

Ceres Software Corporation

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Earth & Space Science - Activity 2A2 - Properties of Matter

NAME: _____ DATE: _____ PERIOD: _____

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

L I S T O F W O R D S

AMORPHOUS
CHANGES
COLOR
DEFINITE
DUCTILITY
EXPANSION
FLAMMABILITY
FORCE
GAS

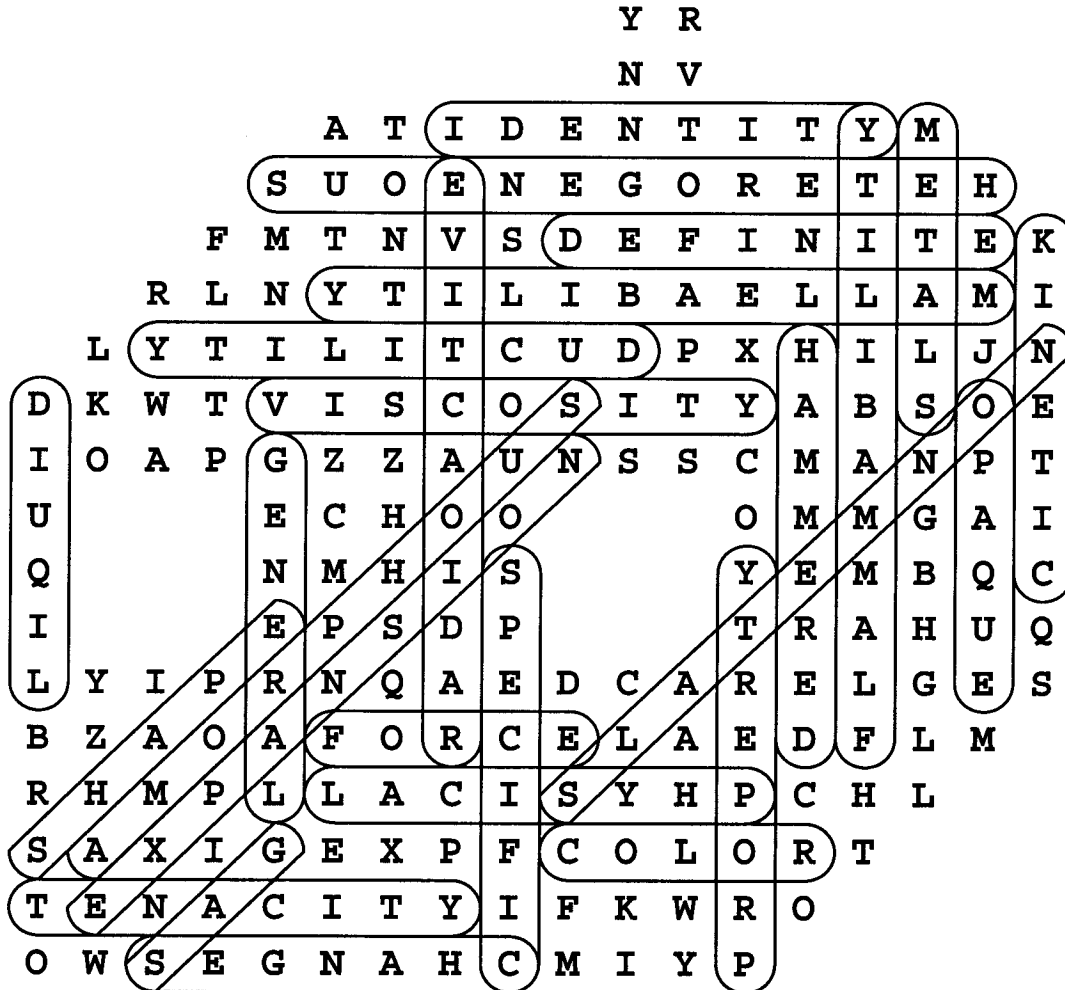
GENERAL
HAMMERED
HETEROGENEOUS
IDENTITY
KINETIC
LIQUID
MALLEABILITY
METALS
NONMETALS

OPAQUE
PHYSICAL
PROPERTY
RADIOACTIVE
SHAPE
SPECIFIC
TENACITY
VISCOSITY

- 1) Find all the words shown above in the Word Search Puzzle
- 2) For each word, please write its definition or write a sentence. The sentences must deal with an important concept in this lesson. The quality of the sentences formed will determine your grade.

Earth and Space Science - Solution

Activity 2A2 - Properties of Matter



AMORPHOUS
CHANGES
COLOR
DEFINITE
DUCTILITY
EXPANSION
FLAMMABILITY

FORCE
GAS
GENERAL
HAMMERED
HETEROGENEOUS
IDENTITY
KINETIC

LIQUID
MALLEABILITY
METALS
NONMETALS
OPAQUE
PHYSICAL
PROPERTY

RADIOACTIVE
SHAPE
SPECIFIC
TENACITY
VISCOSITY

Earth & Space Science - Activity 2A5 - Properties of Matter

NAME: _____ DATE: _____ PERIOD: _____

To answer each of the following 26 questions, you have to select the appropriate word from the list at the bottom of the page. On the space provided on the left side of each question, you just need to write the letter of the alphabet located next to the correct word.

1. _____ Chemical changes produce new _____
2. _____ These properties describe how a substance change into other new substances
3. _____ They don't have definite volumes but they take the shape of their containers
4. _____ This index shows how much a material can bend light
5. _____ A physical property which indicates the degree of stiffness
6. _____ A type of solid where particles are arranged in repeating patterns
7. _____ They have properties of both metals and nonmetals
8. _____ Most substances do that when heated
9. _____ Physical properties that don't depends on the amount of mass present
10. _____ A general property of matter that relates mass and gravity
11. _____ These materials can easily catch fire
12. _____ It is an example of a chemical reaction
13. _____ This matter has the same properties throughout
14. _____ This element is needed for substances to burn
15. _____ _____ have definite volumes but not definite shapes
16. _____ Heat of _____ is the heat needed to change from solid to liquid
17. _____ The property of ductility allows a metal to be _____ into fine wire
18. _____ Metalloids are usually white or _____ in color
19. _____ Malleability, ductility, and conductivity, are intensive _____
20. _____ These gases have no chemical reactivity
21. _____ Those substances have identical properties throughout
22. _____ Physical properties that depend on the amount of mass present
23. _____ A thick sheet of this metal can stop X-rays
24. _____ They have definite shapes and volumes
25. _____ They have high viscosities
26. _____ Heat of _____ is the heat needed to change from liquid to gas

L I S T O F W O R D S

- | | | |
|-----------------|---------------|----------------|
| A- BURNING | B- CHEMICAL | C- CRYSTAL |
| D- DRAWN | E- EXPAND | F- EXTENSIVE |
| G- FLAMMABLE | H- FUSION | I- GASES |
| J- GRAY | K- HARDNESS | L- HOMOGENEOUS |
| M- INTENSIVE | N- LEAD | O- LIQUIDS |
| P- METALLOIDS | Q- NOBLE | R- OILS |
| S- OXYGEN | T- PROPERTIES | U- PURE |
| V- REFRACTION | W- SOLIDS | X- SUBSTANCES |
| Y- VAPORIZATION | Z- WEIGHT | |

