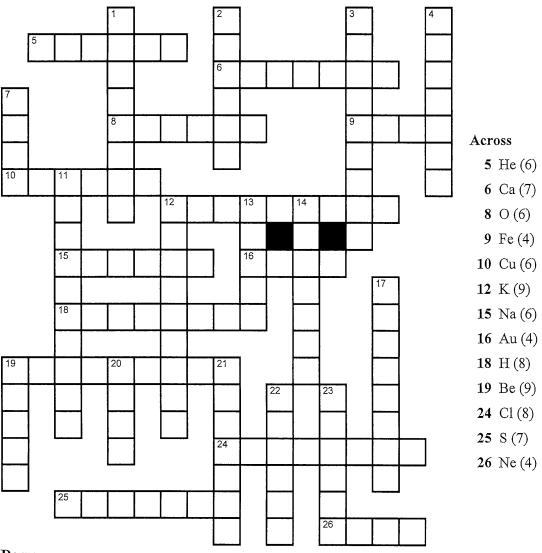
- 1 The lightest inert gas. (6)
- 4 The element we need to breathe. (6)
- 5 Alkaline metal in table salt. (6)
- 7 Inert gas used to make bright city lights. (4)
- 8 2nd place in the Olympics. (6)
- **10** An important element in bones. (7)
- 13 A radioactive element often used in nuclear power stations. (7)
- 14 Poison gas in WWI. (8)
- 15 A famous poison that turns your tongue black. (7)
- 17 A metal sought after during the Klondike. (4)
- 18 The element diamonds are made from. (6)
- 19 This metal is used along with carbon to make steel. (4)

Down

- 2 Heavy metal used in paints, batteries, and radiation shields. (4)
- 3 The most common element in the universe. (8)
- 6 A liquid metal that was used in thermometers. (7)
- 7 Most common element in the earth's atmosphere. (8)
- 9 A component of gunpowder that smells like rotten eggs. (7)
- 11 A metal used in foil. (World Spelling) (9)
- 12 A metal used in wires. (6)
- 15 The most common inert gas in the atmosphere. (5)
- 16 Element used to make semi-conductors (computer chips). (7)



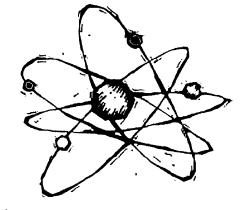
Elements of the Periodic Table



Down

- 1 N(8)
- 2 Ni (6)
- **3** Al (9)
- 4 As (7)
- 7 Zn (4)
- **11** P (10)
- **12** Pu (9)
- **13** Ar (5)

- **14** Si (7)
- **17** F (8)
- **19** B (5)
- **20** Pb (4)
- **21** Hg (7)
- **22** Ag (6)
- **23** C (6)



www.scienceteachers.com

Periodic Table of the Elements

				[289]		[285]	[272]	[271]	[268]	[269]	[264]	[266]	[262]	[261]	[262]	[226]	[223]
				Duq		Uub	Rg	Ds	ĭ	Hs	Вh	Sg	DЬ	곡	Ļ	Ra	Ŧ
				114		112	110 111 112 112 112 112 112 112 112 112	110	109	108	107	106	105	104	103	88	87
[222]	[210]	[209]		207.2	4.3833	200.59	196.96655	195.078	192.217	190.23	186.207	183.84	180.9479	178.49	174.967	137.327	132.90545
R	At	Ро	<u>B</u>	Pb	ᅼ	Hg	Au	Pŧ	=	Os	Re	\$	Ta		ב	Ba	Cs
86	85	84		82	81	80	79	78	77	76	75	74	73	72	71	56	55
radon	astatine	polonium		lead	allium	mercury	gold	platinum	iridium	osmium	rhenium	tungsten	tantalum	hafnium	lutetium	barium	caesium
131.293	126.9045	127.60		118.710	4.818	112.411	107.8682	106.42	102.9055	101.07	[98]	95.94	92.90638	91.225	88.90585	87.62	85.4678
X _e	_	Te		Sn	<u> </u>	Cd	Ag	Pd	Rh	Ru	ਨ	M o	N D	Zr	~	Ş	R b
2	53	52		50	49	48	47	46	45	4	43	42	4	40	39	38	37
xenon	iodine	tellurium		tin	ndium	cadmium	silver	palladium	rhodium	ruthenium	technetium	molybdenum	niobium	zirconium	yttrium	strontium	rubidium
83.798	79.904	78.96		72.64	9.723	65.409	63.546	58.6934	58.9332	55.845	54.93805	51.9961	50.9415	47.867	44.95591	40.078	39.0983
즛	쭈	Se		Ge	Ga	Zn	Cu	Z	င၀	Fe	≥	င္		=:	Sc	Ca	ス
36	35	34		32	31	30	29	28	27	26	25	24	23	22	21	20	19
krypton	bromine	selenium		germanium	allium	zinc	copper	nickel	cobalt	iron	manganese	chromium	vanadium	titanium	scandium	calcium	potassium
39.984	35.453	32.065		28.0855	981538											24.3050	22.98977
₽	Ω	S		<u>S</u>												Z Q	Na
18	17	16		14												12	11
argon	chlorine	sulphur		silicon		,										magnesium	sodium
20.1797	18.9984	15.9994		12.0107			atomic weight	atomic								9.012182	6.941
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helium 2																	hydrogen 1

