Ceres Software Corporation

© Physics Worksheets

www.ceressoft.org

ceressoftware@hotmail.com

CHAPTER 05 – DYNAMICS

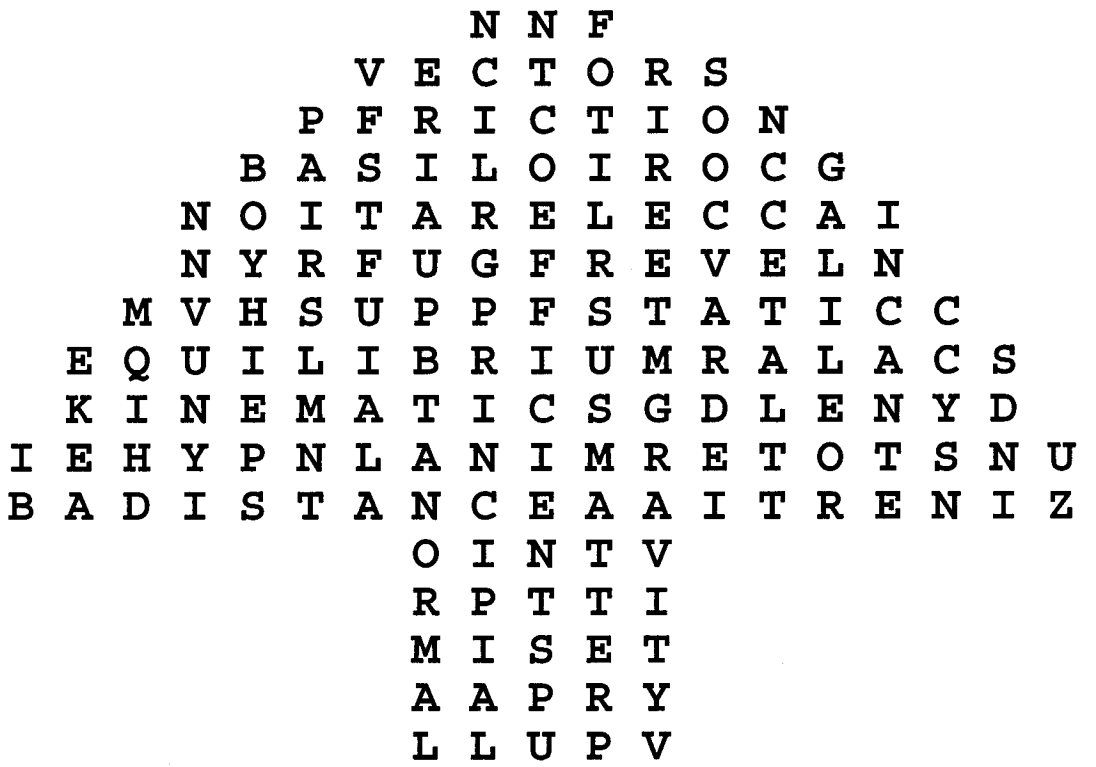
ACCELERATED: this is not an inertial frame of reference
ACCELERATION: on a mass, an unbalanced force always causes that
APPARENT: in an accelerated frame of reference, true and _____ weights differ
ATM: abbreviation of atmospheres of pressure
ATMOSPHERE: atmospheric pressure at sea level is one _____
COEFFICIENT: _____ of friction depends on the two materials that make contact
CONSTANT: the speed is that when the net force is zero
CORIOLIS: small forces arising from the rotation of the earth
DECELERATE: the force of friction always causes bodies to do that
DIFFERENT: action-reaction forces always act on _____ objects
DISTANCE: using a lever results in a trade between force and that
DIVIDED: mass is equal to the force _____ by the acceleration
DYNAMIC: in this type of equilibrium a body moves with a constant velocity
DYNAMICS: it is the study of forces
DYNE: unit of force in the CGS system
EARTH: that body is pulling you with a force that is equal to your own weight
ELECTROMAGNETIC: this force in nature gives materials their strength
EQUILIBRIUM: it occurs when Summation of Forces = 0 and the Summation of Torques = 0
FIFTY: from rest, a force of 20 N on a mass of 5 Kg will travel that distance in meters in 5 s
FIRST: this Newton's law is often called the Law of Inertia
FORCE: simple machines multiply that
FORCES: they cause changes in motion
FOUR: this acceleration in m/s^2 is caused by a 20 N force on a 5 Kg mass
FOURTEEN: this force in newtons is needed to accelerate a 2 Kg mass at 7 m/s^2
FRICTION: it appears when two surfaces make contact

FULCRUM: fixed point where a bar is free to move about
GALILEO: he demonstrated that all objects are uniformly accelerated by gravity
GRAVITATIONAL: this force in nature keeps the solar system together
GRAVITY: it is equal to Weight ÷ Mass
GREATER: the maximum value of μs is _____ than μk
HEAT: it appears whenever there is friction
INERTIA: tendency of a body to keep its state of motion
INERTIAL: Newton's laws of motion hold true in any frame of reference of that type
KINEMATICS: it is the study of motion
KINETIC: this friction is smaller than the maximum force of static friction
LEVER: one of six simple machines
MASS: it is not changed by different gravitational field strengths
MATTER: mass is the amount of that a body has
MU: the coefficient of friction is represented by the Greek letter μ
NET: this force is equivalent to all the forces acting on a body
NEWTON: unit of force in the MKS system
NORMAL: this force always act perpendicular to the surfaces in contact
OPPOSITE: in relation to the direction of motion, the force of friction is always that
PAIRS: forces are always present that way
PASCAL: the newton/m^2 is also known as that
PHYSICS: Newton's work on dynamics became the foundation of _____
PRESSURE: it is defined as Force per unit of Area
PRINCIPIA: title of the physics book written by Newton
PSI: a pound per squared inch
PULL: a type of force
PULLEY: one of six simple machines
PUSH: a type of force
REACTION: rockets are propelled by this force
SCALAR: mass is a _____ quantity
SECOND: this Newton's law says that force = mass x acceleration
SEVEN: a mass of 7 Kg on Earth will have that mass in Kg on the moon