A N S W E R K E Y

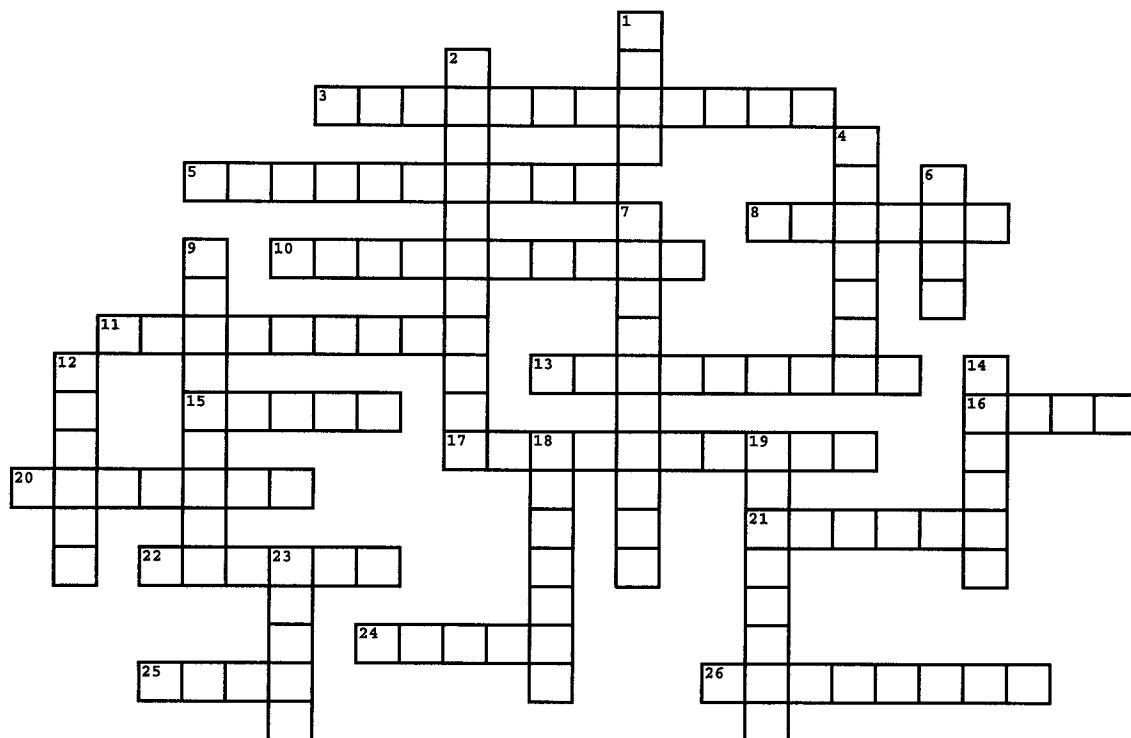
Earth and Space Science

Activity 2A5 - Properties of Matter

1 - X	2 - B	3 - I	4 - V
5 - K	6 - C	7 - P	8 - E
9 - M	10 - Z	11 - G	12 - A
13 - L	14 - S	15 - O	16 - H
17 - D	18 - J	19 - T	20 - Q
21 - U	22 - F	23 - N	24 - W
25 - R	26 - Y		

Earth & Space Science - Activity 2A7 - Properties of Matter

NAME: _____ DATE: _____ PERIOD: _____



ACROSS

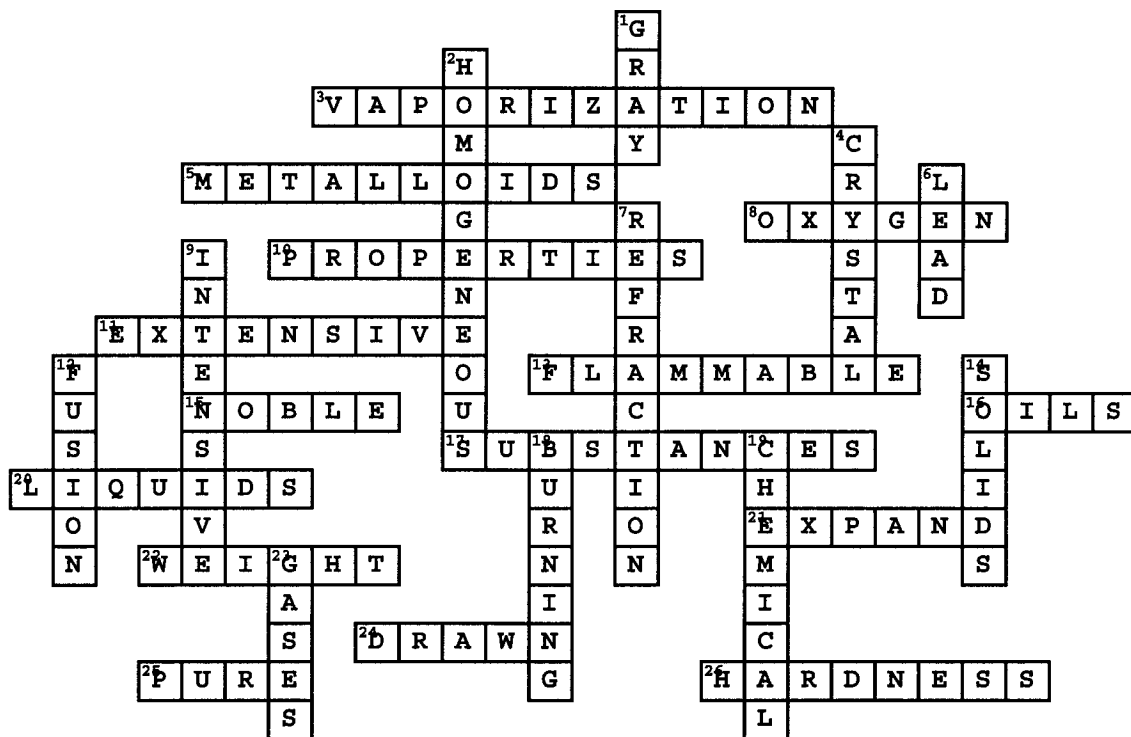
3. heat of _____ is the heat needed to change from liquid to gas
5. they have properties of both metals and nonmetals
8. this element is needed for substances to burn
10. malleability, ductility, and conductivity, are intensive _____
11. physical properties that depend on the amount of mass present
13. these materials can easily catch fire
15. these gases have no chemical reactivity
16. they have high viscosities
17. chemical changes produce new _____
20. _____ have definite volumes but not definite shapes
21. most substances do that when heated
22. a general property of matter that relates mass and gravity
24. the property of ductility allows a metal to be _____ into fine wire
25. those substances have identical properties throughout
26. a physical property which indicates the degree of stiffness

DOWN

1. metalloids are usually white or _____ in color
2. this matter has the same properties throughout
4. a type of solid where particles are arranged in repeating patterns
6. a thick sheet of this metal can stop X-rays
7. this index shows how much a material can bend light
9. physical properties that don't depends on the amount of mass present
12. heat of _____ is the heat needed to change from solid to liquid
14. they have definite shapes and volumes
18. it is an example of a chemical reaction
19. these properties describe how a substance change into other new substances
23. they don't have definite volumes but they take the shape of their containers