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N 0	≤	Fm	Es	Cf	묫	Cm	Am	Pu	Z p		Pa	Τh	Ac
102	101	100	99	98	97	96	95	94	93	92	91	90	89
nobelium	mendelevium	fermium	einsteinium	californium	berkelium	curium	americium	plutonium	neptunium	uranium	protactinium	thorium	actinium
173.04	168.934	167.259	164.930	162.50	158.9253	157.25	151.964	150.36	[145]	144.24	140.90765	140,116	138.9055
ď	Ħ	щ	Но	Dy	Ъ	Gd	Eu	Sm	Pm	Nd	Pr	Ce	La
70	69	68	67	66	65	64	63	62	61	60	59	58	57
ytterbium	thulium	erbium	holmium	dysprosium	terbium	gadolinium	europium	samarium	promethium	neodymium	praseodymium	cerium	lanthanum

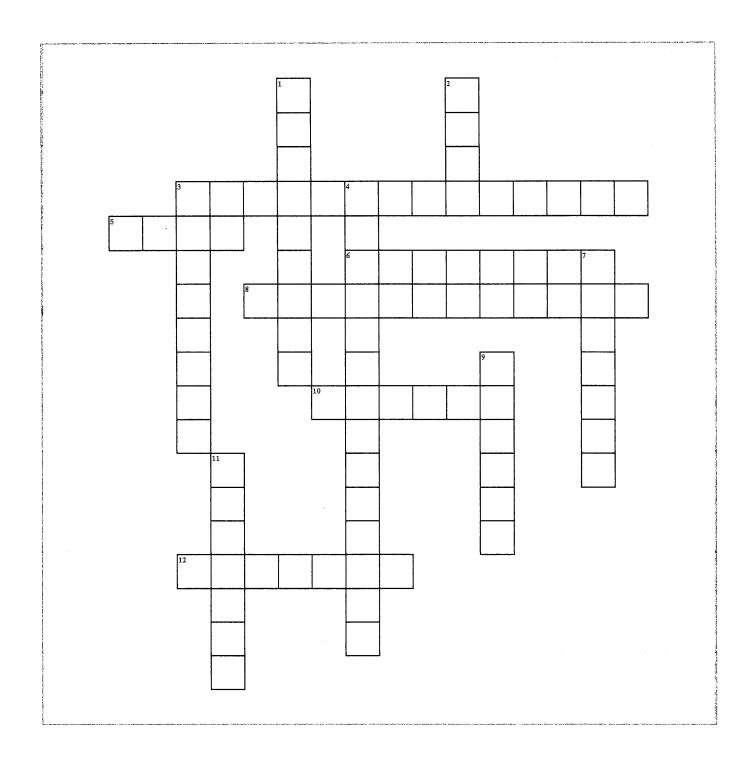
Notes: Elements with atomic weights in square brackets have no stable isotopes. Different sources list different atomic weights for elements. The difference arises from the differing atomic weights of various isotopes. We have tried to list the most stable isotope. For example, some sources list the atomic weight of seaborgium as 263 and others 266. The most stable isotope appears have an atomic weight of 266 so we list that weight here. Roentgenium is still the unofficial name of element 111 but it is the one recommended by the IUPAC so we list it here instead of the generic atomic weight of 266 so we list that weight here. Roentgenium is still the unofficial name of element 111 but it is the one recommended by the IUPAC so we list it here instead of the generic formulation. Atomic weight of 266 so we list it here instead of the generic variance. teachers.com/printable_periodic_tables.htm



atom	element	nucleus
matter	proton	atomic number
mass	neutron	compound
chemistry	electron	chemical symbol

the center of an atom that contains protons and neutrons	a pure substance that can't be broken down into simpler substances	the smallest particles of an element that can exist alone
the number of protons in the nucleus of an atom	a particle in the nucleus of an atom with a Positive electric charge	anything that has weight and takes up space
a substance made up of 2 or more elements	a particle in the nucleus of an atom with no electric charge	the amount of matter an object contains
an abbreviation for an element's name	a particle in an atom that orbits the nucleus and has a negative charge	the study of matter and how it changes

Physical Science Vocabulary (Chemistry)



Name: _	
NULLE.	