SIX: number of simple machines
SIXTY: a force of 20 N on a mass of 5 Kg will cause a gain of that velocity in 5 s
SLIDING: _____ friction is another term for kinetic friction
STATIC: force of friction that opposes the start of motion
STRONG: this force keeps the nucleus of the atom together
TEN: a N/m^2 is equal to this number of $dyne/cm^2$
TENSION: force present in a string or rope
TERMINAL: this velocity is reached when skydivers fall at 250 Km/h approx.
THIRD: this Newton's law deals with action-reaction forces
THIRTY: this force in newtons will stop in 5 s a 5 Kg mass that is moving at 30 m/s
TORQUE: this force causes rotation
TWELVE: this force in newtons on a pulley with 4 supporting strings can lift a 48 N weight
TWENTY: a force of 10 N causes this change in velocity in m/s on a 2 Kg mass in 4 s
TWO: a force of 10 N causes this acceleration in m/s^2 on a 5 Kg mass
VARIABLE: the force of static friction is that
VECTORS: force and acceleration are _____
WEAK: this force is responsible for radioactivity
WEIGHT: name of the force experienced by a mass in a gravitational field
ZERO: this is the net force when there is equilibrium

Physics Activity # 5-H *** Topic: Dynamics

Name:_____ Date:_____ Period:____ Score:_____



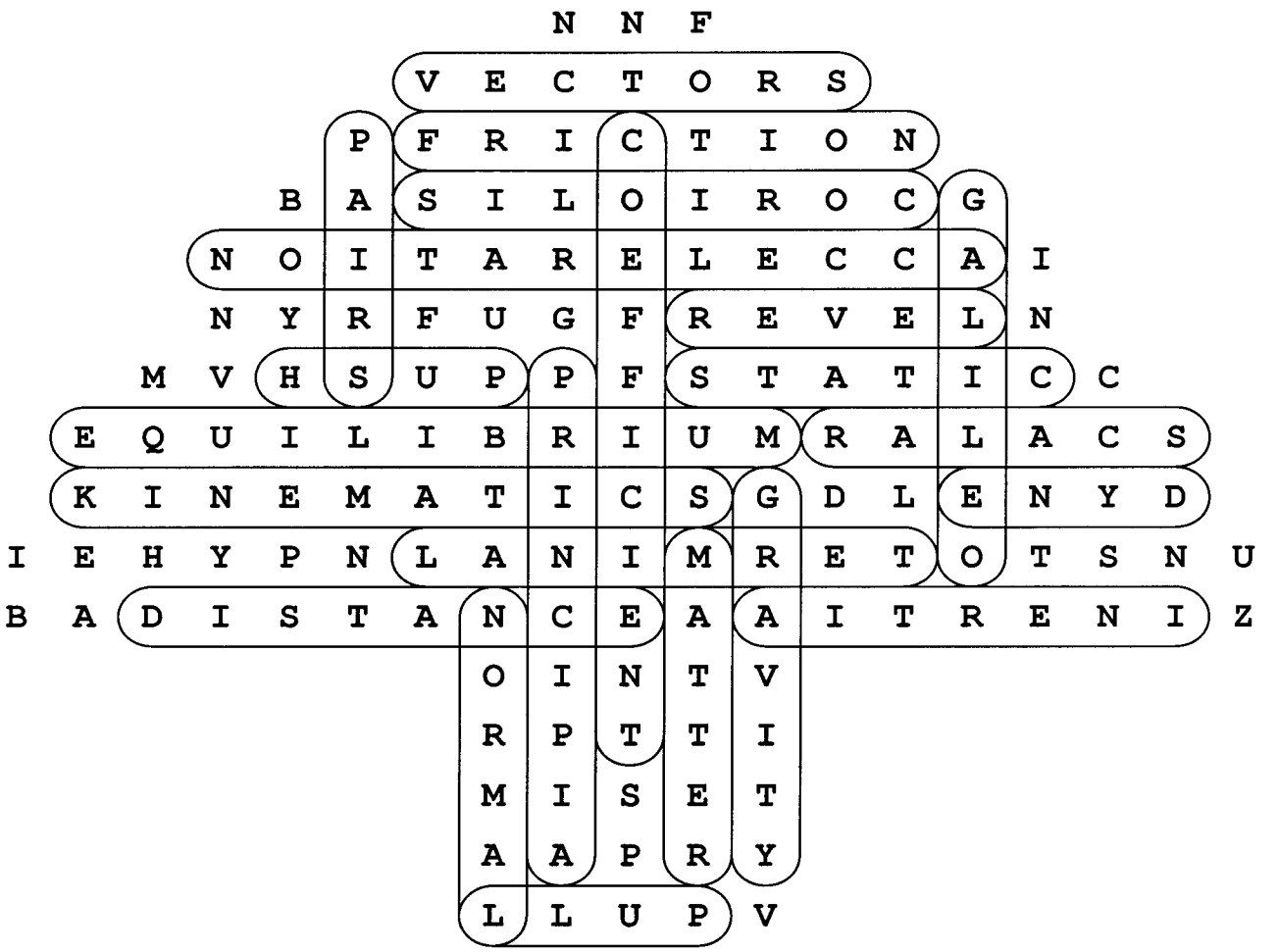
ACCELERATION
COEFFICIENT
CORIOLIS
DISTANCE
DYNE
EQUILIBRIUM
FRICTION
GALILEO
GRAVITY
INERTIA
KINEMATICS
LEVER
MATTER
NORMAL
PAIRS
PRINCIPIA
PULL
PUSH
SCALAR
STATIC
TERMINAL
VECTORS

INSTRUCTIONS:

1. Find all the shown words in the Word Search Puzzle.
2. Use each word to form a sentence that is relevant to the topic studied. Your sentences must involve useful concepts or facts, and your grade will depend on the quality of the sentences formed.