Earth and Space Science - Answer Key

Activity 2A7 - Properties of Matter



ACROSS

3. heat of _____ is the heat needed to change from liquid to gas
5. they have properties of both metals and nonmetals
8. this element is needed for substances to burn
10. malleability, ductility, and conductivity, are intensive _____
11. physical properties that depend on the amount of mass present
13. these materials can easily catch fire
15. these gases have no chemical reactivity
16. they have high viscosities
17. chemical changes produce new _____
20. _____ have definite volumes but not definite shapes
21. most substances do that when heated
22. a general property of matter that relates mass and gravity
24. the property of ductility allows a metal to be _____ into fine wire
25. those substances have identical properties throughout
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DOWN

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9. physical properties that don't depends on the amount of mass present
12. heat of _____ is the heat needed to change from solid to liquid
14. they have definite shapes and volumes
18. it is an example of a chemical reaction
19. these properties describe how a substance change into other new substances
23. they don't have definite volumes but they take the shape of their containers

Chapter 4 - Geologic Time

Part B

ABSOLUTE: this method of dating is used by geologist to estimate the age of rocks

AMINO: all living organisms are made of these acids

AMPHIBIANS: this type of animals made their appearance during the Devonian Period

ATLANTIC: this ocean started to form during the Triassic Period

ATMOSPHERE: it took the earth close to one billion years to form that

BACTERIA: if formed for the first time during the Precambrian Era

BIRDS: they appeared during the Jurassic Period

CAMBRIAN: many marine invertebrates are formed in this Period

CANYON: the Grand _____ was formed during the Quaternary Period

CENOZOIC: we are living now in this geologic Era

CORALS: a rich variety of these organisms became abundant during the Silurian Period

COMET: some scientists believe that maybe one _____ caused the extinction of the dinosaurs

CRETACEOUS: dinosaurs became extinct at the end of this Period

DEVONIAN: fish became abundant in the ocean during this Period

DINOSAURS: they dominated the planet during the Mesozoic Era

ENVIRONMENT: severe changes in the _____ resulted in the extinction of the dinosaurs

EOCENE: Second Epoch in the Tertiary Period

EPOCHS: each geologic period is divided in these units of time

ERAS: large units of time in which the geologic time is divided

EXTINCT: the Paleozoic Era ended when numerous plants and animals became _____

FOUR: the geologic time is divided in this number of eras

HIMALAYAS: this chain of mountains started to rise between the Miocene and Pliocene Epochs

HUMANS: the term Homo Sapiens refers to _____

IRIDIUM: this element is common in meteorites and in molten lava

ISOTOPES: they are chemical elements with the same number of protons but different number of neutrons

JURASSIC: dinosaurs were the dominant species during this Period

MAMMALS: they appeared during the Triassic Period

MESOZOIC: important Era dominated by various species of dinosaurs

METEORITE: some scientists believe that a large _____ caused the extinction of the dinosaurs

MIOCENE: Epoch in the Tertiary Period

MISSISSIPPIAN: the first insects evolved during this Period of the Paleozoic Era

OCEAN: life originated in there during the Precambrian Era

OLIGOCENE: Epoch in the Tertiary Period between the Eocene and the Miocene

ONE: it took the earth this number of billions of years to form the oceans and the continents

ORDOVICIAN: The first fish formed in this Period of the Paleozoic Era

PALEOCENE: first Epoch of the Tertiary Period

PALEOZOIC: during this Era animals and plants gained the ability of living on land

PANGAEA: this supercontinent began to break up during the Triassic Period

PENNSYLVANIAN: the evolution of reptiles occurred in this Period

PERIODS: Eras are divided in these units of time

PERMIAN: Large number of marine invertebrates became extinct at the end of this Period

PLIOCENE: The Tertiary Period ended with this Epoch

PRECAMBRIAN: this Era ended about 640 millions of years ago

QUATERNARY: Recent and Pleistocene Epochs are part of this Period

RADIOCARBON: _____ dating can help estimate the age of objects up to 50,000 years

RADIOMETRIC: the process _____ dating can help estimate the age of rocks and fossils

RECENT: humans appeared in this Era of the Quaternary Period

SILURIAN: A variety of plants started to form on land during this Period of the Paleozoic Era

TERTIARY: mammals became abundant in the planet during this Period

TRIASSIC: The first mammals made their appearance during this Period

URANIUM: an _____ isotope can help measure the age of rocks older than 1 billion years

VOLCANIC: one hypothesis says that a large number of _____ eruptions may have killed the dinosaurs

YUCATAN: one hypothesis says that the meteor that killed the dinosaurs hit this Peninsula on planet Earth