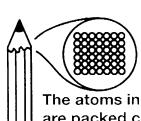
Why Does Matter Matter?

by Kelly Hashway

What do trees, air, and water have in common? They all have matter. That means they take up space. You might be wondering why these things look so different if they all have matter. Everything found on Earth can be grouped into one of three states of matter: solid, liquid, or gas. In order to figure out which state of matter an object fits in, we have to examine its properties. The properties we look at are shape, mass, and volume. Mass is the amount of matter an object has, and volume is the amount of space the matter takes up.

Solids are easy to recognize. They have definite shape, mass, and volume. Trees are solids. They are made up of tiny particles called atoms. These atoms are packed closely together, and they hold the solid in a definite shape that does not change. If you look around your house, you will see lots of solids. Televisions, beds, tables, chairs, and even the food you eat.

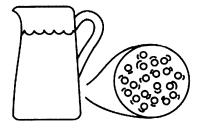
Liquids do not have definite shape, but they do have definite mass and volume. Liquids are similar to solids because their atoms are close together, but what makes a liquid different is that those atoms can move around. Liquids can change shape by flowing. If you've ever spilled a glass of milk, then you know it spreads out across the floor. It does this because the milk is taking the shape of the floor. Since liquids do not have a definite shape of their own, they will take the shape of their containers. This is why the same amount of milk can look different in a tall glass, a wide mug, or spread out on your kitchen floor.



The atoms in a solid are packed closely together. They bond together and do not change shape.

Liquid

The atoms in a liquid are close together. They slide around.



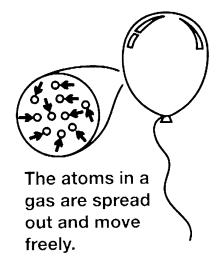
Super Teacher Worksheets - <u>www.superteacherworksheets.com</u>

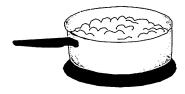
Gases do not have definite shape or volume. Like liquids, gasses will take the shape of their containers. If a gas is not in a container, it will spread out indefinitely. This is because the atoms in a gas are spaced farther apart than in a solid or a liquid. And being spread out like this allows them to move around freely. Think about the air you breathe everyday. That air is spread across the empty space around the earth. You've probably also noticed that you usually cannot see the air. This is another property of gases. Even though we cannot see them, you come in contact with them everyday. There's air in the tires of your family car and your bicycle. The sun is made up of gases, and the clouds in the sky are mostly made from water vapor.

When trying to remember the three states of matter, think about water. If it freezes into a solid, it becomes ice. Its atoms are packed together keeping its shape. Of course, we know water can also be a liquid. It flows in rivers or it can be poured from a glass. When water evaporates it becomes water vapor, a type of gas in the air. Try a little experiment of your own by placing an ice cube in a covered glass or container. You will be able to observe the ice first in its solid form and then watch as it melts into a liquid to become water. Eventually the water will turn to water vapor and your glass or

container will be filled with this gas.

Gas





You can see three different states of matter in this picture. The pot is made of solid matter. The water inside the pot is liquid.
When the liquid it heated it becomes water vapor, which is a gas.

Matter is everywhere! Can you find a solid, a liquid, and a gas around you right now?

volume

solids

Why Does Matter Matter?



