

CD

Name \_\_\_\_\_

Date \_\_\_\_\_

\*SEE BELOW

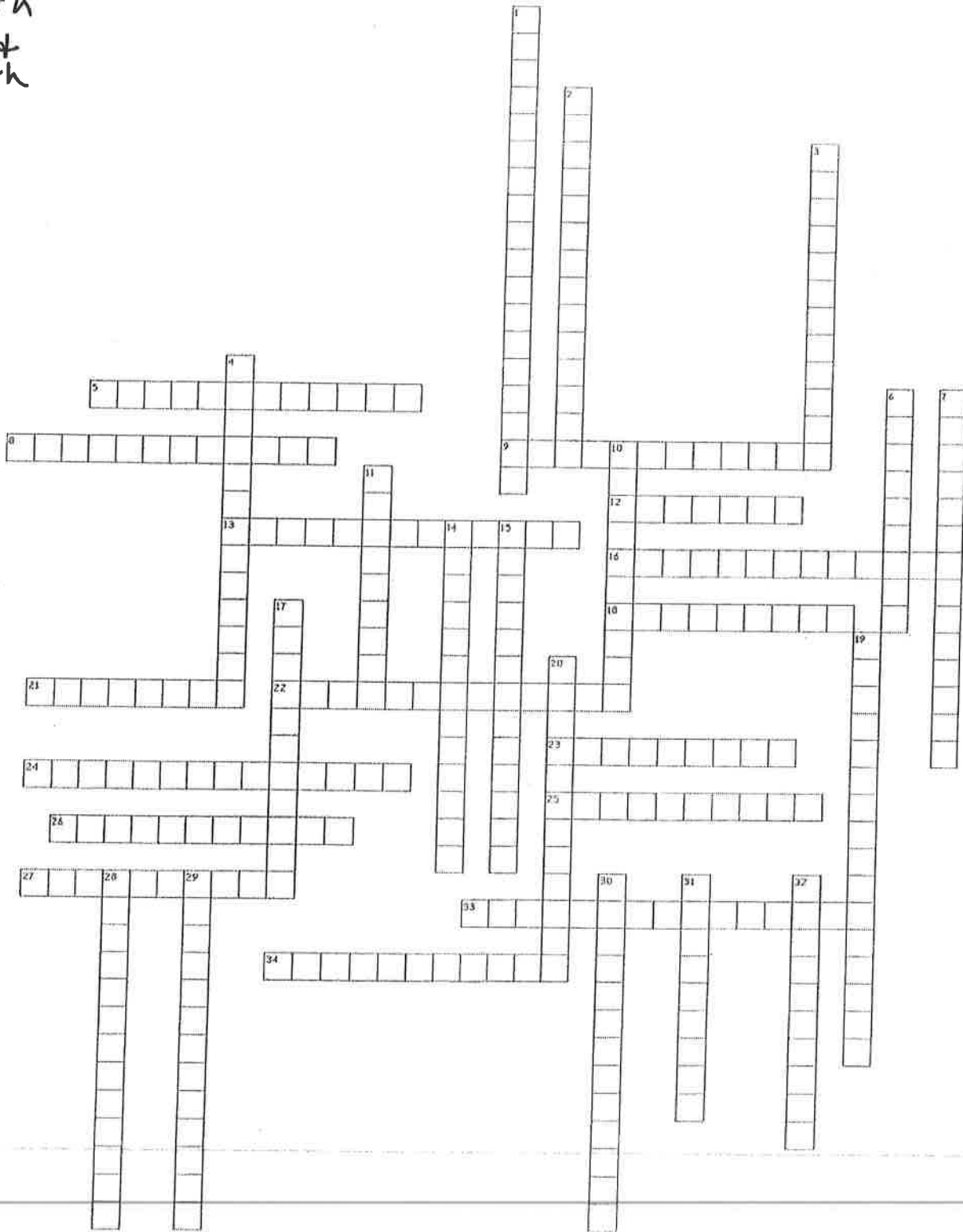
NTID #1

Class \_\_\_\_\_

# SUPER SCIENTIST CROSSWORD PUZZLE

Use your study guide sheet to complete the crossword puzzle! Clues are on the back!

Grades  
7th  
&  
8th



\* Mrs. Douthitt's Science NTID PACKET 2018-2019 To be used if a NTID is called by Mason County Schools  
 Students are to complete the classwork and return it to me for a daily classwork grade.