Earth & Space Science - Activity 4B2 - Geologic Time

NAME: _____ DATE: _____ PERIOD: _____

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

L I S T O F W O R D S

ABSOLUTE
AMPHIBIANS
ATMOSPHERE
BIRDS
CANYON
CORALS
CRETACEOUS
DINOSAURS
EOCENE

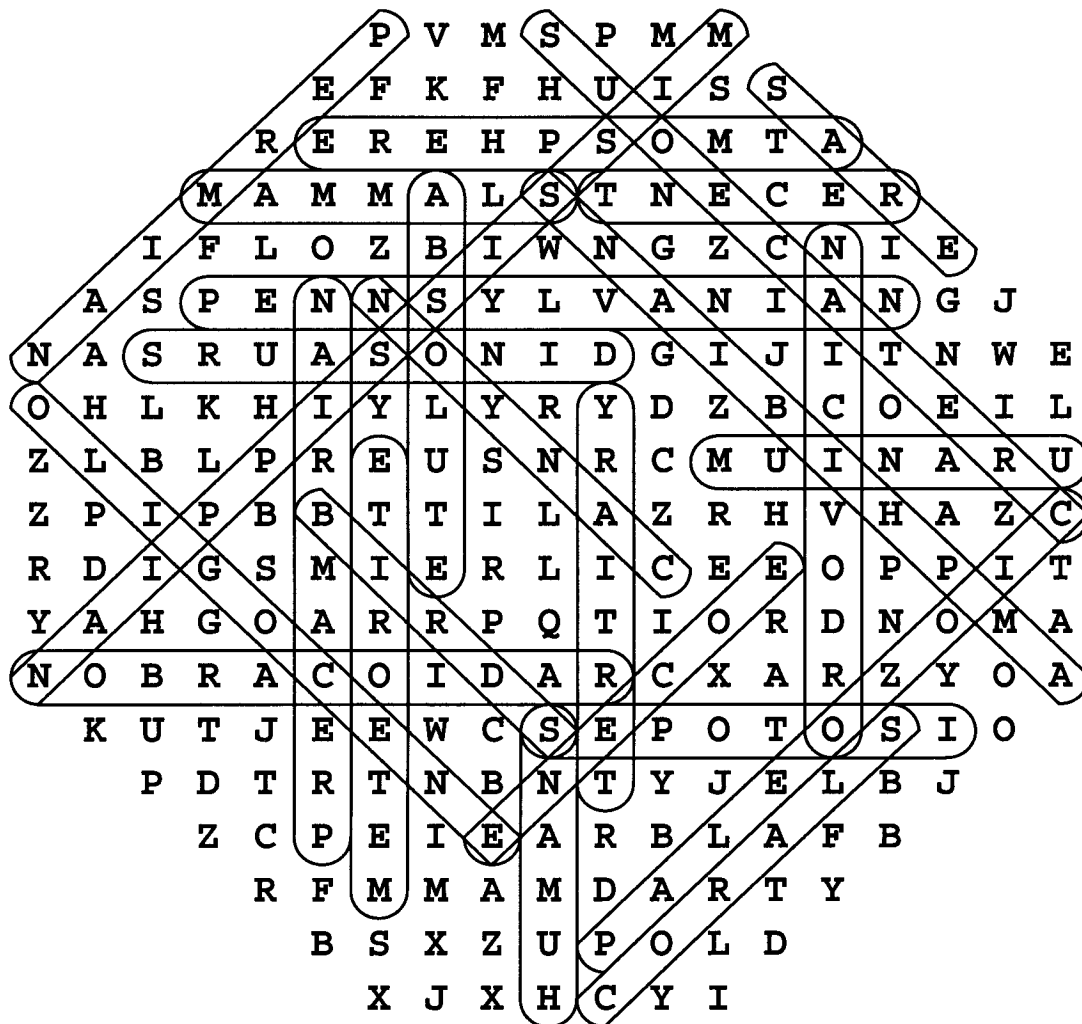
ERAS
HUMANS
ISOTOPES
MAMMALS
METEORITE
MISSISSIPPIAN
OLIGOCENE
ORDOVICIAN

PALEOZOIC
PENNSYLVANIAN
PERMIAN
PRECAMBRIAN
RADIOCARBON
RECENT
TERTIARY
URANIUM

- 1) Find all the words shown above in the Word Search Puzzle
- 2) For each word, please write its definition or write a sentence. The sentences must deal with an important concept in this lesson. The quality of the sentences formed will determine your grade.

Earth and Space Science - Solution

Activity 4B2 - Geologic Time



ABSOLUTE
 AMPHIBIANS
 ATMOSPHERE
 BIRDS
 CANYON
 CORALS
 CRETACEOUS

DINOSAURS
 EOCENE
 ERAS
 HUMANS
 ISOTOPES
 MAMMALS
 METEORITE

MISSISSIPPIAN
 OLIGOCENE
 ORDOVICIAN
 PALEOZOIC
 PENNSYLVANIAN
 PERMIAN
 PRECAMBRIAN

RADIOCARBON
 RECENT
 TERTIARY
 URANIUM

Earth & Space Science - Activity 4B4 - Geologic Time

NAME: _____ DATE: _____ PERIOD: _____

To answer each of the following 26 questions, you have to select the appropriate word from the list at the bottom of the page. On the space provided on the left side of each question, you just need to write the letter of the alphabet located next to the correct word.

1. _____ Mammals became abundant in the planet during this Period
2. _____ It took the earth close to one billion years to form that
3. _____ Large units of time in which the geologic time is divided
4. _____ dating can help estimate the age of objects up to 50,000 years
5. _____ They are chemical elements with the same number of protons but different number of neutrons
6. _____ They appeared during the Jurassic Period
7. _____ Epoch in the Tertiary Period between the Eocene and the Miocene
8. _____ They appeared during the Triassic Period
9. _____ The term Homo Sapiens refers to _____
10. _____ This type of animals made their appearance during the Devonian Period
11. _____ A rich variety of these organisms became abundant during the Silurian Period
12. _____ During this Era animals and plants gained the ability of living on land
13. _____ Large number of marine invertebrates became extinct at the end of this Period
14. _____ An _____ isotope can help measure the age of rocks older than 1 billion years
15. _____ Dinosaurs became extinct at the end of this Period
16. _____ The evolution of reptiles occurred in this Period
17. _____ Second Epoch in the Tertiary Period
18. _____ The Grand _____ was formed during the Quaternary Period
19. _____ The geologic time is divided in this number of eras
20. _____ The first fish formed in this Period of the Paleozoic Era
21. _____ They dominated the planet during the Mesozoic Era
22. _____ This method of dating is used by geologist to estimate the age of rocks
23. _____ The first insects evolved during this Period of the Paleozoic Era
24. _____ Some scientists believe that a large _____ caused the extinction of the dinosaurs
25. _____ Humans appeared in this Era of the Quaternary Period
26. _____ This Era ended about 640 millions of years ago

L I S T O F W O R D S

- | | | |
|------------------|------------------|---------------|
| A- ABSOLUTE | B- AMPHIBIANS | C- ATMOSPHERE |
| D- BIRDS | E- CANYON | F- CORALS |
| G- CRETACEOUS | H- DINOSAURS | I- EOCENE |
| J- ERAS | K- FOUR | L- HUMANS |
| M- ISOTOPES | N- MAMMALS | O- METEORITE |
| P- MISSISSIPPIAN | Q- OLIGOCENE | R- ORDOVICIAN |
| S- PALEOZOIC | T- PENNSYLVANIAN | U- PERMIAN |
| V- PRECAMBRIAN | W- RADIOCARBON | X- RECENT |
| Y- TERTIARY | Z- URANIUM | |

A N S W E R K E Y

Earth and Space Science

Activity 4B4 - Geologic Time

1 - Y	2 - C	3 - J	4 - W
5 - M	6 - D	7 - Q	8 - N
9 - L	10 - B	11 - F	12 - S
13 - U	14 - Z	15 - G	16 - T
17 - I	18 - E	19 - K	20 - R
21 - H	22 - A	23 - P	24 - O
25 - X	26 - V		

Earth & Space Science - Activity 4B5 - Geologic Time

NAME: _____ DATE: _____ PERIOD: _____

To answer each of the following 26 questions, you have to select the appropriate word from the list at the bottom of the page. On the space provided on the left side of each question, you just need to write the letter of the alphabet located next to the correct word.

1. _____ Eras are divided in these units of time
2. _____ A variety of plants started to form on land during this Period of the Paleozoic Era
3. _____ We are living now in this geologic Era
4. _____ First Epoch of the Tertiary Period
5. _____ Fish became abundant in the ocean during this Period
6. _____ The first mammals made their appearance during this Period
7. _____ This element is common in meteorites and in molten lava
8. _____ All living organisms are made of these acids
9. _____ Each geologic period is divided in these units of time
10. _____ Recent and Pleistocene Epochs are part of this Period
11. _____ They formed for the first time during the Precambrian Era
12. _____ The process _____ dating can help estimate the age of rocks and fossils
13. _____ Severe changes in the _____ resulted in the extinction of the dinosaurs
14. _____ Epoch in the Tertiary Period
15. _____ This chain of mountains started to rise between the Miocene and Pliocene Epochs
16. _____ Many marine invertebrates are formed in this Period
17. _____ One hypothesis says that a large number of _____ eruptions may have killed the dinosaurs
18. _____ Some scientists believe that maybe one _____ caused the extinction of the dinosaurs
19. _____ Life originated in there during the Precambrian Era
20. _____ Dinosaurs were the dominant species during this Period
21. _____ It took the earth this number of billions of years to form the oceans and the continents
22. _____ This ocean started to form during the Triassic Period
23. _____ The Tertiary Period ended with this Epoch
24. _____ The Paleozoic Era ended when numerous plants and animals became _____
25. _____ This supercontinent began to break up during the Triassic Period
26. _____ Important Era dominated by various species of dinosaurs

L I S T O F W O R D S

- | | | |
|---------------|----------------|--------------|
| A- AMINO | B- ATLANTIC | C- BACTERIA |
| D- CAMBRIAN | E- CENOZOIC | F- COMET |
| G- DEVONIAN | H- ENVIRONMENT | I- EPOCHS |
| J- EXTINCT | K- HIMALAYAS | L- IRIDIUM |
| M- JURASSIC | N- MESOZOIC | O- MIOCENE |
| P- OCEAN | Q- ONE | R- PALEOCENE |
| S- PANGAEA | T- PERIODS | U- PLIOCENE |
| V- QUATERNARY | W- RADIOMETRIC | X- SILURIAN |
| Y- TRIASSIC | Z- VOLCANIC | |