juice

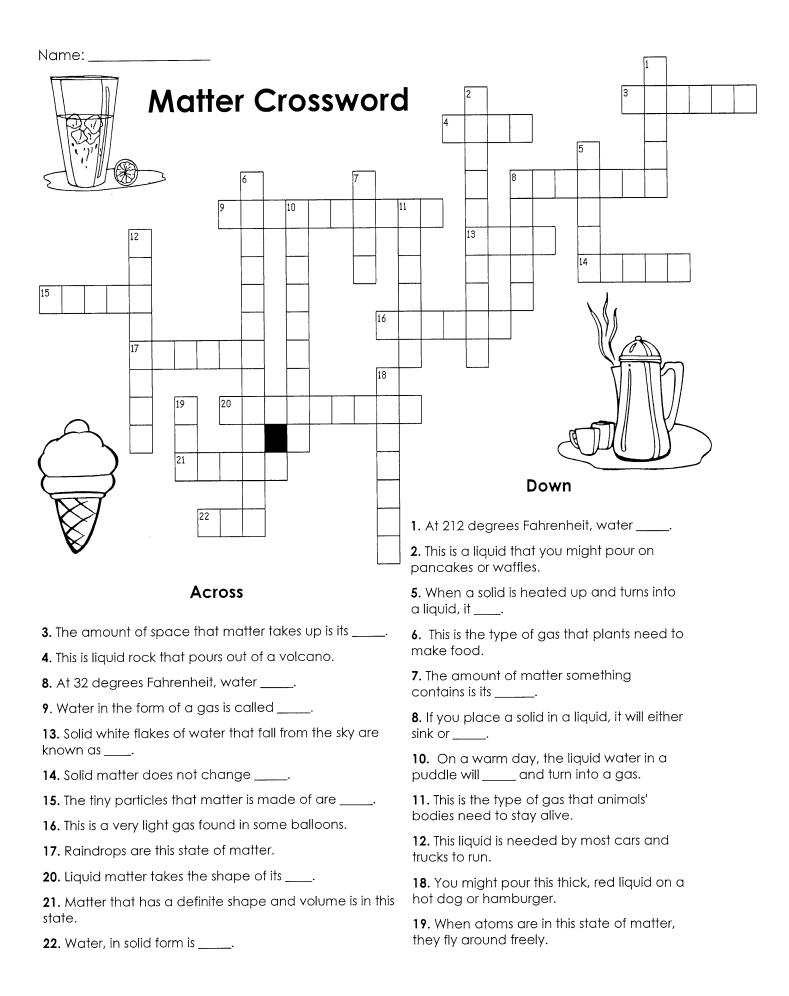
by Kelly Hashway

container

	ses	mass	atoms	chair	air	melting
liqu	iids	shape	space	milk	clouds	
1008	e a word f	rom the box t	o complete eac	h sentence.		
	The three	basic propert	ies of matter are			
			, and		<u> </u>	
	All matter	is made up o	f tiny particles co	alled		
	Volume is	the amount o	of		that matter takes u	ıp.
	Mass is the	e amount of _		an	object has.	
	Liquids tal	ke the shape	of their		·	
			do not h	ave a definite sh	ape or volume.	
			do not hav	re a definite shap	oe, but they do ha	ve a definite volum
			have a c	definite shape ar	nd volume.	
	Α		and		are exam	ples of solids.
).			and		are example	es of liquids.
			and		are example	es of gas.
۱.						

matter

ice



Copy this word box on the back of the crossword page, if needed.

Matter Crossword - Word Box

(All words will not be used in the puzzle.)

atoms

gas

lava

oxygen

boils

gasoline

liquid

rock

carbon dioxide

hail

maple syrup

shape

condense

helium

mass

snow

container

honey

melts

solid

evaporate

ice

metal

volume

float

iron

mustard

water

freezes

ketchup

nitrogen

water vapor

Electrical Charges

If an object has more positive charges () than negative charges (), its electrical charge is positive ().

If an object has more negative charges (②) than positive charges (), its electrical charge is negative ().

If an object has the same number of positive (16) and negative (16) charges, it has no electrical charge or is neutral.

Example:



Electrical charge: positive charge

Count the positive and negative charges in each picture. Write positive charge, negative charge, or no charge on each line.

1.



2.



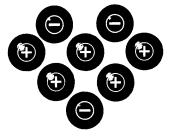
electrical charge: _____

electrical charge: _

3.



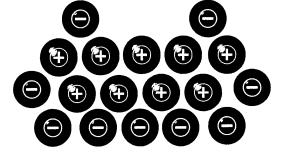
4.



electrical charge: _

electrical charge: ___

5.



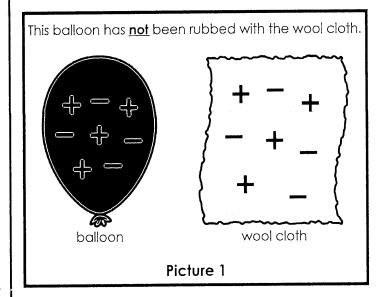
6.

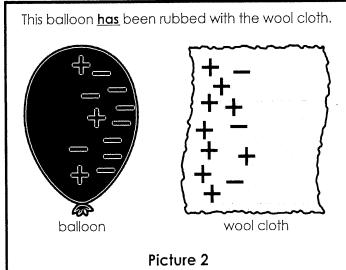


electrical charge: _____ electrical charge: _____

Static Electricity

Rubbing a balloon with wool cloth will create static electricity charges.



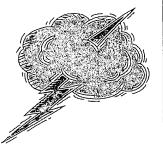


In Picture 1, does the balloon have a positive charge, negative charge, or no charge?
In Picture 1, does the cloth have a positive charge, negative charge, or no charge?
In Picture 2, does the balloon have a positive charge, negative charge, or no charge?
In Picture 2, does the cloth have a positive charge, negative charge, or no charge?
If you place small pieces of tissue paper near the balloon in Picture 2, they would probably stick to the balloon. Explain why.

