

Date\_\_\_\_\_

Name\_\_\_\_\_

Science Grade 7/Ms. Iadanza

## Literacy Lab #8 Four New Elements Added to Periodic

Table Have Formal Names

**Directions:** Take a few minutes to read the article below either online (or on the back of this page.) Write responses to the statements or questions below. Cut/copy/paste is not allowed – use your own words and thoughts, based in research if needed.

[https://www.washingtonpost.com/news/morning-mix/wp/2016/12/01/its-official-4-new-elements-added-to-periodic-table-have-formal-names/?utm\\_term=.c7b83b48f551](https://www.washingtonpost.com/news/morning-mix/wp/2016/12/01/its-official-4-new-elements-added-to-periodic-table-have-formal-names/?utm_term=.c7b83b48f551)

### **Fact-finding:**

List three facts that you learned in this article.

1.

2.

3.

### **Vocabulary:**

List and define three unfamiliar words in the space below.

### **Implications:**

What are your feelings about this article? Express your feelings about whether this is an advancement of science or a bad idea. Summarize the key points in the article in your own words. Most importantly- the purpose of this activity is to show you that science you learn is not just found in a textbook; it is around you every single day! Explain how this article relates to what we are currently studying in class, citing specific evidence from the article.



## Four new elements added to periodic table have formal names

Ben Guarino

Published: December 1, 2016 - 12:22AM

Oh, hello, oganesson. The International Union of Pure and Applied Chemistry, the century-old organization charged with maintaining the periodic table, finally announced it had approved the names of four new elements. These monikers, attached to new heavy elements, were the result of an almost year-long process.

In December 2015, IUPAC made the first of several broadcasts: Four elements, numbered 113, 115, 117 and 118, met the criteria for inclusion in the periodic table. The seventh, bottom row of the periodic table was complete. In June, IUPAC announced the tentative names. And on November 28, after a five-month waiting period during which IUPAC accepted public comments, the organization released an updated periodic table. The June names had passed muster, and are set to be ratified at the organization's meeting in July 2017.

To be clear, the general public never had a shot at naming the elements directly, sparing everyone the whimsy of Elementally McElementalface-ium. (And, fitting as a literal heavy metal tribute to Motorhead musician Lemmy Kilmister would be, lemmium's Change.org petition did not pan out.)

Still, a few people tried to sway IUPAC. "Overall, it was a real pleasure to realize that so many people are interested in the naming of the new elements, including high-school students, making essays about possible names and telling how proud they were to have been able to participate in the discussions," Jan Reedijk, president of IUPAC's Inorganic Chemistry Division, said in a statement Wednesday. "For now, we can all cherish our periodic table completed down to the seventh row."

From the official IUPAC announcement, the elements are:

- Nihonium and symbol Nh, for the element 113;
- Moscovium and symbol Mc, for the element 115;
- Tennessine and symbol Ts, for the element 117; and
- Oganesson and symbol Og, for the element 118.

In keeping with IUPAC standards, the scientists who discovered the elements proposed the accepted names. There are some ground rules: the names must refer to a scientist, mythology, substance, elemental property or place. Three of the names - Tennessine (Tennessee), Nihonium

(Japan) and Moscovium (Moscow) - reflect where the scientists' institutions were located, as The Washington Post reported in June. Oganesson is in honor of Yuri Oganessian, a nuclear physics professor at the Joint Institute for Nuclear Research.

Nihonium was the first element to be given a name with Japanese origin. "The periodic table is a great legacy in chemistry. I'm filled with deep emotion that there is an element with a Japanese name," Kyushu University chemist Kosuke Morita, who led the discovery of nihonium, said in a conference on Thursday according to the Japan Times.

With large numbers of protons in their nuclei - nihonium, as its atomic number indicates, has 113 protons - the elements are considered super heavy and unstable. They exist only in laboratories for a few fractions of a second. Nihonium was first synthesized in 2004, by bashing zinc ions with the element bismuth. It took years of work for the Japanese researchers to confirm its existence, recreating the element in 2005 and again in 2012.

### **The Washington Post**

*[https://www.washingtonpost.com/news/morning-mix/wp/2016/12/01/its-official-4-new-elements-added-to-periodic-table-have-formal-names/?utm\\_term=.c7b83b48f551](https://www.washingtonpost.com/news/morning-mix/wp/2016/12/01/its-official-4-new-elements-added-to-periodic-table-have-formal-names/?utm_term=.c7b83b48f551)*

**Literacy Lab Assignments**  
**Science Grade 8- Ms. Iadanza**  
**Grading rubric**

15 points per assignment, counts as a quiz grade

*Fact Finding – 1 point each (3 total)*

*Vocabulary words – 1 point each (3 total)*

Includes word and definition appropriate for the  
context *Summary – 9 points total*

1 point - Spelling – no errors; assignment is neatly written or typed.

2 point - At least three paragraphs, including an introduction and a conclusion

6 points – content – including at least 3 things I learned and a description of the science connection to the topic in the article