Day 1 Super Scientist Crossword Puzzle: Correctly complete the crossword puzzle (a word bank is provided to help with spelling)

Day 2 Analysis Skills: Read and follow the directions for each section - Sec. 24 Making a Table; Sec. 25 Making a Bar Graph; Sec. 26 Making a Line Graph.

Across

Down

- 5. Studies earthquakes
- 8. Studies processes that change and shape the Earth
- 9. Studies insects
- 12. Studies elements, atoms, and molecules
- 13. Studies the ocean
- 16. Studies butterflies and moths
- 18. Studies rocks, minerals, and earth's land forms
- 21. Studies plant life
- 22. Studies fish
- 23. Studies animals and the way they interact with their environment
- 24. Studies microscopic organisms
- 25. Studies outer space, the solar system, and the objects in it
- 26. Studies water and the water cycle
- 27. Studies classification
- 33. Studies the life forms found in the ocean
- 34. Studies mammals

- 1. Designs and builds body parts and devices
- 2. Studies parasites
- 3. Studies blood and its diseases
- 4. Studies volcanoes
- 6. Studies motion, forces, and energy to explain the way things work
- 7. Studies dinosaurs and fossils
- 10. Studies fungi
- 11. Studies all forms of life
- 14. Studies the remains of human life
- 15. Studies reptiles and amphibians
- 17. Studies sound and its properties
- 19. Studies the environment
- 20. Studies minerals
- 28. Studies birds
- 29. Studies the atmosphere and weather
- 30. Studies the structure of cells to learn how they function and interact with chemical and physical factors
- 31. Studies animal life
- 32. Studies viruses

Word Bank

- |                     |                  |                |
|---------------------|------------------|----------------|
| archaeologist       | geologist        | mycologist     |
| astronomer          | geophysicist     | oceanographer  |
| audiologist         | hematologist     | ornithologist  |
| biologist           | herpetologist    | paleontologist |
| biomedical engineer | hydrologist      | parasitologist |
| botanist            | ichthyologist    | physicist      |
| cell biologist      | lepidopterist    | seismologist   |
| chemist             | mammalogist      | taxonomist     |
| ecologist           | marine biologist | virologist     |
| entomologist        | meteorologist    | volcanologist  |
| environmentalist    | microbiologist   | zoologist      |
|                     | mineralogist     |                |



Name \_\_\_\_\_

Date \_\_\_\_\_



## Analysis Skill

### Making a Line Graph

Line graphs show data plotted as points that are connected by a line. Line graphs often are used to show change. You also can use line graphs to compare changes over time between two or more sets of data.

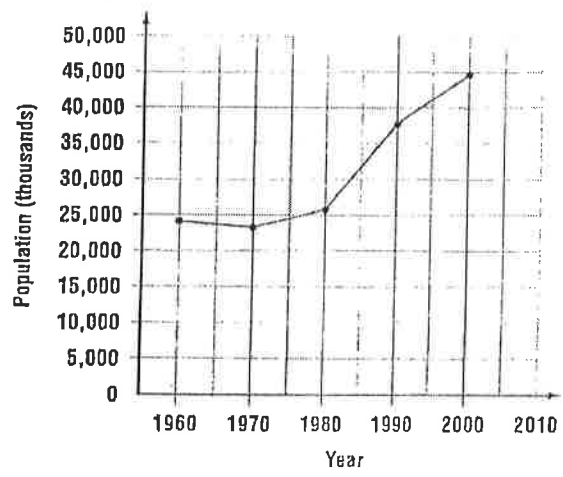
The size of the U.S. population between the ages of 35 and 44 is shown on the line graph below. Use the population data for people between the ages of 14 and 17 in Table 1 to plot a comparison. Use a different color or line pattern.

Table 1

U.S. Population Between the Ages of 14 and 17	
Year	Population (thousands)
1960	11,219
1970	15,924
1980	16,142
1990*	13,311
2000*	15,752

\* population estimated  
Source: U.S. Bureau of the Census

U.S. Population by Age Group



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1. Which of the two age groups' populations changed the most?