Name:		
Nome.		
1 1011101	the state of the s	

Static Electricity

atoms	electrons	negative	protons
charges	neutral	neutrons	positive
lose	gain		



Chose the best word from the word box to complete each sentence.

Matter is made up of tiny particles called ______ 1. _____ and _____ are found at the 2. center, or nucleus, of an atom. are small particles that orbit the nucleus. 3. Electrons have a _____ charge. 4. Protons have a _____ charge. 5. Neutrons have a _____ charge. When you rub two objects together, they can _____ or _____ 7. electrons. When electrons move from one object to another they become _____ 8. with static electricity. Tell whether each pair of objects will <u>attract</u> or <u>repel</u> each other. ______**10**. positive - negative 9. positive - positive 11. negative-positive ______ 12. negative-negative _____

Physical Science Vocabulary

conductor	gravity	matter	potential energy
density	inclined plane	momentum	volume
force	inertia	physical change	,
friction	kinetic energy	physics	

conductor a material, such as metal, that lets electrons pass through it easily

density the amount of matter packed into a certain volume

force a push or a pull

friction a force that slows a moving object

gravity the natural force of attraction between two objects

inclined plane a simple machine that is a ramp

inertia the tendency of an object at rest to stay at rest and an object in motion to stay in motion in the same direction

kinetic energy the energy of motion

matter anything that has weight and takes up space

momentum the measure of an object's motion

physical change a change in the size, shape or state of matter, with no new matter being formed

physics the study of the ways in which matter behaves

potential energy stored energy, energy that is not being used

volume the amount of space that matter takes up

Physical Science Vocabulary Match

conductor gravity matter potential energy density inclined plane momentum volume force inertia physical change friction kinetic energy physics			and the state of t	
force inertia physical change	conductor	gravity	matter	potential energy
. ,	density	inclined plane	momentum	volume
friction kinetic energy physics	force	inertia	physical change	
	friction	kinetic energy	physics	

anything that has weight and takes up space matter	2. a force that slows a moving object ——————
3. the natural force of attraction between two objects	4. stored energy, energy that is not being used
5. the measure of an object's motion	6. a push or a pull
7. the amount of matter packed into a certain volume	8. the tendency of an object at rest to stay at rest and an object in motion to stay in motion in the same direction
9. the energy of motion	10. a material, such as metal, that lets electrons pass through it easily
11. a simple machine that is a ramp —————	12. a change in the size, shape or state of matter, with no new matter being formed
13. the study of the ways in which matter behaves	14. the amount of space that matter takes up

