

Name: _____ Block: _____ Date: _____

DNA Notes

Use the slide show and video posted on my blog (3/5/18) to answer these questions.

1. Before you begin, write down 3 things you think of when you hear the word DNA:

Go to the presentation on my blog to answer the following questions:

2. What is DNA?

3. Use the size and scale interactive, find DNA...

Which is smaller, DNA or the width of a human hair?

Which is smaller, DNA or an atom?

Which is smaller, DNA or a virus?

4. Go back to the presentation. Where do you find DNA?

5. What is a "double-helix"? Include a picture.

6. What are the four bases of DNA (also known as the "DNA alphabet")? Write out what each letter stands for:

7. Explain which bases (letters) bond with each other:

8. Watch the video called Genetics 101. Where are 99.9% of your genes located?

9. How many genes are in your body?

10. What are genes?

11. Long strands of DNA are called chromosomes, how many pairs of chromosomes do humans have?

12. Do all life forms have the same amount of chromosomes? Explain.

13. What percentage of your DNA is the same as the DNA in a chimpanzee?

14. What percentage of your DNA is the same as the DNA in all other humans?

15. Do the math! How much of your own DNA is different than that of other humans?

16. Watch the Brainpop video about DNA. Afterwards, take the "Review Quiz", it will help with these notes:

All _____ have DNA.

The term "double helix" refers to the _____ of a DNA molecule

Who has DNA identical to yours? _____

What is an example of genetic modification?

17. Based on what you have learned about DNA, finish these sentences with your own thoughts:

DNA is similar to a fingerprint because _____

_____.

DNA is similar to blueprint because _____

_____.

DNA is similar to a code because _____

_____.

18. Go to the Doggie DNA Article link on my blog – read the article and answer these questions:

What is the problem the apartment owner is trying to fix?

What is her solution?

Do you think this is a good solution? Why or why not? (Your answer should be 2-3 sentences long).

EXCEEDS OPTION:

DNA- Cracking the Code of Life

A **genome** is the *entire* genetic code of an organism. The Human Genome Project was a major scientific project where scientists all over the world worked together for 13 years to discover and write down the entire DNA code of human beings. In 2003, scientists announced that they had finally "mapped" (discovered and written down) the entire human genome. It is over 3 billion base pairs long. Watch the first 30 minutes of the NOVA documentary **DNA- Cracking the Code of Life** to answer these questions:

1. What percentage of our genes do we have in common with a banana?

2. What does DNA look like to the naked eye?

3. What are the 4 chemicals that make up the 'steps' in the DNA ladder?

4. How many 'steps' are in the human genome?

5. What percentage of the DNA is identical in all human babies?

6. How long did scientists think it would take to complete the human genome?

7. Blythe is a carrier for Tay-Sachs. What does this mean?

8. How do scientists hope to use the human genome project as an early warning system?