Physics Activity # 5-H *** Topic: Dynamics

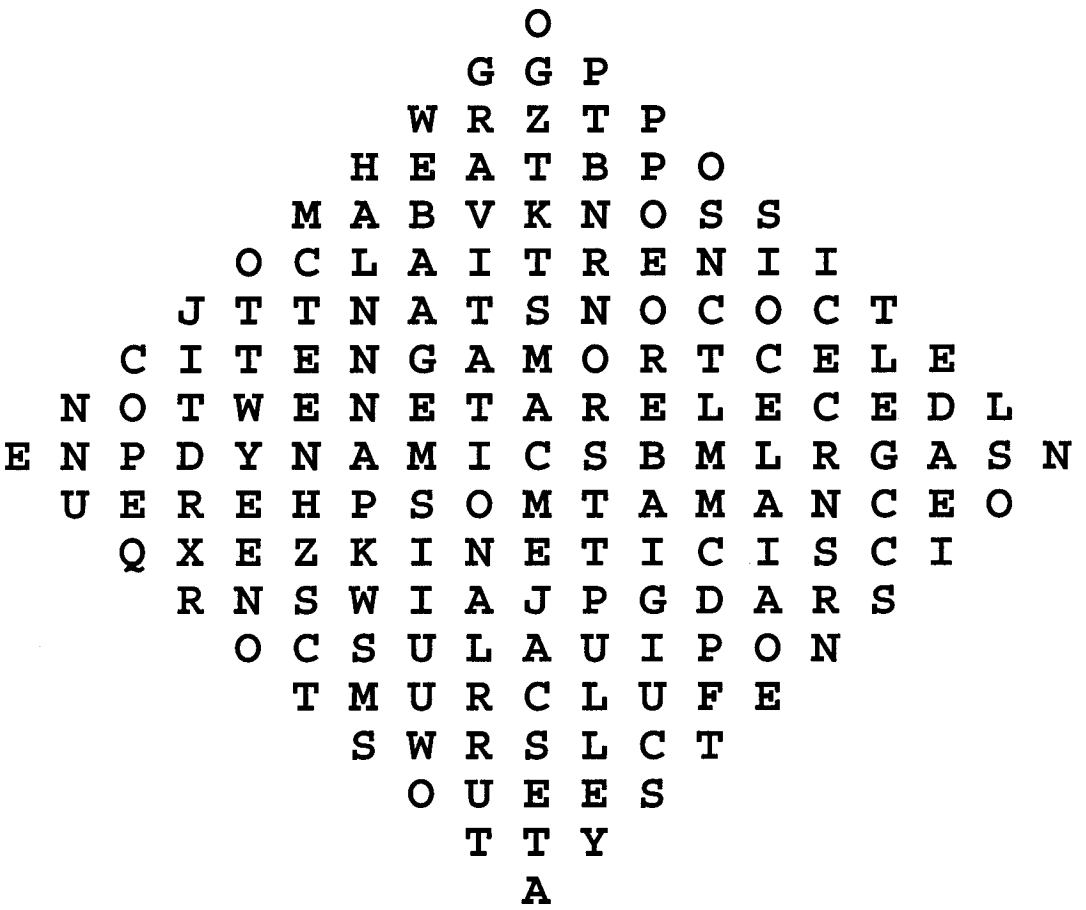
Solution



ACCELERATION
COEFFICIENT
CORIOLIS
DISTANCE
DYNE
EQUILIBRIUM
FRICTION
GALILEO
GRAVITY
INERTIA
KINEMATICS
LEVER
MATTER
NORMAL
PAIRS
PRINCIPIA
PULL
PUSH
SCALAR
STATIC
TERMINAL
VECTORS

Physics Activity # 5-I *** Topic: Dynamics

Name:_____ Date:_____ Period:____ Score:_____



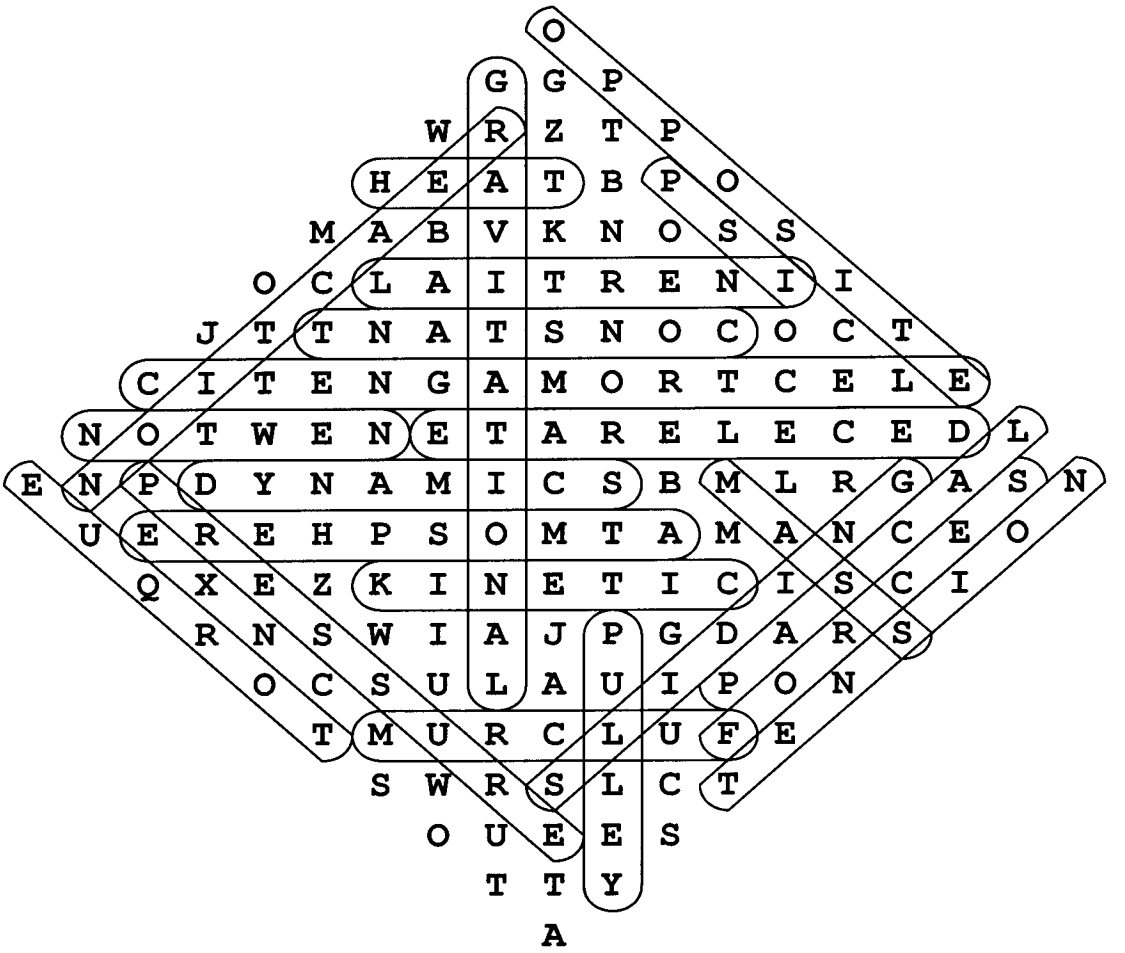
ATMOSPHERE
CONSTANT
DECELERATE
DYNAMICS
ELECTROMAGNETIC
FORCES
FULCRUM
GRAVITATIONAL
HEAT
INERTIAL
KINETIC
MASS
NEWTON
OPPOSITE
PASCAL
PRESSURE
PSI
PULLEY
REACTION
SLIDING
TENSION
TORQUE

INSTRUCTIONS:

1. Find all the shown words in the Word Search Puzzle.
2. Use each word to form a sentence that is relevant to the topic studied. Your sentences must involve useful concepts or facts, and your grade will depend on the quality of the sentences formed.