Physical Science

FORCE VOLUME FRICTION MOMENTUM MATTER KINETIC ENERGY PHYSICAL CHANGE INERTIA

INCLINED PLANE CONDUCTOR DENSITY

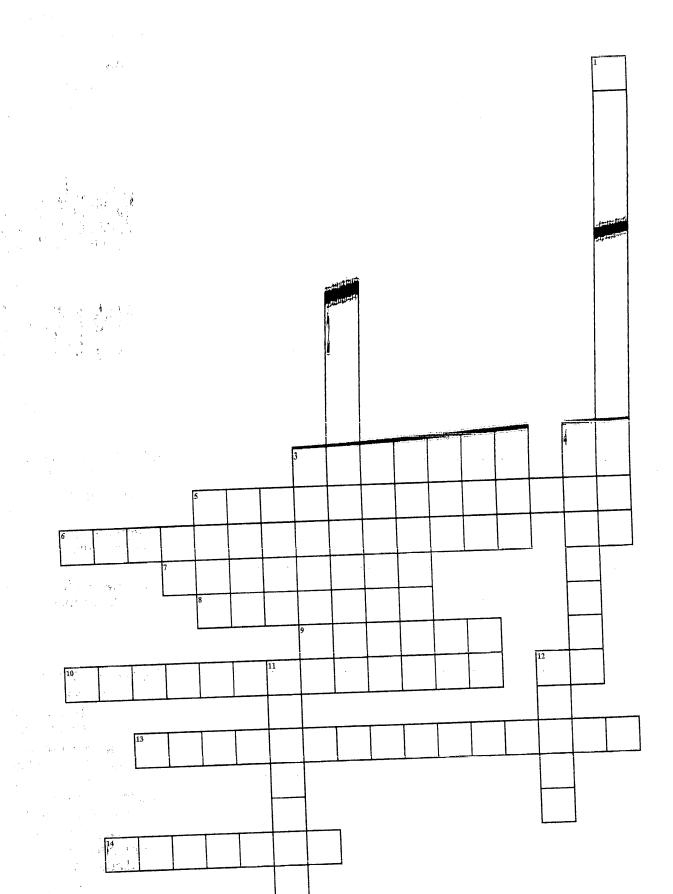
GRAVITY POTENTIAL ENERGY **PHYSICS**

> POTENTIAL - ENERGYOCM LS GTONEEYGRENE-CITENIKC T P M I V E T N Y C I P H Y S I C S I I GNICONDUCTORHOEUHER Y I P P O E R - N I C T H S V R R Y E I - E Y E T L O N R S E - R E I N N Y N-HGIITNPSOVMIEALCSYK G-TNORCUNCEIPMTILIEME PIIANTRRHNGAT-NIRNCIC CMAHNINERTIAFCNTEGT ETMCGHETNTAOIEINIHNNC MAS-REETCNREDERRIT CHOLARIAOCY-R-ITFF TDYAVGRMEVPTOHEECPR YCGCIPILULTIIONNIIYPO TIAITETSAASNDSEFGETOL CAESYMENEMULOVNNRDILA TIOYTTELCDVTNDLENRCUN IMCHAHMUTNEMOMCADOOIM D-NPANNSNLEPFNIDCTRHP NN-CGINETTLN-OCEEKIDL

Name	

∂ate	
Duto	

Physical Science



Name:	
Name.	

Simple Machines

The six types of simple machines are:

- inclined plane
- wedge
- screw

- lever
- pulley
- · wheel and axle





An ax is used to chop wood. The metal part chops through the wood, pushing it apart into two smaller sections.

Which simple machine is found on the head of this ax?

2.



The center of this seesaw is used to balance the board with the seats. The children can easily move up and down without much force.

The seesaw is an example of which simple machine?

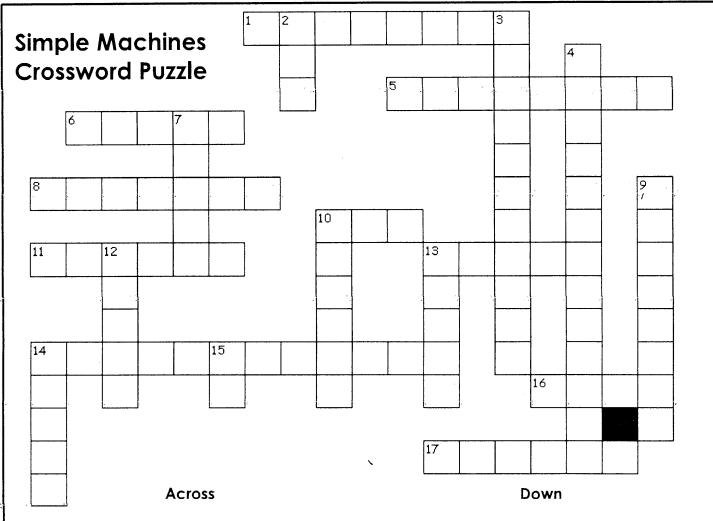
3.



The cap on this water bottle has a spiral shape. When you place it on the bottle and twist, the cap pulls itself toward the bottle.

The bottle cap is an example of which simple machine?

4. When you turn the large knob on a door, a rod on the inside releases the a latch that holds the door closed. It would be difficult to turn the rod, if the knob wasn't attached to it. The door knob and rod make up which simple machine? 5. A wheel with a rope is used to hoist a flag up to the top of a tall flagpole. This simple machine can also be used to help lift heavy objects with less force. The wheel and rope make up which simple machine? 6. A ramp is used for loading this truck. A mover can pull a cart with a heavy object up the ramp. This is much easier than lifting heavy objects into the truck. Which simple machine is on the back of this truck? 7. What types of simple machines do you see in the picture? The slide is ______. The shovel is _____ The broom is _____ The screwdriver is _____



- 1. tool with two levers attached together for cutting paper
- wheel and axle device that is turned when you open a door
- 6. wedge used for cutting food
- 8. fixed point on a lever that doesn't move
- 10. number of different types of simple machines
- 11. type of simple machine that is made of a wheel with a rope or chain
- 13. inclined plane that is often found on a playground
- **14.** type of simple machine that is made of a wheel attached to a rod
- 16. pulleys are used to raise this on a sailboat
- 17. lever used for digging holes in the ground

- 2. part of a water bottle with a screw
- 3. wheel and axle tool that is often used with screws
- **4.** type of simple machine that is a flat surface with one end higher than the other
- 7. When you push, pull, or turn something you are applying this.
- 9. Pulleys are used to raise a flag up this tall object.
- 10. lever that kids sit on; often found on a playground
- 12. type of simple machine made up of a bar that moves on a fixed point, or fulcrum
- 13. type of simple machine that is spiral-shaped and pulls two things together
- **14.** a simple machine used to separate something; made up of two inclined planes back-to-back.
- 15. wedge used for chopping wood

Teachers: Copy this word box on the back of the crossword puzzle, if necessary.