\_\_\_\_\_

2. During which time period did it increase? Decrease?

\_\_\_\_\_

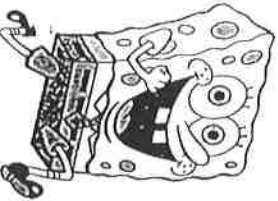
Scientific Method Science Safety Rules

The Bikini Bottom gang has been learning safety rules during science class. Read the paragraphs below to find the broken safety rules and underline each one. How many can you find?

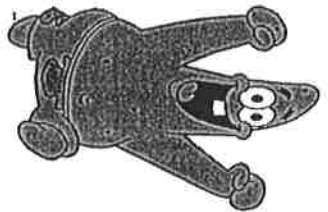
SpongeBob, Patrick, and Gary were thrilled when Mr. Krabbs gave their teacher a chemistry set! Mr. Krabbs warned them to be careful and reminded them to follow the safety rules they had learned in science class. The teacher passed out the materials and provided each person with an experiment book. SpongeBob and Gary flipped through the book and decided to test the properties of a mystery substance. Since the teacher did not tell them to wear the safety goggles, they left them on the table.

SpongeBob lit the Bunsen burner and then reached across the flame to get a test tube from Gary. In the process, he knocked over a bottle of the mystery substance and a little bit splashed on Gary. SpongeBob poured some of the substance into a test tube and began to heat it. When it started to bubble he looked into the test tube to see what was happening and pointed it towards Gary so he could see. Gary thought it smelled weird so he took a deep whiff of it. He didn't think it smelled poisonous and tasted a little bit of the substance.

They were worried about running out of time, so they left the test tube and materials on the table and moved to a different station to try another experiment.



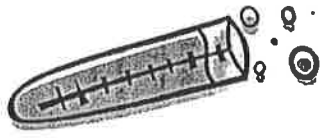
Patrick didn't want to waste any time reading the directions, so he put on some safety goggles and picked a couple different substances. He tested them with vinegar (a weak acid) to see what would happen even though he didn't have permission to experiment on his own. He noticed that one of the substances



did not do anything, but the other one fizzed. He also mixed two substances together to see what would happen, but didn't notice anything. He saw SpongeBob and Gary heating something in a test tube and decided to do that test. He ran over to that station and knocked over a couple bottles that SpongeBob had left open. After cleaning up the spills, he read the directions and found the materials he needed.

The only test tube he could find had a small crack in it, but he decided to use it anyway. He lit the Bunsen burner and used tongs to hold the test tube over the flame. He forgot to move his notebook away from the flame and almost caught it on fire.

Before they could do another experiment, the bell rang and they rushed to put everything away. Since they didn't have much time, Patrick didn't clean out his test tube before putting it in the cabinet. SpongeBob noticed that he had a small cut on his finger, but decided he didn't have time to tell the teacher about it. Since they were late, they skipped washing their hands and hurried to the next class.



Content Practice B

LESSON 1

### Forms of Energy

Directions: On the line before each definition, write the letter of the term that matches it correctly. Some terms may be used more than once or not at all.

- |   |                                   |
|---|-----------------------------------|
| _____ 1. This is the term for the distance between similar points on a wave.    | A. potential energy               |
| _____ 2. This is carried by electromagnetic waves.                              | B. gravitational potential energy |
| _____ 3. A lightbulb becoming lit is an example of this.                        | C. nuclear energy                 |
| _____ 4. This type of energy is obtained through food.                          | D. kinetic energy                 |
| _____ 5. Gamma rays are an example of this.                                     | E. electric energy                |
| _____ 6. A disturbance that transfers energy is called this.                    | F. chemical energy                |
| _____ 7. This type of energy is related to the mass and the speed of an object. | G. mechanical energy              |
| _____ 8. This is stored energy released from the nucleus of an atom.            | H. thermal energy                 |
| _____ 9. This type of wave carries sound energy.                                | I. sound wave                     |
| _____ 10. This is a collection of parts working together.                       | J. radiant energy                 |
| _____ 11. This is energy stored and released in bonds between atoms.            | K. electromagnetic                |
| _____ 12. This type of energy moves your arms and legs.                         | L. system                         |
| _____ 13. This type of energy is in an electric current.                        | M. environment                    |
| _____ 14. This type of energy is based on mass and height.                      | N. wave                           |
| _____ 15. This type of energy is due to motion.                                 | O. wavelength                     |
| _____ 16. This is the sum of the potential energy and the kinetic energy.       |                                   |
| _____ 17. This is the term for waves that are electric and magnetic.            |                                   |

