



DISTANCE LEARNING PACKET

8TH GRADE

SCIENCE

8th Grade: Physical Science

Day 1: In your own words, explain the following terms used in the scientific method. Qualitative observation, quantitative observation, inferring, predicting, scientific inquiry, hypothesis, variable, Independent (Manipulated variable), Dependent (Responding) Variable, Control, data Scientific Law, Scientific Theory

Day 2: Explain what information would go in each step of the scientific method. If possible, use the above terms.

Question:

Background:

hypothesis:

Experiment:

Analyze & Conclude:

Day 3-4: Suppose you got up this morning and the lightbulb in your room wouldn't come on. Use the steps of the scientific method to explain how you would solve the problem and make the light work again.

Day 5: Design your own experiment and explain how you would use each step of the scientific method to solve your question.

Day 6: Using the included copy of the periodic table, label the rows and columns. Then explain how each would be helpful in finding information about the elements.

Day 7-8: Locate the following groups on the periodic table and color them accordingly.

2 elements are liquid at room temperature, Hg & Br. Outline them in blue

11 Elements are solid at room temperature—H, He, N, O, F, Ne, Cl, Ar, Kr, Xe, Rn—
outline them in red

Alkali metals: Color purple

Alkaline Earth Metals: Color Red

Transition Metals: Color Green

Chalogens: Color brown

Halogens: Color Blue

Noble Gases: Color yellow

Write the names of each group above the column.

With black, add the "stair step" pattern that starts under Boron and extend down to Po and At—Shade all elements touching this line—except aluminum—gray

Day 9: Explain each of the 3 particles in the atom. Draw a box on the periodic table. Label the name of each part of the box and what it tells you about the particles in each atom of that element. Then, draw a bohr model and lewis diagram of the element.

Day 10: What is the law of conservation of matter? Write a thorough explanation of how a chemical reaction may or may not demonstrate the law of conservation of matter and why.

PERIODIC TABLE OF ELEMENTS

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18

1 H Hydrogen 1.008	2 He Helium 4.0026																																
3 Li Lithium 6.94	4 Be Beryllium 9.0122																																
5 B Boron 10.81	6 C Carbon 12.011	7 N Nitrogen 14.007	8 O Oxygen 15.999	9 F Fluorine 18.998	10 Ne Neon 20.180																												
11 Na Sodium 22.990	12 Mg Magnesium 24.305																																
13 Al Aluminum 26.982	14 Si Silicon 28.085	15 P Phosphorus 30.974	16 S Sulfur 32.06	17 Cl Chlorine 35.45	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 72.630	33 As Arsenic 74.922	34 Se Selenium 78.971	35 Br Bromine 79.904	36 Kr Krypton 83.798																		
37 Rb Rubidium 85.468	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)	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.91	46 Pd Palladium 106.42	47 Ag Silver 107.87	48 Cd Cadmium 112.41	49 In Indium 114.82	50 Sn Tin 118.71	51 Sb Antimony 121.76	52 Te Tellurium 127.60	53 I Iodine 126.90	54 Xe Xenon 131.29																
55 Cs Caesium 132.91	56 Ba Barium 137.33																																
57-71 La-Lu																																	
72 Hf Hafnium 178.49	73 Ta Tantalum 180.95	74 W Tungsten 183.84	75 Re Rhenium 186.21	76 Os Osmium 190.23	77 Ir Iridium 192.22	78 Pt Platinum 195.08	79 Au Gold 196.97	80 Hg Mercury 200.59	81 Tl Thallium 204.38	82 Pb Lead 207.2	83 Bi Bismuth 208.98	84 Po Polonium (209)	85 At Astatine (210)	86 Rn Radon (222)	87 Fr Francium (223)	88 Ra Radium (226)																	
89-103 Ac-Lr																																	

State of Matter Legend:

- C** Solid
- Hg** Liquid
- H** Gas
- Rf** Unknown

Classification Legend:

- Metals:** Alkali metals, Alkaline earth metals, Lanthanoids (Lanthanides), Actinoids (Actinides), Transition metals, Post-transition metals
- Metalloids:**
- Nonmetals:** Other nonmetals, Noble gases

For elements with no stable isotopes, the mass number of the isotope with the longest half-life is in parentheses.