Simple Machines Crossword Puzzle: Word Box (Some words will not be used.)			
ax	force	pulley	seven
bottom	four	rake	shovel
broom	fulcrum	sail	six
building	hammer	sail	slide
cáb	inclined plane	scissors	swing
doorknob	knife	screw	wedge
five	lever	screwdriver	wheel and axle
flagpole	nail	seesaw	wrench

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Recommended Science Materials

No-Glamour Reading: Content Vocabulary Books I and II

Each book has about 245 reproducible pages written at about a 5th grade level, but full of challenging science and social studies vocabulary and basic concepts. **www.linguisystems.com**

<u>190 Ready-To-Use Activities That Make Science Fun</u> Lives up to its name. Order from <u>www.Josseybass.com</u>

Just the Facts: Physical Science (titles also include Life Science and Earth and Space Science) These books are designed for grades 4-6 but are appropriate for adults. Be sure to blackout all references to grade level before using with adult students. These types of books are fun and very useful for background knowledge and vocabulary. This company offers many different titles. www.carsondellosa.com

<u>Steck-Vaughn Wonders of Science</u>

6 titles written on about a Reading Level 4, great for quick background knowledge and oral reading.

Steck-Vaughn Building Strategies Science

Beginning GED books with lots of vocabulary, background information and practice questions, 4-6 reading level

Steck-Vaughn Pre-GED Science

Written at about a Reading Level of 8

www.steck-vaughn.com

Top 50 Science Skills for GED Success (Contemporary)

50 targeted lessons that cover the science skill strands on the GED Test. Excellent background information and practice questions.

www.highered.mcgraw-hill.com

<u>Pre-GED Skill Workbooks: Science: Critical Thinking and Graphic Literacy</u>
<u>GED Scoreboost: Thinking Skills: Critical Thinking for Reading, Social Studies, and Science</u>

GED Critical Reading Scoreboost: Graphic Skills for Social Studies and Science Order from www.newreaderspress.com

Passwords Science Vocabulary

Titles include: Life Science, Physical Science and Earth Science.

www.curriculumassociates.com

Science Websites

www.superteacherworksheets.com

- Best website ever for free printable science worksheets (In my opinion, also includes Math and Social Studies materials)
- I have included many samples of materials found on this website throughout this booklet

www.exploratorium.edu

- An amazing site that explores 100's of science topics and includes web casts, videos, and pictures
- On-line activities, exhibitions, and links to other "cool" sites
- Teachers have access to on-line tools for teaching and hands-on activities
- Tools for teaching include an extensive digital library of over 10,000 photos and quick time movies

www.hightechscience.org

- Some interesting parts of this site include fun science facts, all about food, and animal facts
- These links are found on the left of the homepage, scroll down

www.howstuffworks.com

- Hundreds of "printer friendly" short articles about a wide variety of science topics and more
- Links to more information on each topic

http://science-education.nih.gov

- National Institutes of Health office of science education for teachers
- Many topics, lesson plans, resources, photos, and more available

www.sciencespot.net

- A very helpful site for teachers looking for fun daily science trivia, word searches, crosswords, and more
- Lessons, links, and more
- Includes a reference desk to find science resources

www.gedscience.com

• Contemporary's on-line learning center for students and teachers

WWW.YOUTUBE.COM

Once on the YOUTUBE site search the following for great videos:

- The Science Channel
- National Geographic
- GED Science: The Scientific Method & Kinetic and Potential Energy in a Roller Coaster from KET adult learning
- Bill Nye the Science Gut
- Steve Spangler Science

Science Locator Test

A GED Science Locator Test and an answer key are available to print and photocopy (for classroom use) at <u>LiteracyLink.Org</u>

The answer key identifies the critical thinking skill needed to correctly answer each question.

Go to www.LitLink.org

- Click on Teach
- Click on Resources
- Click on Locator Tests
- Choose Tests or Guidelines for ańswer key

Print free for classroom use.