Physics Activity # 5-I *** Topic: Dynamics

Solution



ATMOSPHERE
CONSTANT
DECELERATE
DYNAMICS
ELECTROMAGNETIC
FORCES
FULCRUM
GRAVITATIONAL
HEAT
INERTIAL
KINETIC
MASS
NEWTON
OPPOSITE
PASCAL
PRESSURE
PSI
PULLEY
REACTION
SLIDING
TENSION
TORQUE

Physics Activity # 5-J *** Topic: Dynamics

Name:_____ Date:_____ Period:____ Score:_____

To answer each of the following 26 questions, please 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. _____ Fixed point where a bar is free to move about
2. _____ This force always act perpendicular to the surfaces in contact
3. _____ This force in newtons is needed to accelerate a 2 Kg mass at 7 m/s^2
4. _____ They cause changes in motion
5. _____ On a mass, an unbalanced force always causes that
6. _____ It is the study of forces
7. _____ This force in newtons will stop in 5 s a 5 Kg mass that is moving at 30 m/s
8. _____ Small forces arising from the rotation of the earth
9. _____ Name of the force experienced by a mass in a gravitational field
10. _____ Mass is that type of quantity
11. _____ This force in newtons on a pulley with 4 supporting strings can lift a 48 N weight
12. _____ Title of the physics book written by Newton
13. _____ A type of force
14. _____ This force is equivalent to all the forces acting on a body
15. _____ A N/m^2 is equal to this number of $dyne/cm^2$
16. _____ Tendency of a body to keep its state of motion
17. _____ A force of 10 N causes this acceleration in m/s^2 on a 5 Kg mass
18. _____ Force of friction that opposes the start of motion
19. _____ This Newton's law is often called the Law of Inertia
20. _____ This velocity is reached when skydivers fall approximately at 250 Km/h
21. _____ That body is pulling you with a force that is equal to your own weight
22. _____ A force of 20 N on a mass of 5 Kg will cause a gain of that velocity in 5 s
23. _____ A mass of 7 Kg on Earth will have that mass in Kg on the moon
24. _____ It occurs when the Summation of Forces = 0 and the Summation of Torques = 0
25. _____ The maximum value of μ_s is that in reference to the value of μ_k
26. _____ Force and acceleration are that type of quantity

L I S T O F W O R D S

A- ACCELERATION
B- CORIOLIS
C- DYNAMICS
D- EARTH
E- EQUILIBRIUM
F- FIRST
G- FORCES
H- FOURTEEN
I- FULCRUM
J- GREATER
K- INERTIA
L- NET
M- NORMAL
N- PRINCIPIA
O- PUSH
P- SCALAR
Q- SEVEN
R- SIXTY
S- STATIC
T- TEN
U- TERMINAL
V- THIRTY
W- TWELVE
X- TWO
Y- VECTOR
Z- WEIGHT

Physics Activity # 5-J

Topic: Dynamics

A N S W E R K E Y

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

Physics Activity # 5-K *** Topic: Dynamics

Name:_____ Date:_____ Period:____ Score:_____

To answer each of the following 26 questions, please 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. _____ That friction is another name for kinetic friction
2. _____ A force of 10 N causes this change in velocity in m/s on a 2 Kg mass in 4 s
3. _____ Unit of force in the CGS system
4. _____ One of six simple machines
5. _____ It appears when two surfaces make contact
6. _____ This is the net force when there is equilibrium
7. _____ This friction is always smaller than the maximum force of static friction
8. _____ This acceleration in m/s^2 is caused by a 20 N force on a 5 Kg mass
9. _____ It is defined as Force per unit of Area
10. _____ In this type of equilibrium a body moves with a constant velocity
11. _____ Force present in a string or rope
12. _____ It is equal to Weight ÷ Mass
13. _____ Using a lever results in a trade between force and that
14. _____ This Newton's law deals with action-reaction forces
15. _____ It is not changed by different gravitational field strengths
16. _____ This force causes rotation
17. _____ In relation to the direction of motion, the force of friction is always that
18. _____ Unit of force in the MKS system
19. _____ It appears whenever there is friction
20. _____ Newton's laws of motion hold true in any frame of reference of that type
21. _____ The force of friction always causes bodies to do that
22. _____ The speed is that when the net force is zero
23. _____ This Newton's law says that force = mass x acceleration
24. _____ From rest, a force of 20 N on a mass of 5 Kg will travel that distance in meters in 5 s
25. _____ The newton/m^2 is also known as that
26. _____ That frame of reference is not an inertial frame of reference

L I S T O F W O R D S

A- ACCELERATED
B- CONSTANT
C- DECELERATE
D- DISTANCE
E- DYNAMIC
F- DYNE
G- FIFTY
H- FOUR
I- FRICTION
J- GRAVITY
K- HEAT
L- INERTIAL
M- KINETIC
N- MASS
O- NEWTON
P- OPPOSITE
Q- PASCAL
R- PRESSURE
S- PULLEY
T- SECOND
U- SLIDING
V- TENSION
W- THIRD
X- TORQUE
Y- TWENTY
Z- ZERO

Physics Activity # 5-K

Topic: Dynamics

A N S W E R K E Y

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

Physics Activity # 5-L *** Topic: Dynamics

Name:_____ Date:_____ Period:____ Score:_____

To answer each of the following 26 questions, please 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. _____ A force of 10 N causes this acceleration in m/s^2 on a 5 Kg mass
2. _____ Unit of force in the CGS system
3. _____ A force of 10 N causes this change in velocity in m/s on a 2 Kg mass in 4 s
4. _____ This force causes rotation
5. _____ Newton's laws of motion hold true in any frame of reference of that type
6. _____ Force present in a string or rope
7. _____ From rest, a force of 20 N on a mass of 5 Kg will travel that distance in meters in 5 s
8. _____ A force of 20 N on a mass of 5 Kg will cause a gain of that velocity in 5 s
9. _____ Title of the physics book written by Newton
10. _____ Name of the force experienced by a mass in a gravitational field
11. _____ This Newton's law is often called the Law of Inertia
12. _____ This Newton's law deals with action-reaction forces
13. _____ This force in newtons will stop in 5 s a 5 Kg mass that is moving at 30 m/s
14. _____ They cause changes in motion
15. _____ A N/m^2 is equal to this number of $dyne/cm^2$
16. _____ This force always act perpendicular to the surfaces in contact
17. _____ Tendency of a body to keep its state of motion
18. _____ This acceleration in m/s^2 is caused by a 20 N force on a 5 Kg mass
19. _____ Fixed point where a bar is free to move about
20. _____ It occurs when the Summation of Forces = 0 and the Summation of Torques = 0
21. _____ A type of force
22. _____ This force in newtons is needed to accelerate a 2 Kg mass at 7 m/s^2
23. _____ In this type of equilibrium a body moves with a constant velocity
24. _____ It is equal to Weight ÷ Mass
25. _____ Rockets are propelled by this force
26. _____ Force of friction that opposes the start of motion