A N S W E R K E Y

Earth and Space Science

Activity 4B5 - Geologic Time

1 - T	2 - X	3 - E	4 - R
5 - G	6 - Y	7 - L	8 - A
9 - I	10 - V	11 - C	12 - W
13 - H	14 - O	15 - K	16 - D
17 - Z	18 - F	19 - P	20 - M
21 - Q	22 - B	23 - U	24 - J
25 - S	26 - N		

Earth & Space Science - Activity 9A1 - Air in the Atmosphere

NAME: _____ DATE: _____ PERIOD: _____

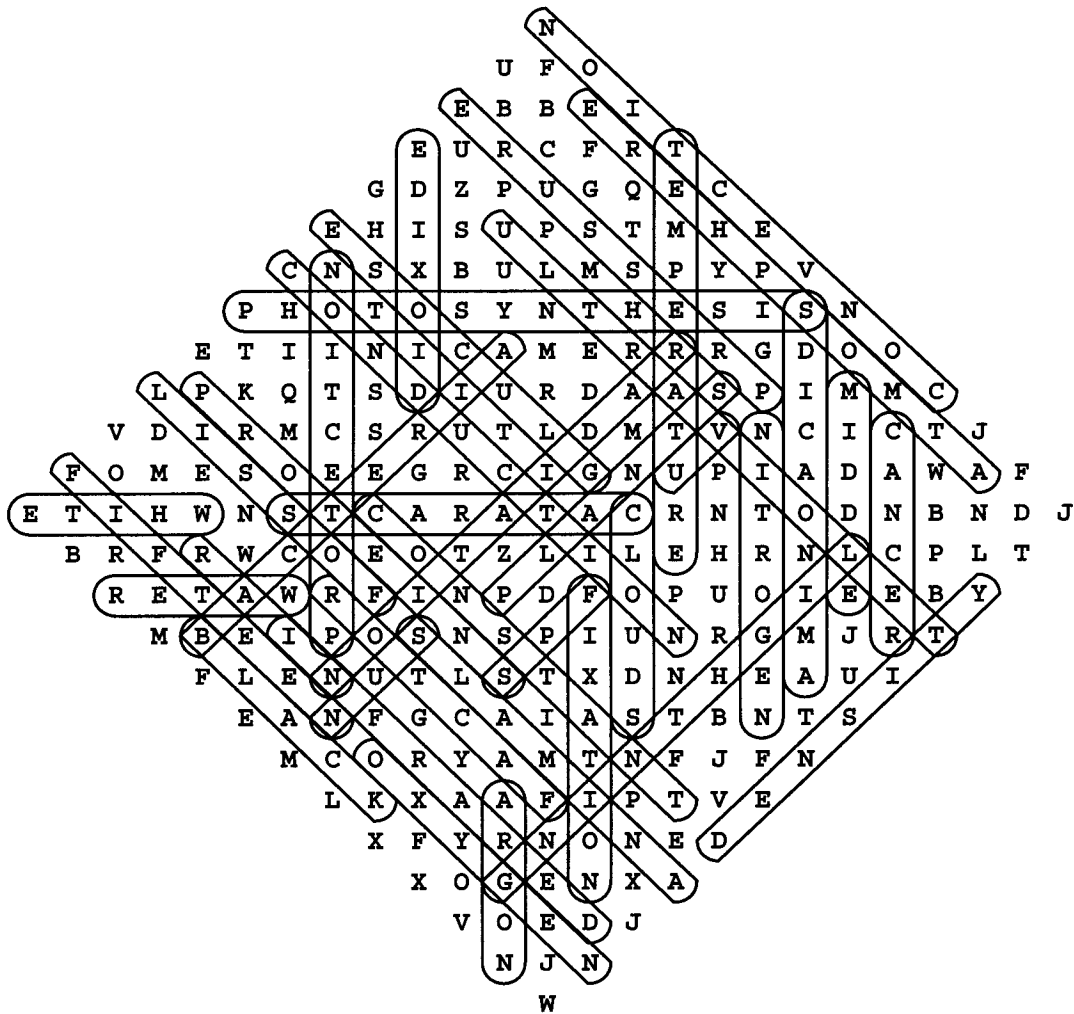
N
 U F O
 E B B E I
 E U R C F R T
 G D Z P U G Q E C
 E H I S U P S T M H E
 C N S X B U L M S P Y P V
 P H O T O S Y N T H E S I S N
 E T I I N I C A M E R R R G D O O
 L P K Q T S D I U R D A A S P I M M C
 V D I R M C S R U T L D M T V N C I C T J
 F O M E S O E E G R C I G N U P I A D A W A F
 E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

- | | | | |
|------------|------------|----------------|-------------|
| AMINOACIDS | CONDUCTION | INFRARED | RADIATION |
| ANIMALS | CONSTANT | LIGHTNING | RAIN |
| ARGON | CONVECTION | NITROGEN | SPF |
| ATMOSPHERE | DENSITY | OXYGEN | SUN |
| BACTERIA | DIOXIDE | PHOTOSYNTHESIS | TEMPERATURE |
| BLACK | FACTOR | PLANTS | ULTRAVIOLET |
| CANCER | FIXATION | PRESSURE | UV |
| CATARACTS | FOSSIL | PROTECTION | WATER |
| CLOUDS | GLUCOSE | PROTEINS | WHITE |

- 1) Find all the words shown above in the Word Search Puzzle
- 2) For each word, please write its definition or write a sentence. The sentences must deal with an important concept in this lesson. The quality of the sentences formed will determine your grade.

Earth and Space Science - Solution

Activity 9A1 - Air in the Atmosphere



AMINOACIDS
ANIMALS
ARGON
ATMOSPHERE
BACTERIA
BLACK
CANCER
CATARACTS
CLOUDS
CONDUCTION

CONSTANT
CONVECTION
DENSITY
DIOXIDE
FACTOR
FIFTEEN
FIXATION
FOSSIL
GLUCOSE
INFRARED

LIGHTNING
MIDDLE
NITROGEN
OXYGEN
PHOTOSYNTHESIS
PLANTS
PRESSURE
PROTECTION
PROTEINS
RADIATION

RAIN
SPF
SUN
TEMPERATURE
ULTRAVIOLET
UV
WATER
WHITE

Earth & Space Science - Activity 9A2 - Air in the Atmosphere

NAME: _____ DATE: _____ PERIOD: _____

To answer each of the following 26 questions, you have to select the appropriate word from the list at the bottom of the page. On the space provided on the left side of each question, you just need to write the letter of the alphabet located next to the correct word.

