

Atoms are the smallest pieces of an element

Density is the amount of atoms in an object.

Diffusion is the movement of atoms from high concentration to low concentration.

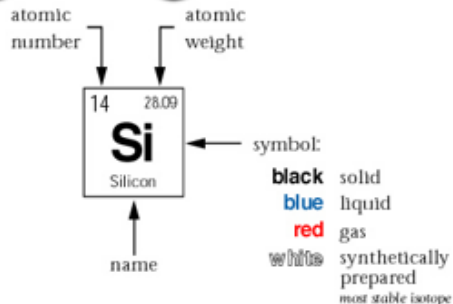
Matter cannot be created or destroyed, only changed.

# Atoms

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# Periodic Table of the Elements

1 1.01 <b>H</b> Hydrogen																	2 4.003 <b>He</b> Helium	
3 6.94 <b>Li</b> Lithium	4 9.01 <b>Be</b> Beryllium																	10 20.18 <b>Ne</b> Neon
11 22.99 <b>Na</b> Sodium	12 24.31 <b>Mg</b> Magnesium																	18 39.95 <b>Ar</b> Argon
19 39.10 <b>K</b> Potassium	20 40.08 <b>Ca</b> Calcium	21 44.96 <b>Sc</b> Scandium	22 47.90 <b>Ti</b> Titanium	23 50.94 <b>V</b> Vanadium	24 51.996 <b>Cr</b> Chromium	25 54.94 <b>Mn</b> Manganese	26 55.85 <b>Fe</b> Iron	27 58.93 <b>Co</b> Cobalt	28 58.70 <b>Ni</b> Nickel	29 63.55 <b>Cu</b> Copper	30 65.37 <b>Zn</b> Zinc	31 69.72 <b>Ga</b> Gallium	32 72.59 <b>Ge</b> Germanium	33 74.92 <b>As</b> Arsenic	34 78.96 <b>Se</b> Selenium	35 79.90 <b>Br</b> Bromine	36 83.80 <b>Kr</b> Krypton	
37 85.47 <b>Rb</b> Rubidium	38 87.62 <b>Sr</b> Strontium	39 88.91 <b>Y</b> Yttrium	40 91.22 <b>Zr</b> Zirconium	41 92.91 <b>Nb</b> Niobium	42 95.94 <b>Mo</b> Molybdenum	43 (98) <b>Tc</b> Technetium	44 101.07 <b>Ru</b> Ruthenium	45 102.91 <b>Rh</b> Rhodium	46 106.40 <b>Pd</b> Palladium	47 107.87 <b>Ag</b> Silver	48 112.41 <b>Cd</b> Cadmium	49 114.82 <b>In</b> Indium	50 118.69 <b>Sn</b> Tin	51 121.75 <b>Sb</b> Antimony	52 127.60 <b>Te</b> Tellurium	53 126.90 <b>I</b> Iodine	54 131.30 <b>Xe</b> Xenon	
55 132.91 <b>Cs</b> Cesium	56 137.33 <b>Ba</b> Barium	57 138.91 <b>La</b> Lanthanum	72 178.49 <b>Hf</b> Hafnium	73 180.95 <b>Ta</b> Tantalum	74 183.85 <b>W</b> Tungsten	75 186.21 <b>Re</b> Rhenium	76 190.20 <b>Os</b> Osmium	77 192.22 <b>Ir</b> Iridium	78 195.09 <b>Pt</b> Platinum	79 196.97 <b>Au</b> Gold	80 200.59 <b>Hg</b> Mercury	81 204.37 <b>Tl</b> Thallium	82 207.19 <b>Pb</b> Lead	83 208.98 <b>Bi</b> Bismuth	84 (209) <b>Po</b> Polonium	85 (210) <b>At</b> Astatine	86 (222) <b>Rn</b> Radon	
87 (223) <b>Fr</b> Francium	88 226.03 <b>Ra</b> Radium	89 227.03 <b>Ac</b> Actinium	104 (261) <b>Rf</b> Rutherfordium	105 (262) <b>Ha</b> Hahnium	106 (266) <b>Sg</b> Seaborgium	107 (262) <b>Bh</b> Bohrium	108 (265) <b>Hs</b> Hassium	109 (266) <b>Mt</b> Meitnerium	110 (271) <b></b>	111 (272) <b></b>	112 (277) <b></b>	(113) <b></b>	114 (285) <b></b>	(115) <b></b>	116 (289) <b></b>	(117) <b></b>	118 (293) <b></b>	