L I S T O F W O R D S

A- DYNAMIC	B- DYNE	C- EQUILIBRIUM
D- FIFTY	E- FIRST	F- FORCES
G- FOUR	H- FOURTEEN	I- FULCRUM
J- GRAVITY	K- INERTIA	L- INERTIAL
M- NORMAL	N- PRINCIPIA	O- PUSH
P- REACTION	Q- SIXTY	R- STATIC
S- TEN	T- TENSION	U- THIRD
V- THIRTY	W- TORQUE	X- TWENTY
Y- TWO	Z- WEIGHT	

Physics Activity # 5-L

Topic: Dynamics

A N S W E R K E Y

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

CHAPTER 26 - THE NUCLEUS

ABSORBED: "dose" is the energy deposited per unit mass by _____ radiation
ACTINIUM: uranium becomes that element when the nucleus captures 3 electrons
ACTIVITY: the number of radioactive disintegrations per unit time is called the _____ of a substance
ALPHA: these particles have 2 protons and 2 neutrons
ANDERSON: Carl _____ discovered the positron in 1932
ANGULAR: _____ momentum is conserved during nuclear reactions
ANTIMATTER: matter collides with that during gamma decay
ANTINEUTRINO: the decay of a neutron produces a proton, an electron, and a(n) _____
ANTIPARTICLE: the positron is the name of the _____ of the electron
ATOMIC: isotopes have the same _____ number but different _____ mass
BACTERIA: radioactive isotopes are also utilized to kill that
BECQUEREL: it is the SI unit of (radioactive) activity
BETA: these particles are just high speed electrons
BILLION: one curie is equal to 37 _____ disintegrations per second
BINDING: energy required to remove an electron from the atom
BRAIN: the isotope carbon-14 is used in medicine to treat tumors in that organ
BUBBLE: the _____ chamber is used to detect subatomic particles. It uses a liquid
CANCER: the radioisotope cobalt-60 is utilized to treat this disease
CARBON: this element has a mass of 12.000000 unified atomic mass units
CHADWICK: he discovered the neutron in the year 1932
CHARGE: it is conserved during nuclear reactions
CIRCULATORY: doctors use the isotope sodium-24 to detect problems in this system
CLOUD: the _____ chamber is used to detect subatomic particles. It uses a gas

CURIE: sometimes this unit of (radioactive) activity is used
DECAY: nuclear reaction taking place spontaneously
DETECTED: the neutrinos were first _____ in the year 1953
DEUTERIUM: an isotope of hydrogen
DEUTERON: a nucleus containing one proton and one neutron
DIRAC: he proposed the existence of antimatter in the universe
DISINTEGRATION: the unit "becquerel" indicates one (radioactive) _____ per second
DOSE: "gray" is the SI unit of _____
EIGHT: carbon containing this number of neutrons in the nucleus is utilized for carbon dating
EIGHTY: number of original particles if after 4 half-lives there are 5 particles left
EINSTEIN: he deduced the equation $E = mc^2$
ELECTRON: this particle is often called the beta minus
ELECTRONIC: X-rays are produced by this type of excitations
ELECTRONVOLT: unit of energy
ENERGY: mass become that during nuclear reactions
EXCITATIONS: gamma rays are produced by nuclear _____
FEMTOMETER: convenient unit to measure nuclear distances
FERMI: Enrico ____ was the first one to split a nucleus by using neutrons as bullets
FIFTEEN: it is the half-life in minutes if the number of particles change from 80 to 5 in 1 hour
FISSION: nuclear reactions occurring at the Turkey Point nuclear plant
FIVE: the atomic number decreases by this number after emitting 5 positrons
FREE: when it is _____, the neutron has a half-life of about 14 minutes
FUSION: nuclear reactions taking place in the sun
GAMMA: these particles have no electrical charge
GEIGER: the _____ counter can detect charged particles
GOLD: if the nucleus of mercury could capture one electron it would become that
GRAY: one ____ = 1 Joule/Kg
HELIUM: an alpha particle is the nucleus of that element
HYDROGEN: tritium is a radioactive form of _____
ISOTOPES: they have the same number of protons but different number of neutrons

LEAD: an uranium nucleus stops decaying when it becomes that element
LIGHT: gamma particles travel at the same speed as _____
LINEAR: _____ momentum is conserved during nuclear reactions
MASS: it is not conserved during nuclear reactions
MATTER: the equation $E = mc^2$ gives the relation between _____ and energy
MERCURY: many alchemists have dreamed turning this element into gold
MIDAS: king of Phrygia with the power of turning things into gold
MILLION: gamma particles can have energies of more than one _____ eV
MOMENTUM: two particles are produced during gamma decay for that to be conserved
NEGATIVE: beta particles have this type of charge
NEGATRON: another name for a beta particle
NEON: J. J. Thomson discovered in the year 1900 an isotope of that gas
NEUTRINO: the name of this particle means "little neutral one"
NEUTRON: a proton turns into that during electron capture
NINETY: 1 gram of matter can generate this number of terajoules of energy
NUCLEAR: mass + energy is conserved in these reactions
NUCLEONS: protons and neutrons are called that
NUCLIDE: name given to any combination of protons and neutrons
NUMBER: the atomic _____ increases by one during beta decay
PAULI: he suggested in 1934 that during beta decay another unknown particle was produced
PENETRATING: gamma particles have the greatest _____ power
PLUS: the positron is also called the beta _____ particle
PLUTONIUM: uranium becomes that element after two consecutive beta decays
POSITIVE: alpha particles have this type of charge
POSITRON: the nucleus of mercury has to emit this particle to turn into gold
PROTON: a neutron changes into that during beta decay
RAD: another unit utilized to measure dose