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front - NYAD  
back - NYAD  
NTID #5  
Doubtful NTID  
above the

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

*Energy*

**Multiple Choice**

- 1) Of the following units, the one that is a unit of energy is
  - a. Newton
  - b. Joule
  - c. Meter
  - d. Liter
- 2) A stationary object may have
  - a. potential energy
  - b. velocity
  - c. kinetic energy
  - d. acceleration
- 3) Which is the best example that something has kinetic energy?
  - a. a car parked on a steep hill
  - b. a tennis ball rolling across the court
  - c. a picture hanging on the wall
  - d. a piece of coal before it's burned
- 4) Conservation of energy means that
  - a. energy can be created but not destroyed
  - b. energy can be destroyed but not created
  - c. energy can both be created and destroyed
  - d. energy can neither be created nor destroyed
- 5) When coal is burned to produce electricity, the electrical energy produced is less than the potential energy of the coal. Which best explains this observation?
  - a. as the coal is heated, the molecules move so fast that they are destroyed
  - b. some of the energy in the coal is destroyed by the intense heat required to release its potential energy
  - c. some of the potential energy in the coal is converted into forms of energy other than electricity
  - d. the amount of energy in the coal is not known

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6) Describe the energy transformations that occur during the process of coal being used to power your hairdryer.

(At least 6-7 sentences).

8th grade

# Doukhiti Day 4 + 5 Resource

## PERIODIC TABLE OF THE ELEMENTS

14 ← Group IUPAC  
IVA ← Group CAS

Symbol: **C**    Selected Oxidation States: **+4**

Name: **Carbon**    Atomic Mass: **12.011**

Electron Configuration: **2, 2, 4**

1	H Hydrogen 1.0079	2	He Helium 4.0026
3	Li Lithium 6.941	4	Be Beryllium 9.0122
5	B Boron 10.811	6	C Carbon 12.011
7	N Nitrogen 14.007	8	O Oxygen 15.999
9	F Fluorine 18.998	10	Ne Neon 20.179
11	Na Sodium 22.990	12	Mg Magnesium 24.305
13	Al Aluminum 26.982	14	Si Silicon 28.086
15	P Phosphorus 30.974	16	S Sulfur 32.065
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 47.887
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 65.39
31	Ga Gallium 69.723	32	Ge Germanium 72.64
33	As Arsenic 74.922	34	Se Selenium 78.96
35	Br Bromine 79.904	36	Kr Krypton 83.80
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 95.94
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 Cesium 132.91	56	Ba Barium 137.33
57	La Lanthanum 138.91	58	Ce Cerium 140.12
59	Pr Praseodymium 140.91	60	Nd Neodymium 144.24
61	Pm Promethium (145)	62	Sm Samarium 150.36
63	Eu Europium 151.96	64	Gd Gadolinium 157.25
65	Tb Terbium 158.93	66	Dy Dysprosium 162.50
67	Ho Holmium 164.93	68	Er Erbium 167.26
69	Tm Thulium 168.93	70	Yb Ytterbium 173.05
71	Lu Lutetium 174.97	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	Ac Actinium (227)	90	Th Thorium 232.04
91	Pa Protactinium 231.04	92	U Uranium 238.03
93	Np Neptunium 237	94	Pu Plutonium 244
95	Am Americium 243	96	Cm Curium 247
97	Bk Berkelium 247	98	Cf Californium 251
99	Es Einsteinium 252	100	Fm Fermium 257
101	Md Mendelevium 258	102	No Nobelium 259
103	Lr Lawrencium 262	104	Uu Ununquadium (264)
		105	Uub Unubium (285)
		106	Uuq Ununquadium (289)
		107	Uup Ununpentium (285)
		108	Uuh Ununhexium (291)
		109	Uus Ununseptium (294)
		110	Uuo Ununoctium (294)

1	K	2	s <sup>2</sup>	p	d	f
2	L	8	2	6		
3	M	18	2	6	10	
4	N	32	2	6	10	14
5	O	32	2	6	10	14
6	P	18	2	6	10	
7	Q	8	2	6		
8	R	2	2			