- alkali metals
- alkaline earth metals
- transitional metals
- other metals
- nonmetals
- noble gases

58 140.12 <b>Ce</b> Cerium	59 140.91 <b>Pr</b> Praseodymium	60 144.24 <b>Nd</b> Neodymium	61 (145) <b>Pm</b> Promethium	62 150.40 <b>Sm</b> Samarium	63 151.96 <b>Eu</b> Europium	64 157.25 <b>Gd</b> Gadolinium	65 158.93 <b>Tb</b> Terbium	66 162.50 <b>Dy</b> Dysprosium	67 164.93 <b>Ho</b> Holmium	68 167.26 <b>Er</b> Erbium	69 168.93 <b>Tm</b> Thulium	70 173.04 <b>Yb</b> Ytterbium	71 174.97 <b>Lu</b> Lutetium
90 232.04 <b>Th</b> Thorium	91 231.04 <b>Pa</b> Protactinium	92 238.03 <b>U</b> Uranium	93 237.05 <b>Np</b> Neptunium	94 (244) <b>Pu</b> Plutonium	95 (243) <b>Am</b> Americium	96 (247) <b>Cm</b> Curium	97 (247) <b>Bk</b> Berkelium	98 (251) <b>Cf</b> Californium	99 (252) <b>Es</b> Einsteinium	100 (257) <b>Fm</b> Fermium	101 (260) <b>Md</b> Mendelevium	102 (259) <b>No</b> Nobelium	103 (262) <b>Lr</b> Lawrencium

A

# Density

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# AD

# Diffusion

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ADD.

Conservation

Of Matter

Matter cannot be created or destroyed, only changed.

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*If heat causes molecules to speed up, then why is a solid formed from the pancake batter?*

**USE THE FOLLOWING WORDS IN YOUR ANSWER:**

<b>Solute</b>	<b>Physical change</b>
<b>Solvent</b>	<b>Heat</b>
<b>Solution</b>	<b>Exothermic</b>
<b>Chemical reaction</b>	<b>Endothermic</b>
<b>Chemical change</b>	

*What's causing it to pop and sizzle?  
Why doesn't it simply melt?*

**USE THE FOLLOWING WORDS IN YOUR  
ANSWER:**

<b>Chemical reaction</b>	<b>Physical change</b>
<b>Chemical change</b>	<b>Heat</b>
<b>Endothermic</b>	<b>Exothermic</b>

# *Syrup Races*

***YOU HAVE BEEN PROVIDED PERFORM TUBES WHICH WILL BE NEARLY FILLED WITH SYRUP. THE AIR BUBBLE THAT EXISTS WITHIN THE FLUID WILL NEED TO BE MOVED ACROSS THE LENGTH OF THE TUBE WITHIN 30 SECONDS (GIVE OR TAKE 1 SECOND.)***

***YOU CANNOT USE THIS SYRUP ON YOUR PANCAKES UNTIL YOU DEMONSTRATE YOUR ABILITY TO CONTROL THIS VARIABLE.***

***PREDICT IN WRITING – RUN EXPERIMENT – CHANGE THE PROCEDURE (IF NEEDED)***

***WINNER GETS THE BACON!***

# *Reverse Engineered Juice*

***YOU WILL BE SHOWN A DEMONSTRATION INVOLVING A CLEAR LIQUID CHANGING BACK AND FORTH INTO A RED LIQUID. THE NAMES OF THE CHEMICALS ADDED TO THE CONTAINERS WILL BE PROVIDED; HOWEVER, YOU MUST FIGURE OUT HOW TO RECREATE THE DEMO WITHOUT AN AVAILABLE PROCEDURE.***

***PREDICT IN WRITING – RUN EXPERIMENT – CHANGE THE PROCEDURE (IF NEEDED)***