

R & C
2018-2019

NTI DAY #5

(weather-closed school day)

modified:
Dawson &
Thomsbury

6th Grade

PACKET

FIVE

(Science)

General Directions:

Due to weather, Harrison County Schools are closed. In an effort to utilize this day on the school calendar, your child is assigned and should work on this “packet” of school work today. It will count as a grade for this subject. The work attached is specific to the subject listed above. Please contact your child’s teacher of this subject at 234-7123 in the event you/your student have questions on this packet. Staff and teachers reported to HCMS today and are available should you have questions.

While this is DUE no later than the last school day before the 3rd nine-weeks ends, we **strongly encourage** students to turn it in to their teacher as soon as it’s complete (soon after the NTI day) to avoid it being lost, eaten by the family pet, burned to keep warm, etc

Name _____

Date ____ / ____ / ____

CALCULATING THE ACCELERATION

Acceleration describes changes in speed, velocity, or direction.

$$a = \frac{v_f - v_i}{t}$$

where a = acceleration
 v_f = final velocity
 v_i = initial velocity
 t = time

Provide the appropriate values for acceleration below.

	<u>Initial Velocity</u>	<u>Final Velocity</u>	<u>Time</u>	<u>Acceleration</u>
1.	0 km/hr	30 km/hr	3 s	_____
2.	0 m/s	49 m/s	5 s	_____
3.	20 km/hr	60 km/hr	10 s	_____
4.	30 m/s	150 m/s	5 s	_____
5.	25 km/hr	1400 km/hr	2 min	_____

6. If a car takes 5.0 seconds to accelerate from a stationary start up to a final speed of 60 km/hr, what is its acceleration?

7. If a car accelerates from 25 km/hr to 85 km/hr in 30 seconds, what is its acceleration?

8. If a train is accelerating at a rate of 3.0 km/hr/s and its initial velocity is 20 km/hr, what is its velocity after 30 seconds?

9. If a runner takes 9 seconds to achieve a velocity of 11.1 m/s, what is his acceleration and what distance did he cover?



Name: _____

Forces & Motion

Directions: Write the force words that complete each sentence.

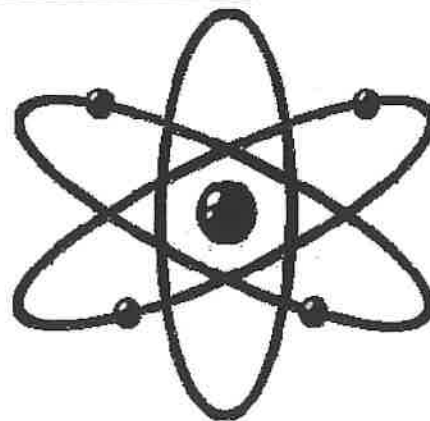
push pull gravity friction force
inertia machine energy balance Newton

1. The greater the _____ the easier the object will move.
2. To do the job in less time and with less energy, use a _____
3. That rock will roll down the hill due to the force of _____
4. To make something _____ both ends need to have the same weight.
5. It takes _____ to get a job done.
6. _____ is the idea that something in motion will remain in motion, and something at rest will remain at rest, unless affected by an outside source.
7. It would be more difficult to _____ a wagon if it didn't have wheels.
8. If you have a few people _____ on the rope, the box will be easier to move.
9. _____'s theories on motion are still believed correct today.
10. We added wheels to our bureau to create less _____ when we move it.

Name _____

Date _____

All Things Matter



Matter is anything that takes up space and has mass. An object is a specific item of matter. The property of taking up space means that its volume can be measured relative to another object. Mass is a property of matter that indicates how much force is required to move an object. We normally look at matter as the molecules and atoms that make up material and chemical substances. In addition, subatomic particles such as protons and electrons are also matter.

Density is a measure of the mass of an object divided by its volume. Other properties include temperature. Matter can exist in different states. The energy of matter determines its state. Objects of matter interact.

Some of the characteristics or properties of matter are that matter takes up space and has mass. There are also several variations of matter, such as dark matter and antimatter.

Particles of matter have size and take up space. At the very minimum, all matter has at least three dimensions: length, width and height. This is obvious when you look at many objects around you. They all take up space.

Matter has mass, but mass is harder to define. One definition is that mass measures how much matter there is in an object. Since mass is a fundamental property, like time and distance. Mass is only defined indirectly.

Quantities of matter will attract each other through a gravitation force related to the amount of mass in the objects. Likewise, the inertia of an object is dependent on its mass.

Typically, we use matter as a catchall term related to objects, while we use mass to describe what happens to the matter.

Matter is what makes up all substances. Molecules, atoms and sub-atomic particles are all matter. The major properties of matter are that it takes up space, has mass and attracts other matter with gravity. There are several different opinions on whether or not photons are matter.

Name _____

Date _____

All Things Matter Multiple Choice Questions

1. Anything that takes up space and has mass is called _____.
 - a) Matter
 - b) Body
 - c) Object
 - d) None of the above

2. What is the property of matter that indicates how much force is required to move an object?
 - a) Volume
 - b) Mass
 - c) Size
 - d) Weight

3. Density is the measure of mass of the object divided by its _____.
 - a) Volume
 - b) Height
 - c) Weight
 - d) Width

4. Quantities of matter attract each other through a _____ force.
 - a) Electrostatic
 - b) Gravitational
 - c) Mechanical
 - d) Neutral

5. Photons are considered matter.
 - a) True
 - b) False
 - c) There are different opinions on this statement

Name _____

Date ____ / ____ / ____

ELEMENTAL SYMBOLS

Provide the chemical symbols for the elements listed below.