57	La	58	Ce	59	Pr	60	Nd	61	Pm	62	Sm	63	Eu	64	Gd	65	Tb	66	Dy	67	Ho	68	Er	69	Tm	70	Yb	71	Lu
	Lanthanum 138.91		Cerium 140.12		Praseodymium 140.91		Neodymium 144.24		Promethium (145)		Samarium 150.36		Europium 151.96		Gadolinium 157.25		Terbium 158.93		Dysprosium 162.50		Holmium 164.93		Erbium 167.26		Thulium 168.93		Ytterbium 173.05		Lutetium 174.97
89	Ac	90	Th	91	Pa	92	U	93	Np	94	Pu	95	Am	96	Cm	97	Bk	98	Cf	99	Es	100	Fm	101	Md	102	No	103	Lr
	Actinium (227)		Thorium 232.04		Protactinium 231.04		Uranium 238.03		Neptunium 237		Plutonium 244		Americium 243		Curium 247		Berkelium 247		Californium 251		Einsteinium 252		Fermium 257		Mendelevium 258		Nobelium 259		Lawrencium 262



Name \_\_\_\_\_ Date \_\_\_\_\_

**Activity 14: Cooking with the Elements**

**Directions:** For each element combination in parentheses below, use the symbols for the elements to obtain a scrambled word. Then unscramble the letters to form the correct words. Write the symbols in the answer blank following each group of elements. This will help you complete each numbered paragraph.

**Example:** (boron, indium, oxygen, tantalum) = BInOTa, which unscrambles to form the word OBTAIn.

- For breakfast we (yttrium + francium) \_\_\_\_\_ eggs, (cobalt + nitrogen + barium) \_\_\_\_\_ and (hydrogen + hydrogen + arsenic) \_\_\_\_\_ (oxygen + nitrogen + tungsten + bromine) \_\_\_\_\_ potatoes, and toast (astatine + tungsten + helium) \_\_\_\_\_ or (hydrogen + tellurium + tungsten + iodine) \_\_\_\_\_ bread. Or, we can have (nitrogen + calcium + einsteinium + protactinium + potassium) \_\_\_\_\_ or waffles and sausage, or (aluminum + cerium + rhenium) \_\_\_\_\_, such as (radon + cobalt) \_\_\_\_\_ (lanthanum + potassium + fluorine + einsteinium) \_\_\_\_\_ or (nitrogen + iodine + silicon + radium) \_\_\_\_\_ (boron + nitrogen + radium) \_\_\_\_\_, with milk.
- (thorium + helium + aluminum + yttrium) \_\_\_\_\_ (potassium + actinium + sulfur + tin) \_\_\_\_\_ would be fruits, such as (sodium + sodium + barium + sulfur) \_\_\_\_\_, grapes, (sulfur + iodine + tungsten + potassium + iodine) \_\_\_\_\_, apples, and oranges and different (einsteinium + carbon + helium + einsteinium) \_\_\_\_\_ and (potassium + chromium + erbium + actinium + sulfur) \_\_\_\_\_. Of course, most of us would (erbium + radium + thorium) \_\_\_\_\_ have (hydrogen + phosphorus + sulfur + carbon + iodine) \_\_\_\_\_, (iodine + oxygen + cobalt + potassium + einsteinium) \_\_\_\_\_, or (nitrogen + dysprosium + calcium) \_\_\_\_\_.
- For drinks, we (fluorine + phosphorus + rhenium + erbium) \_\_\_\_\_ (calcium + cobalt + lanthanum + cobalt) \_\_\_\_\_ or another type of soda (vanadium + erbium + oxygen) \_\_\_\_\_ milk, juice or (erbium + astatine + tungsten) \_\_\_\_\_.
- Most people have fast food and (selenium + uranium) \_\_\_\_\_ the drive (ruthenium + sulfur + thorium) \_\_\_\_\_ for lunch. They usually have only half an hour and (oxygen + carbon + selenium + holmium) \_\_\_\_\_ (carbon + tantalum + osmium) \_\_\_\_\_ or hamburgers and French (einsteinium + iodine + francium) \_\_\_\_\_. Sometimes they will be (carbon + yttrium + lutetium + potassium) \_\_\_\_\_ and have a salad, (uranium + phosphorus + sulfur + oxygen) \_\_\_\_\_, sandwich, or (neon + iodine + hydrogen + selenium + carbon) \_\_\_\_\_ take-out. At (erbium + oxygen + thorium) \_\_\_\_\_ times, people, especially students, eat (holmium + sulfur + carbon + sodium) \_\_\_\_\_ or (carbon + lithium + iodine + hydrogen) \_\_\_\_\_ cheese (iodine + francium + einsteinium) \_\_\_\_\_.