RADIOACTIVITY: Henry Becquerel discovered _____ in the year 1896
RADIOISOTOPE: a radioactive isotope produced artificially
RADIUM: one gram of that element goes through 37 billion disintegrations per second
ROENTGEN: unit that denotes the amount of radiation
RUTHERFORD: he discovered the nucleus of the atom in the year 1911
SCINTILLATION: the _____ counter can detect charged particles and high frequency photons
SIX: after this number of half-lives 1,600 particles decrease to 25
STARS: they produce millions of tons of helium every second
SUGGESTED: Enrico Fermi called "neutrino" the unknown particle _____ by Pauli during beta decay
SUN: it emits particles that are trapped in the Van Allen belts
SYNTHETIC: elements beyond atomic number 92 are called that
TEN: the atomic number decreases by this number after 5 consecutive alpha decays
THORIUM: uranium becomes that element after an alpha decay
THYROID: the isotope iodine-131 is utilized in medicine to study this important human gland
TRACERS: they are radioactive elements whose performance can be followed in the human body
TRANSMUTATION: nuclear reaction induced artificially
TRANSURANIUM: elements beyond atomic number 92 are known as _____ elements
TRITIUM: a nucleus containing one proton and two neutrons
TWENTY: the atomic mass decreases by this number after 5 consecutive alpha decays
TWO: number of gamma particles produced during gamma decay
URANIUM: after emitting 4 positrons this element becomes radium
WORK: _____ function is another name for binding energy

Physics Activity # 26-H *** Topic: The Nucleus

Name:_____ Date:_____ Period:____ Score:_____

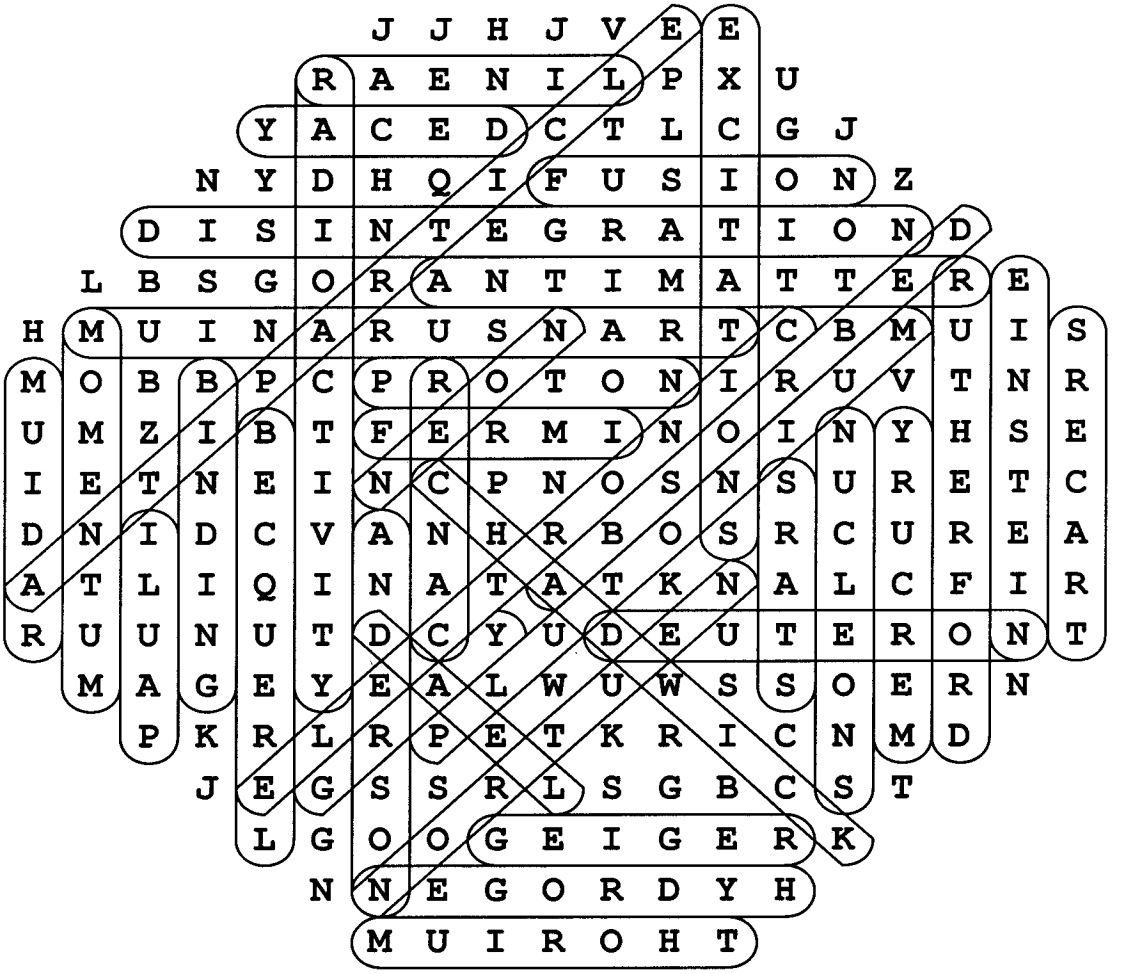
ABSORBED
ANDERSON
ANTIMATTER
ANTIPARTICLE
BECQUEREL
BINDING
CANCER
CHADWICK
DECAY
DEUTERON
DISINTEGRATION
EINSTEIN
ELECTRONIC
EXCITATIONS
FERMI
FUSION
GEIGER
GRAY
HYDROGEN
LEAD
LINEAR
MERCURY
MOMENTUM
NEON
NEUTRON
NUCLEONS
PAULI
PLUTONIUM
PROTON
RADIOACTIVITY
RADIUM
RUTHERFORD
STARS
THORIUM
TRACERS
TRANSURANIUM

INSTRUCTIONS:

1. Find all the shown words in the Word Search Puzzle.
2. Use each word to form a sentence that is relevant to the topic studied. Your sentences must involve useful concepts or facts, and your grade will depend on the quality of the sentences formed.