1. _____ It decreases with altitude
2. _____ In this cycle, the total amount of nitrogen remains constant
3. _____ This process extracts nitrogen from the air
4. _____ Meaning of the letter F in the acronym SPF
5. _____ Opposite of reflected
6. _____ Heat transfer process in gases and liquids
7. _____ This important cycle is known as the _____-carbon dioxide cycle
8. _____ Excessive ultraviolet radiation can produce this skin problem
9. _____ Almost 1% of air is this gas
10. _____ Type of radiation emitted by the sun
11. _____ It is the force that the air exerts on a surface
12. _____ When air is heated, its density _____
13. _____ This carbon compound is produced when fossil fuels burn
14. _____ Nitrogen is essential for making them
15. _____ The transmission of heat from particle to particle is through this process
16. _____ The density of air decreases with _____
17. _____ They produce carbon dioxide and oxygen
18. _____ It is produced by the water vapor in the air
19. _____ Meaning of the letter S in the acronym SPF
20. _____ Chemical symbol of oxygen
21. _____ Tiny organisms in the soil that produce nitrogen compounds
22. _____ Gas molecules gain that at higher temperatures
23. _____ They are produced by the water vapor in the air
24. _____ Abbreviation for ultraviolet radiation
25. _____ This color absorbs most of the solar radiation
26. _____ During this part of the day the sun's radiation is the greatest

L I S T O F W O R D S

- | | | |
|--------------|---------------|---------------|
| A- ABSORBED | B- ALTITUDE | C- ARGON |
| D- BACTERIA | E- BLACK | F- CANCER |
| G- CLOUDS | H- CONDUCTION | I- CONVECTION |
| J- DECREASES | K- DIOXIDE | L- FACTOR |
| M- FIXATION | N- GRAVITY | O- INFRARED |
| P- MIDDLE | Q- NITROGEN | R- O |
| S- OXYGEN | T- PRESSURE | U- PROTEINS |
| V- RAIN | W- SPEED | X- SUN |
| Y- TREES | Z- UV | |

A N S W E R K E Y

Earth and Space Science

Activity 9A2 - Air in the Atmosphere

- | | | | |
|--------|--------|--------|--------|
| 1 - N | 2 - Q | 3 - M | 4 - L |
| 5 - A | 6 - I | 7 - S | 8 - F |
| 9 - C | 10 - O | 11 - T | 12 - J |
| 13 - K | 14 - U | 15 - H | 16 - B |
| 17 - Y | 18 - V | 19 - X | 20 - R |
| 21 - D | 22 - W | 23 - G | 24 - Z |
| 25 - E | 26 - P | | |

Earth & Space Science - Activity 9B3 - Layers of the Atmosphere

NAME: _____ DATE: _____ PERIOD: _____

To answer each of the following 26 questions, you have to select the appropriate word from the list at the bottom of the page. On the space provided on the left side of each question, you just need to write the letter of the alphabet located next to the correct word.

1. _____ Low altitude satellites travel in this layer
2. _____ They are produced when atoms are struck by solar radiation
3. _____ Modern artifacts utilized to study the weather
4. _____ Short radio waves travel shorter distances during this time
5. _____ Magnetic _____ are produced by charged particles in the ionosphere
6. _____ Meaning of the letter A in AM radio signal
7. _____ Charged particles in the ionosphere create these storms
8. _____ Approximate height of the troposphere in km at the equator
9. _____ Layer located between the troposphere and the mesosphere
10. _____ It is experienced by meteors passing through the atmosphere
11. _____ Environmental problem found mostly in the troposphere
12. _____ The ionosphere has a higher _____ during the night
13. _____ Layer located between the stratosphere and the thermosphere
14. _____ Radio waves bounce between the surface of the Earth and this layer
15. _____ Colorful lights produced by the solar wind in the ionosphere
16. _____ Approximate height of the troposphere in km at the poles
17. _____ It is produced by the Earth's magnetic field
18. _____ Solar _____ is a large stream of ions traveling at high speeds
19. _____ Air can reach temperatures of 1,200 °C in this layer
20. _____ In this zone, a spacecraft cannot send radio signals
21. _____ This wind can reach speeds of 800 km per second
22. _____ Radio signals that do not bounce in the ionosphere
23. _____ Short radio waves travel further distances during this time
24. _____ The study of the weather
25. _____ Most of the weather occur in this layer
26. _____ The ionosphere permits the transmission of this type of radio signals

L I S T O F W O R D S

- | | | |
|------------------|-----------------|----------------|
| A- ALTITUDE | B- AMPLITUDE | C- AURORA |
| D- BLACKOUT | E- DAY | F- EIGHT |
| G- EXOSPHERE | H- FM | I- FRICTION |
| J- IONOSPHERE | K- IONS | L- MAGNETIC |
| M- MAGNETOSPHERE | N- MESOSPHERE | O- METEOROLOGY |
| P- NIGHT | Q- POLLUTION | R- SATELLITES |
| S- SHORTWAVE | T- SOLAR | U- STORMS |
| V- STRATOSPHERE | W- THERMOSPHERE | X- TROPOSPHERE |
| Y- TWENTY | Z- WIND | |

A N S W E R K E Y

Earth and Space Science

Activity 9B3 - Layers of the Atmosphere

1 - G	2 - K	3 - R	4 - E
5 - U	6 - B	7 - L	8 - Y
9 - V	10 - I	11 - Q	12 - A
13 - N	14 - J	15 - C	16 - F
17 - M	18 - Z	19 - W	20 - D
21 - T	22 - H	23 - P	24 - O
25 - X	26 - S		