(continued)



Date \_\_\_\_\_

Name \_\_\_\_\_

## Activity 14: Cooking with the Elements (continued)

5. Dinners are the big meals. (iodine + sulfur + thorium) \_\_\_\_\_ is (helium + tungsten + nitrogen) \_\_\_\_\_ families (thorium + gallium + erbium) \_\_\_\_\_ together after a long day. Dinners usually consist of a main dish containing some type of meat. The meat can be (neon + terbium + oxygen) \_\_\_\_\_, (americium + hydrogen) \_\_\_\_\_, pork (sulfur + phosphorus + carbon + holmium) \_\_\_\_\_, chicken, (boron + barium + yttrium) \_\_\_\_\_ (carbon + barium + potassium) \_\_\_\_\_ ribs, prime rib, or (iodine + hydrogen + sulfur + fluorine) \_\_\_\_\_.
6. Of course, there is always some type of carbohydrate. (iodine + thorium + sulfur) \_\_\_\_\_ is usually a potato, which we can bake, mash, (yttrium + francium) \_\_\_\_\_, scallop, or boil. For variety, there is also rice or (tantalum + arsenic + phosphorus) \_\_\_\_\_.
7. There usually is a (holmium + cerium + iodine + carbon) \_\_\_\_\_ of vegetables. Some (sulfur + carbon + iodine + holmium + cerium) \_\_\_\_\_ are (radon + cobalt) \_\_\_\_\_, peas, (cobalt + lithium + oxygen + bromine + carbon) \_\_\_\_\_, beans, (silver + arsenic + phosphorus + uranium + argon + sulfur) \_\_\_\_\_ or squash.
8. One of my favorite (sulfur + uranium + sulfur + oxygen + phosphorus) \_\_\_\_\_ is (tungsten + neon) \_\_\_\_\_ England (americium + chlorine) \_\_\_\_\_ chowder. I (gold + sulfur + tellurium) \_\_\_\_\_ the (nitrogen + barium + cobalt) \_\_\_\_\_ and (nitrogen + oxygen + nickel + oxygen + sulfur) \_\_\_\_\_ first. Then I add (astatine + tungsten + erbium) \_\_\_\_\_, (sulfur + chlorine + americium) \_\_\_\_\_, celery, and (iodine + sulfur + sulfur + phosphorus + cerium) \_\_\_\_\_ such as (yttrium + barium) \_\_\_\_\_ leaf, thyme, and marjoram. The diced potatoes and (rhenium + carbon + americium) \_\_\_\_\_ are added about thirty minutes (oxygen + rhenium + beryllium + fluorine) \_\_\_\_\_ serving.
9. The best part is dessert. There are many different (potassium + calcium + einsteinium) \_\_\_\_\_ and (iodine + einsteinium + phosphorus) \_\_\_\_\_. (uranium + rubidium + rhodium + barium) \_\_\_\_\_ looks like red celery, and is tart (helium + tungsten + nitrogen) \_\_\_\_\_ baked in (phosphorus + einsteinium + iodine) \_\_\_\_\_. Another simple dessert is (cerium + iodine) \_\_\_\_\_ (americium + carbon + rhenium) \_\_\_\_\_. (iodine + thorium + sulfur) \_\_\_\_\_ can be served with (erbium + oxygen + thorium) \_\_\_\_\_ desserts or (yttrium + boron) \_\_\_\_\_ itself, in a (neon + cobalt) \_\_\_\_\_ or a dish, (iodine + thorium + tungsten) \_\_\_\_\_ (cobalt + tellurium + carbon + lanthanum + holmium) \_\_\_\_\_ or (yttrium + neodymium + calcium) \_\_\_\_\_ toppings.
10. A fancy dessert is (phosphorus + rhenium + carbon + einsteinium) \_\_\_\_\_ with a (neodymium + boron + radium + yttrium) \_\_\_\_\_ sauce. Many (neon + iodine + fluorine) \_\_\_\_\_ restaurants will (cerium + lanthanum) \_\_\_\_\_ their desserts with (nitrogen + boron + dysprosium + radium) \_\_\_\_\_ to make a flaming dessert.