Physics Activity # 26-H *** Topic: The Nucleus

Solution



ABSORBED
ANDERSON
ANTIMATTER
ANTIPARTICLE
BECQUEREL
BINDING
CANCER
CHADWICK
DECAY
DEUTERON
DISINTEGRATION
EINSTEIN
ELECTRONIC
EXCITATIONS
FERMI
FUSION
GEIGER
GRAY
HYDROGEN
LEAD
LINEAR
MERCURY
MOMENTUM
NEON
NEUTRON
NUCLEONS
PAULI
PLUTONIUM
PROTON
RADIOACTIVITY
RADIUM
RUTHERFORD
STARS
THORIUM
TRACERS
TRANSURANIUM

Physics Activity # 26-I *** Topic: The Nucleus

Name:_____ Date:_____ Period:____ Score:_____

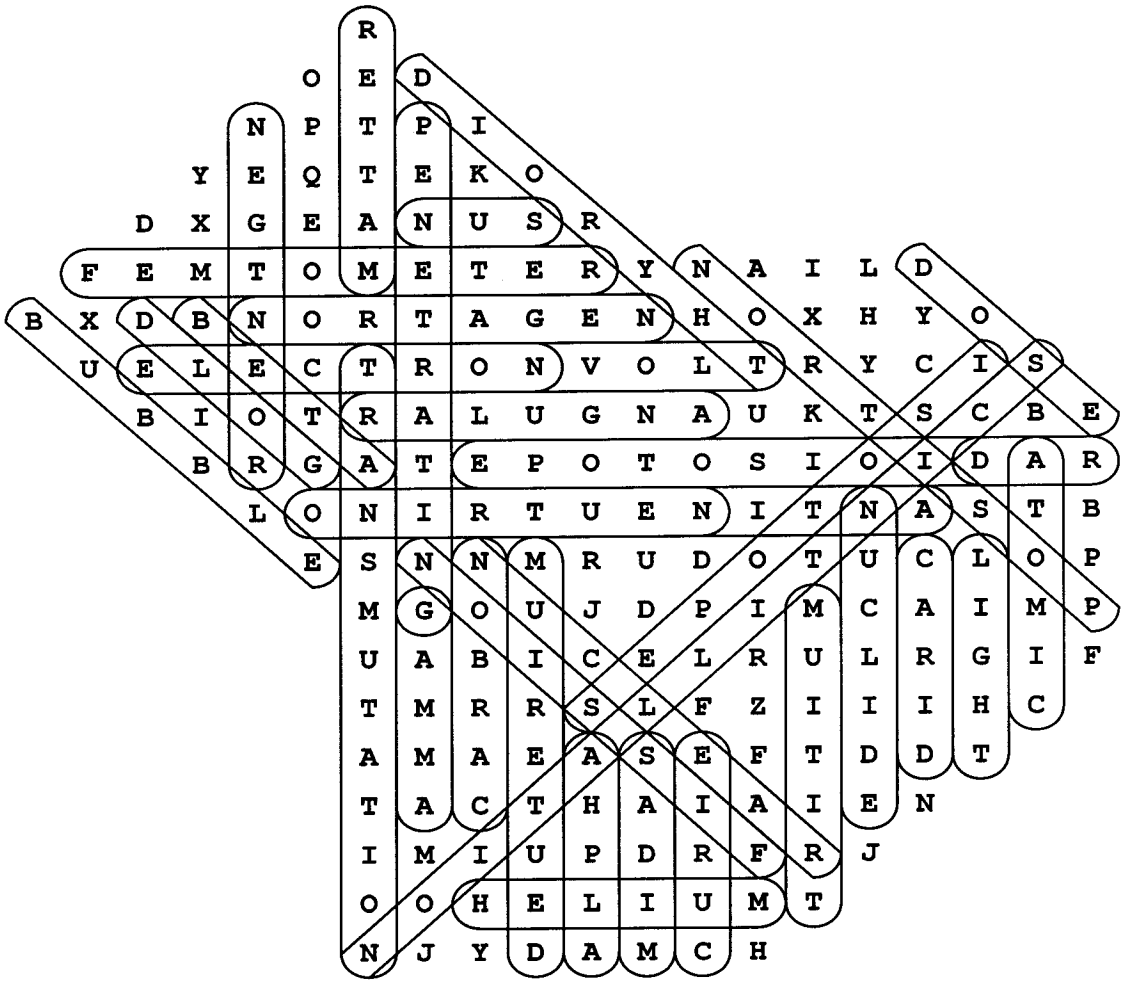
ALPHA
ANGULAR
ANTINEUTRINO
ATOMIC
BETA
BUBBLE
CARBON
CURIE
DEUTERIUM
DIRAC
DOSE
ELECTRON
ELECTRONVOLT
FEMTOMETER
FISSION
GAMMA
GOLD
HELIUM
ISOTOPES
LIGHT
MATTER
MIDAS
NEGATRON
NEUTRINO
NUCLEAR
NUCLIDE
PENETRATING
POSITRON
RAD
RADIOISOTOPE
ROENTGEN
SCINTILLATION
SUN
THYROID
TRANSMUTATION
TRITIUM

INSTRUCTIONS:

1. Find all the shown words in the Word Search Puzzle.
2. Use each word to form a sentence that is relevant to the topic studied. Your sentences must involve useful concepts or facts, and your grade will depend on the quality of the sentences formed.

Physics Activity # 26-I *** Topic: The Nucleus

Solution



ALPHA
ANGULAR
ANTINEUTRINO
ATOMIC
BETA
BUBBLE
CARBON
CURIE
DEUTERIUM
DIRAC
DOSE
ELECTRON
ELECTRONVOLT
FEMTOMETER
FISSION
GAMMA
GOLD
HELIUM
ISOTOPES
LIGHT
MATTER
MIDAS
NEGATRON
NEUTRINO
NUCLEAR
NUCLIDE
PENETRATING
POSITRON
RAD
RADIOISOTOPE
ROENTGEN
SCINTILLATION
SUN
THYROID
TRANSMUTATION
TRITIUM