- 1 bromine _____
- 2 calcium _____
- 3 carbon _____
- 4 chlorine _____
- 5 copper _____
- 6 fluorine _____
- 7 Gold _____
- 8 helium _____
- 9 hydrogen _____
- 10 iron _____

- 11 lead _____
- 12 magnesium _____
- 13 manganese _____
- 14 neon _____
- 15 nitrogen _____
- 16 phosphorus _____
- 17 potassium _____
- 18 silver _____
- 19 sodium _____
- 20 sulfur _____

Provide the name for the element corresponding to the chemical symbols below.

- 21 Ag _____
- 22 Al _____
- 23 Au _____
- 24 C _____
- 25 Ca _____
- 26 Cu _____
- 27 F _____
- 28 Fe _____
- 29 H _____
- 30 Hg _____

- 31 I _____
- 32 K _____
- 33 Na _____
- 34 Ni _____
- 35 O _____
- 36 P _____
- 37 Pb _____
- 38 S _____
- 39 Sn _____
- 40 Zn _____

Periodic Table of the Elements

1 H Hydrogen 1.008																	2 He Helium 4.003												
3 Li Lithium 6.941	4 Be Beryllium 9.012																	10 Ne Neon 20.180											
11 Na Sodium 22.990	12 Mg Magnesium 24.305																	18 Ar Argon 39.948											
		3 Sc Scandium 44.956	4 Ti Titanium 47.867	5 V Vanadium 50.942	6 Cr Chromium 51.996	7 Mn Manganese 54.938	8 Fe Iron 55.845	9 Co Cobalt 58.933	10 Ni Nickel 58.693	11 Cu Copper 63.546	12 Zn Zinc 65.38	13 Al Aluminum 26.982	14 Si Silicon 28.086	15 P Phosphorus 30.974	16 S Sulfur 32.066	17 Cl Chlorine 35.453	18 Ar Argon 39.948												
19 K Potassium 39.098	20 Ca Calcium 40.078	21 Sc Scandium 44.956	22 Ti Titanium 47.867	23 V Vanadium 50.942	24 Cr Chromium 51.996	25 Mn Manganese 54.938	26 Fe Iron 55.845	27 Co Cobalt 58.933	28 Ni Nickel 58.693	29 Cu Copper 63.546	30 Zn Zinc 65.38	31 Ga Gallium 69.723	32 Ge Germanium 72.631	33 As Arsenic 74.922	34 Se Selenium 78.971	35 Br Bromine 79.904	36 Kr Krypton 84.798												
37 Rb Rubidium 84.468	38 Sr Strontium 87.62	39 Y Yttrium 88.906	40 Zr Zirconium 91.224	41 Nb Niobium 92.906	42 Mo Molybdenum 95.95	43 Tc Technetium 98.907	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.906	46 Pd Palladium 106.42	47 Ag Silver 107.868	48 Cd Cadmium 112.414	49 In Indium 114.818	50 Sn Tin 118.711	51 Sb Antimony 121.760	52 Te Tellurium 127.6	53 I Iodine 126.904	54 Xe Xenon 131.29												
55 Cs Cesium 132.905	56 Ba Barium 137.328	57-71 Lanthanides	72 Hf Hafnium 178.49	73 Ta Tantalum 180.948	74 W Tungsten 183.84	75 Re Rhenium 186.207	76 Os Osmium 190.23	77 Ir Iridium 192.217	78 Pt Platinum 195.085	79 Au Gold 196.967	80 Hg Mercury 200.592	81 Tl Thallium 204.383	82 Pb Lead 207.2	83 Bi Bismuth 208.980	84 Po Polonium [208.982]	85 At Astatine 209.987	86 Rn Radon 222.018												
87 Fr Francium 223.020	88 Ra Radium 226.025	89-103 Actinides	104 Rf Rutherfordium [261]	105 Db Dubnium [262]	106 Sg Seaborgium [266]	107 Bh Bohrium [264]	108 Hs Hassium [269]	109 Mt Meitnerium [268]	110 Ds Darmstadtium [269]	111 Rg Roentgenium [272]	112 Cn Copernicium [277]	113 Uut Ununtrium unknown	114 F1 Flerovium [289]	115 Uup Ununpentium unknown	116 Lv Livermorium [298]	117 Uus Ununseptium unknown	118 Uuo Ununoctium unknown												
57 La Lanthanum 138.905	58 Ce Cerium 140.116	59 Pr Praseodymium 140.908	60 Nd Neodymium 144.243	61 Pm Promethium [144.913]	62 Sm Samarium 150.36	63 Eu Europium 151.964	64 Gd Gadolinium 157.25	65 Tb Terbium 158.925	66 Dy Dysprosium 162.500	67 Ho Holmium 164.930	68 Er Erbium 167.259	69 Tm Thulium 168.934	70 Yb Ytterbium 173.055	71 Lu Lutetium 174.967	89 Ac Actinium 227.028	90 Th Thorium 232.038	91 Pa Protactinium 231.036	92 U Uranium 238.029	93 Np Neptunium 237.048	94 Pu Plutonium 244.064	95 Am Americium 243.061	96 Cm Curium 247.070	97 Bk Berkelium 247.070	98 Cf Californium 251.080	99 Es Einsteinium [254]	100 Fm Fermium 257.095	101 Md Mendelevium 258.1	102 No Nobelium 259.101	103 Lr Lawrencium [262]