Earth & Space Science - Activity 15A2 - Stars and Telescopes

NAME: _____ DATE: _____ PERIOD: _____

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

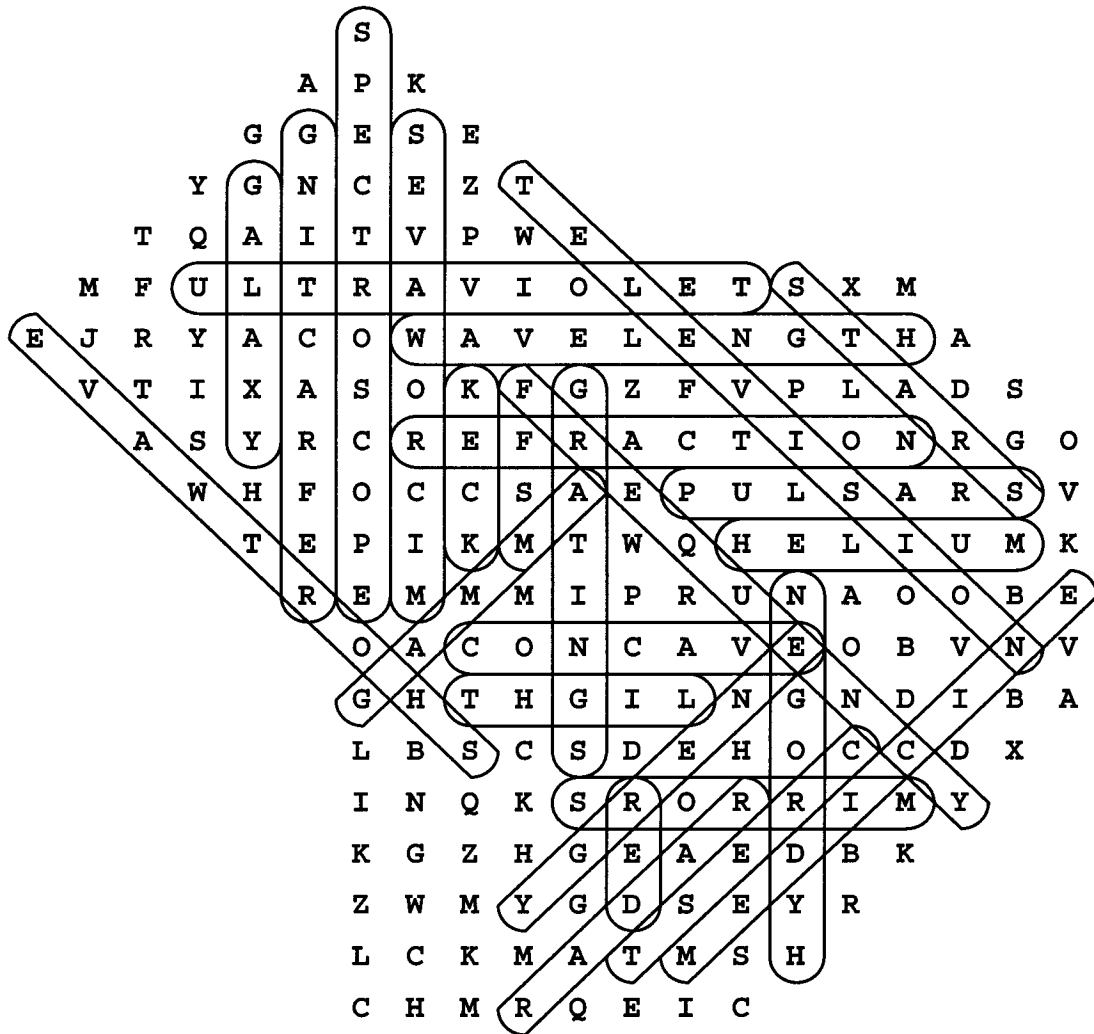
L I S T O F W O R D S

AM	HYDROGEN	REFRACTING
CONCAVE	KECK	REFRACTION
CREST	LIGHT	SHORTWAVE
ENERGY	MEDICINE	SPECTROSCOPE
FREQUENCY	MICROWAVES	STARS
GALAXY	MIRRORS	TELEVISION
GAMMA	PULSARS	ULTRAVIOLET
GRATINGS	RADAR	WAVELENGTH
HELIUM	RED	

- 1) Find all the words shown above in the Word Search Puzzle
- 2) For each word, please write its definition or write a sentence. The sentences must deal with an important concept in this lesson. The quality of the sentences formed will determine your grade.

Earth and Space Science - Solution

Activity 15A2 - Stars and Telescopes



AM
CONCAVE
CREST
ENERGY
FREQUENCY
GALAXY
GAMMA

GRATINGS
HELIUM
HYDROGEN
KECK
LIGHT
MEDICINE
MICROWAVES

MIRRORS
PULSARS
RADAR
RED
REFRACTING
REFRACTION
SHORTWAVE

SPECTROSCOPE
STARS
TELEVISION
ULTRAVIOLET
WAVELENGTH

Earth & Space Science - Activity 15B2 - Color & Temperature

NAME: _____ DATE: _____ PERIOD: _____

To answer each of the following 26 questions, you have to select the appropriate word from the list at the bottom of the page. On the space provided on the left side of each question, you just need to write the letter of the alphabet located next to the correct word.

1. _____ How bright is a star compared to other stars at the same distance, is called _____ magnitude
2. _____ Proxima _____ is one of the stars closest to our solar system
3. _____ Ejnar _____ and another scientist devised a method to classify the stars
4. _____ This star is mentioned in the movie "Contact"
5. _____ The greater the _____, then the greater the absolute brightness of a star
6. _____ It is the closest star to planet Earth
7. _____ The size and the mass determine the _____ of a star
8. _____ Stars 50% cooler than the sun have this color
9. _____ Stars 30% cooler than the sun have this color
10. _____ Stars three times hotter than the sun have this color
11. _____ The smaller the _____ of a star, then the greater the absolute magnitude
12. _____ The light-year is a convenient unit used to measure the _____ between stars
13. _____ Number one factor considered in H-R Diagrams to classify stars
14. _____ These stars have high magnitudes
15. _____ White _____ are considered stars of low magnitude
16. _____ It is the apparent change in position of an object when it is looked from different directions
17. _____ The _____ of a star depends on its temperature
18. _____ Second factor considered in H-R Diagrams to classify stars
19. _____ This number is the absolute magnitude of the sun
20. _____ How the brightness of a star appears to an observer is called _____ magnitude
21. _____ The brightest stars have _____ magnitudes
22. _____ It is a number that indicates the brightness of a star
23. _____ Henry Norris _____ and another scientist devised a method to classify the stars
24. _____ The brightness of a star is _____ proportional to its absolute magnitude
25. _____ Stars 50% hotter than the sun have this color
26. _____ Star-_____ are called those amateur astronomers who like to see the night sky

L I S T O F W O R D S

- | | | |
|---------------|----------------|----------------|
| A- ABSOLUTE | B- APPARENT | C- BLUE |
| D- BRIGHTNESS | E- CENTAURY | F- COLOR |
| G- DENSITY | H- DISTANCE | I- DWARFS |
| J- FIVE | K- GAZERS | L- HERTZSPRUNG |
| M- INVERSELY | N- MAGNITUDE | O- MASS |
| P- NEGATIVE | Q- ORANGE | R- PARALLAX |
| S- RED | T- RUSSELL | U- SIZE |
| V- SUN | W- SUPERGIANTS | X- TEMPERATURE |
| Y- VEGA | Z- WHITE | |