Physics Activity # 26-J *** Topic: The Nucleus

Name:_____ Date:_____ Period:____ Score:_____

To answer each of the following 26 questions, please 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. _____ One gram of that element goes through 37 billion disintegrations per second
2. _____ Elements beyond atomic number 92 are called that
3. _____ A neutron changes into that during beta decay
4. _____ Name given to any combination of protons and neutrons
5. _____ The radioisotope cobalt-60 is utilized to treat this disease
6. _____ An uranium nucleus stops decaying when it becomes that element
7. _____ They are radioactive elements whose performance can be followed in the human body
8. _____ King of Phrygia with the power of turning things into gold
9. _____ Elements beyond atomic number 92 are known as that
10. _____ Uranium becomes that element when the nucleus captures 3 electrons
11. _____ Mass become that during nuclear reactions
12. _____ Doctors use the isotope sodium-24 to detect problems in this system
13. _____ Nuclear reactions taking place in the sun
14. _____ After this number of half-lives 1,600 particles decrease to 25
15. _____ It is the half-life in minutes if the number of particles change from 80 to 5 in 1 hour
16. _____ Mass + energy is conserved in these reactions
17. _____ The atomic mass decreases by this number after 5 consecutive alpha decays
18. _____ The atomic number decreases by this number after emitting 5 positrons
19. _____ Tritium is a radioactive form of that
20. _____ A proton turns into that during electron capture
21. _____ The isotope carbon-14 is used in medicine to treat tumors in that organ
22. _____ That momentum is conserved during nuclear reactions
23. _____ Uranium becomes that element after an alpha decay
24. _____ After emitting 4 positrons this element becomes radium
25. _____ It is the SI unit of (radioactive) activity
26. _____ He discovered the nucleus of the atom in the year 1911

L I S T O F W O R D S

A- ACTINIUM
B- ANGULAR
C- BECQUEREL
D- BRAIN
E- CANCER
F- CIRCULATORY
G- ENERGY
H- FIFTEEN
I- FIVE
J- FUSION
K- HYDROGEN
L- LEAD
M- MIDAS
N- NEUTRON
O- NUCLEAR
P- NUCLIDE
Q- PROTON
R- RADIUM
S- RUTHERFORD
T- SIX
U- SYNTHETIC
V- THORIUM
W- TRACERS
X- TRANSURANIUM
Y- TWENTY
Z- URANIUM

Physics Activity # 26-J

Topic: The Nucleus

A N S W E R K E Y

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

Physics Activity # 26-K *** Topic: The Nucleus

Name:_____ Date:_____ Period:____ Score:_____

To answer each of the following 26 questions, please 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. _____ Uranium becomes that element after two consecutive beta decays
2. _____ They produce millions of tons of helium every second
3. _____ He discovered the positron in 1932
4. _____ 1 gram of matter can generate this number of terajoules of energy
5. _____ It is conserved during nuclear reactions
6. _____ The atomic number decreases by this number after 5 consecutive alpha decays
7. _____ Protons and neutrons are called that
8. _____ An isotope of hydrogen
9. _____ Nuclear reaction induced artificially
10. _____ Number of gamma particles produced during gamma decay
11. _____ He proposed the existence of antimatter in the universe
12. _____ Nuclear reaction taking place spontaneously
13. _____ The isotope iodine-131 is utilized in medicine to study this important human gland
14. _____ This element has a mass of 12.000000 unified atomic mass units
15. _____ The number of radioactive disintegrations per unit time is called that characteristic of a substance
16. _____ The nucleus of mercury has to emit this particle to turn into gold
17. _____ A nucleus containing one proton and two neutrons
18. _____ Many alchemists have dreamed turning this element into gold
19. _____ Number of original particles if after 4 half-lives there are 5 particles left
20. _____ They have the same number of protons but different number of neutrons
21. _____ He was the first one to split a nucleus by using neutrons as bullets
22. _____ It is not conserved during nuclear reactions
23. _____ Unit that denotes the amount of radiation
24. _____ Nuclear reactions occurring at the Turkey Point nuclear plant
25. _____ This particle is often called the beta minus
26. _____ A radioactive isotope produced artificially

L I S T O F W O R D S

A- ACTIVITY	B- ANDERSON	C- CARBON
D- CHARGE	E- DECAY	F- DEUTERIUM
G- DIRAC	H- EIGHTY	I- ELECTRON
J- FERMI	K- FISSION	L- ISOTOPES
M- MASS	N- MERCURY	O- NINETY
P- NUCLEONS	Q- PLUTONIUM	R- POSITRON
S- RADIOISOTOPE	T- ROENTGEN	U- STARS
V- TEN	W- THYROID	X- TRANSMUTATION
Y- TRITIUM	Z- TWO	

Physics Activity # 26-K

Topic: The Nucleus

A N S W E R K E Y

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

Physics Activity # 26-L *** Topic: The Nucleus

Name:_____ Date:_____ Period:____ Score:_____

To answer each of the following 26 questions, please 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. _____ Carbon containing this number of neutrons in the nucleus is utilized for carbon dating
2. _____ Nuclear reactions occurring at the Turkey Point nuclear plant
3. _____ A nucleus containing one proton and one neutron
4. _____ Nuclear reaction taking place spontaneously
5. _____ A neutron changes into that during beta decay
6. _____ The atomic mass decreases by this number after 5 consecutive alpha decays
7. _____ An uranium nucleus stops decaying when it becomes that element
8. _____ Nuclear reaction induced artificially
9. _____ After this number of half-lives 1,600 particles decrease to 25
10. _____ Number of original particles if after 4 half-lives there are 5 particles left
11. _____ Elements beyond atomic number 92 are known as that
12. _____ King of Phrygia with the power of turning things into gold
13. _____ It is the half-life in minutes if the number of particles change from 80 to 5 in 1 hour
14. _____ After emitting 4 positrons this element becomes radium
15. _____ They produce millions of tons of helium every second
16. _____ 1 gram of matter can generate this number of terajoules of energy
17. _____ Nuclear reactions taking place in the sun
18. _____ These particles have 2 protons and 2 neutrons
19. _____ The name of this particle means "little neutral one"
20. _____ These particles are high speed electrons
21. _____ Protons and neutrons are called that
22. _____ A proton turns into that during electron capture
23. _____ One gram of that element goes through 37 billion disintegrations per second
24. _____ Two particles are produced during gamma decay for that to be conserved
25. _____ Uranium becomes that element after two consecutive beta decays
26. _____ They are radioactive elements whose performance can be followed in the human body

L I S T O F W O R D S

A- ALPHA
B- BETA
C- DECAY
D- DEUTERON
E- EIGHT
F- EIGHTY
G- FIFTEEN
H- FISSION
I- FUSION
J- LEAD
K- MIDAS
L- MOMENTUM
M- NEUTRINO
N- NEUTRON
O- NINETY
P- NUCLEONS
Q- PLUTONIUM
R- PROTON
S- RADIUM
T- SIX
U- STARS
V- TRACERS
W- TRANSMUTATION
X- TRANSURANIUM
Y- TWENTY
Z- URANIUM

Physics Activity # 26-L

Topic: The Nucleus

A N S W E R K E Y

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