Scientific Method

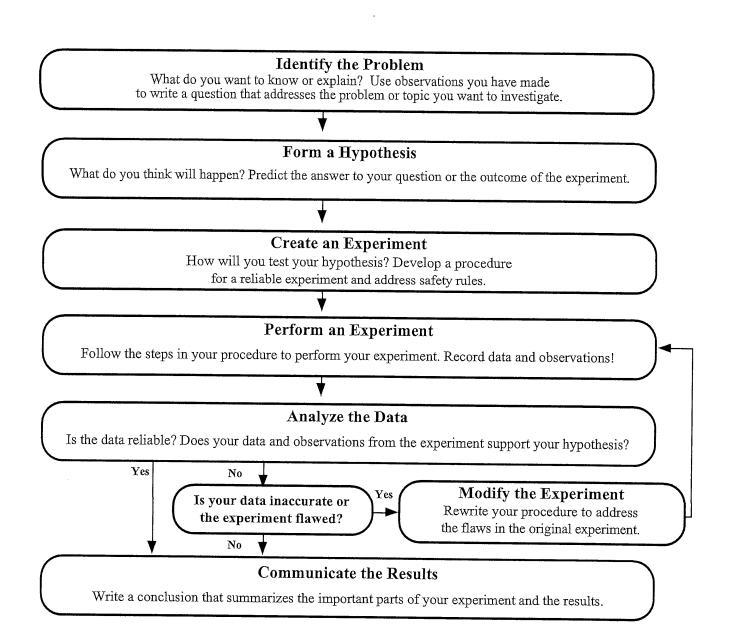
Overhead Key

What is the scientific method? It is a process that is used to find answers to questions about the world around us.

Is there only one "scientific method"? No, there are several versions of the scientific method. Some versions have more steps, while others may have only a few. However, they all begin with the identification of a problem or a question to be answered based on observations of the world around us and provide an organized method for conducting and analyzing an experiment.

What is a hypothesis? It is an educated guess based on observations and your knowledge of the topic.

What is data? It is information gathered during an experiment.



Scientific Method

What is the scientific method? It is aworld around us.	that is used to find	to questions about the
Is there only one "scientific method"? No, the more, while others may have on to an method for conducting and	nly a few. However, they all begin be answered based on observations of t	with the identification of
What is a hypothesis? It is antopic.	based on observation	ons and your knowledge of the
What is data? It is gathered	during an experiment.	
What do you want to know to write a question that address	or explain? Use observations you have rest the problem or topic you want to inves	nade stigate.
What do you think will happen? Predict the	e answer to your question or the outcome	of the experiment.
	Y	
	our hypothesis? Develop a procedure eriment and address safety rules.	
Follow the steps in your procedure to pe	erform your experiment. Record data an	d observations!
Is the data reliable? Does your data and ob	oservations from the experiment support	t your hypothesis?
Yes No Is your data inaccuthe experiment fluid No	awed? Rewrite your p	rocedure to address original experiment.
Write a conclusion that summarizes the	ne important parts of your experiment ar	nd the results.

T. Trimpe 2003 http://sciencespot.net/

The Language of Science

The main reason students find it difficult to understand science is because of all the hard to write, spell and read words. Actually, scientific vocabulary is a hodge podge of little words that are linked together to have different meanings. If you learn the meanings of the little words, you'll find scientific vocabulary much easier to understand. Use this list to guess the meaning of each of the terms.



Word	Meaning
a or an	not or non
meso	middle
endo .	inner, inside
aero	needing oxygen or air
anti	against
amphi	both, doubly
aqua	water
arthro	joint
auto	self
bi	two, twice, double
bio	life, living
carne	flesh
cephal	head
chloro	green
chromo	color
cide	killer, kill, killing
cyto	cell
derm	skin
di	two, double

Word	Meaning
hemo	blood
hyper	above
hypo	below
intra	within, inside
itis	disease, inflammation
lateral	side
logy	study of
lys	break down
meter	measurement
mono	one, single
morph	form
micro	small
macro	large
multi	many
pod	foot
phage	to eat
phobia	dislike, fear
philia	like
plasm	form

ecto (exo)	outer, external
endo	internal
epi	above
gastro	stomach
genesis	origin, beginning
herba	plants
hetero	different
homo	alike, similar
hydro	water

proto	first
photo	light
poly	many
synthesis	to make
sub	lesser, below
troph	eat, consume
therm	heat
vore	swallow, devour
zoo, zoa	animal

1. Hydrology	
2. Cytology	
3. Protozoa	
4. Epidermis	
5. Spermatogenesis	
6. Cytoskeleton	
7. Abiotic	
8. Dermatitis	
9. Hypodermic	
10. Hemophilia	
II. Endocytosis	
12. Insecticide	
is. Anderopic	
14. Bilateral	
15. Endotherm	
16. Subspecies	
17. Armropod	
18. Micrometer	
rs. hypothermid	
20. Polymorph	
21. Photosynthesis	
22. Amphibios (amphibian)	

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