A N S W E R K E Y

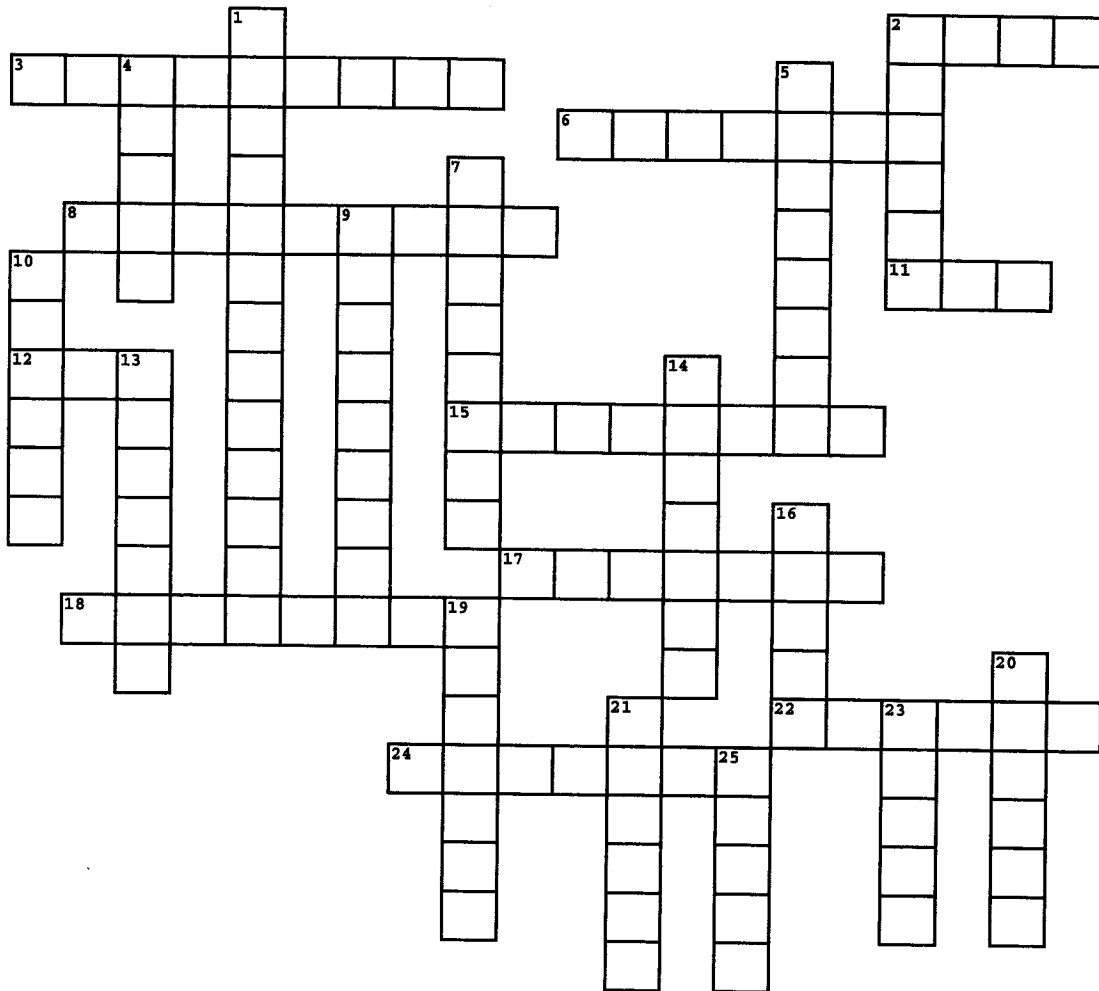
Earth and Space Science

Activity 15B2 - Color & Temperature

1 - A	2 - E	3 - L	4 - Y
5 - O	6 - V	7 - G	8 - S
9 - Q	10 - C	11 - U	12 - H
13 - D	14 - W	15 - I	16 - R
17 - F	18 - X	19 - J	20 - B
21 - P	22 - N	23 - T	24 - M
25 - Z	26 - K		

Earth & Space Science - Activity 15C6 - Lives of the Stars

NAME: _____ DATE: _____ PERIOD: _____



ACROSS

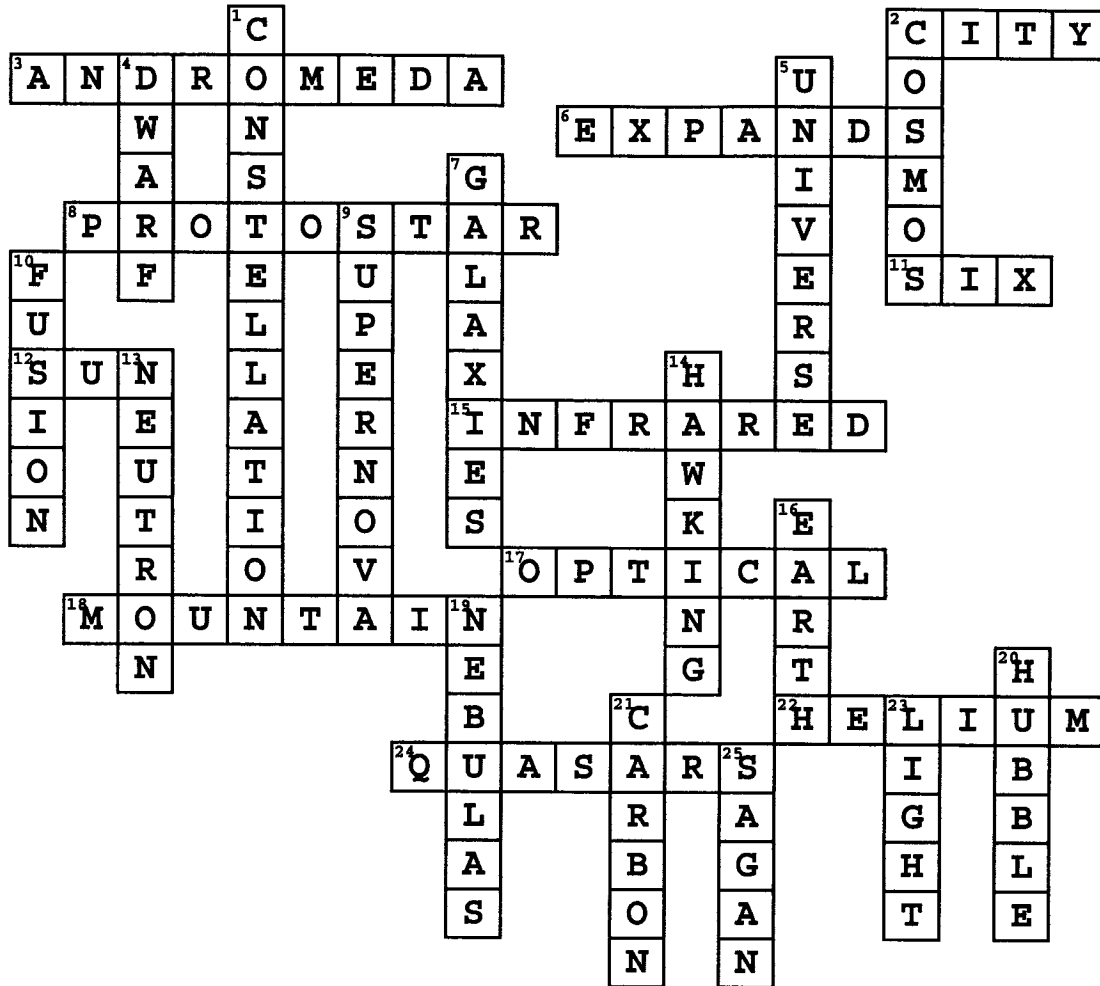
2. the average neutron star shrinks to the size of a _____
3. large galaxy in the vicinity of the Milky Way galaxy
6. when a star begins to use helium as fuel, its size _____
8. it is a hot ball of matter in the process of becoming a star
11. high-mass stars have approximately _____ times or greater the mass of the sun
12. it is considered a low-mass star
15. astronomers use these telescopes to study protostars
17. these telescopes cannot be used to view a black hole
18. one teaspoon of matter of neutron star has on Earth the weight of a _____
22. the burning of hydrogen produces this chemical element
24. gigantic celestial bodies located billions of light years away from Earth

DOWN

1. it is a group of stars
2. the "Lives of the Stars" is one interesting episode in this video series
4. red giant stars evolve into white _____ stars
5. a synonym of cosmos
7. some astronomers believe that black holes may be found in the center of _____
9. it is produced when a supergiant star explodes
10. nuclear process taking place in all the stars
13. this star may be produced as a result of a supernova explosion
14. Stephen _____ discovered that black holes eject streams of electrons
16. many white dwarf stars have approximately the size of the _____
19. they are the places where new stars are born
20. it is probably the most valuable telescope
21. helium produces this chemical element in red giant stars
23. it cannot escape from black holes
25. Carl _____ is a famous American astronomer and a source of inspiration to science teachers

Earth and Space Science - Answer Key

Activity 15C6 - Lives of the Stars



ACROSS

2. the average neutron star shrinks to the size of a _____
3. large galaxy in the vicinity of the Milky Way galaxy
6. when a star begins to use helium as fuel, its size _____
8. it is a hot ball of matter in the process of becoming a star
11. high-mass stars have approximately _____ times or greater the mass of the sun
12. it is considered a low-mass star
15. astronomers use these telescopes to study protostars
17. these telescopes cannot be used to view a black hole
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