

Section 6.1 Symbols for the Elements - Answer Key

- 1) Who had the right to name a new element? **The person who was first to discover a new element had the right to name it.**
- 2) Which element did Marie Curie discover? **Marie Curie discovered the element polonium.**
- 3) What did she name it after? **She named it after the country where she was born in, Poland.**
- 4) What was uranium named after? **Uranium was named after the planet Uranus.**
- 5) Which element was named after Albert Einstein? **Einsteinium was named after Albert Einstein.**
- 6) Why was a system of element symbols developed? **A system of element symbols was developed because it is very time consuming to continually write the names of the elements.**
- 7) When did the explosion of chemical knowledge take place? **The explosion of chemical knowledge took place during the nineteenth century.**
- 8) When was the system of chemical symbols proposed? **It was first proposed in 1817.**
- 9) What rule do you think was used to create the symbols for hydrogen (H), oxygen (O), carbon (C) and nitrogen (N)? **I think the rule that was used to create the symbols for these elements was the first letter of their name.**
- 10) If you used the rule from # 9 to figure out the symbol for calcium, what would it be? **If I used the same rule from # 9 to figure out the symbol for calcium it would be C.**

11) What element already had that symbol? **Carbon already has that symbol.**

12) What is the symbol for calcium? **The symbol for calcium is Ca.**

13) What rule do you think was used to create the symbol for calcium? **I think the rule that was used to create calcium was the first two letters of its name.**

14) What are the Latin names for silver, gold, copper, iron, mercury, lead and tin? **The Latin names for silver, gold, copper, iron, mercury, lead and tin are argentum, aurum, cuprum, ferrum, hydrargyrum, plumbum and stannum, respectively.**

15) Which metal was probably used for water pipes in ancient times? Explain how its name helped you make your decision. **I think lead was probably used to make water pipes in ancient times because the Latin word for lead is plumbum, which sounds very similar to plumber.**

16) Which name was used to create the symbol for element commonly used in the production of light bulbs? **Tungsten is commonly used in the production of light bulbs and its symbol W, comes from the German word, wolfram.**

17) Who was the first scientist to be awarded two Nobel Prizes? **Marie Curie was the first scientist to be awarded two Nobel Prizes.**

18) Which element was named after her? **Curium was named after her.**

19) Define Chemical Formula. **A chemical formula uses symbols for elements and numbers to show what a compound is made of.**

20) Define Molecule. **A molecule is the smallest unit of a compound.**

21) What must a molecule of water always contain? **A molecule of water must always have two hydrogen atoms and one oxygen atom.**

22) What does the number after the symbol for the element represent? (Example: top left on page 194). **The number after the symbol tells us how many atoms of that element are present in the compound.**

23) What does it mean when there is no number after a symbol in a chemical formula? **It means that there is only one atom of that element in the compound.**

24) Give an example of a chemical formula (not water) and describe how many atoms are present in each element of the molecule. **An example of a chemical formula is CO₂. It contains one carbon atom and 2 atoms of oxygen.**

25) I identify the elements for the following symbols

K	Potassium	Au	Gold
Ca	Calcium	W	Tungsten
Fe	Iron	Hg	Mercury
Ni	Nickel	Pb	Lead
Cu	Copper	U	Uranium
Zn	Zinc	He	Helium
C	Carbon	F	Fluorine
I	Iodine	Mg	Magnesium
Ag	Silver	Na	Sodium
Sn	Tin	N	Nitrogen
Be	Beryllium	Ne	Neon