

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

### Cloning – The Basics

Please go to the following website to begin:

<http://gslc.genetics.utah.edu/units/cloning/whatiscloning/>

1. \_\_\_\_\_ is the creation of an organism that is an exact genetic copy of another.
2. You might not believe it, but there are human clones among us right now. They weren't made in a lab, though: they're \_\_\_\_\_, created naturally.
3. \_\_\_\_\_ is the relatively low-tech version of cloning. As the name suggests, this technology mimics the natural process of creating identical twins.
4. Artificial embryo twinning uses the same approach, but it occurs in a \_\_\_\_\_ instead of in the mother's body.
5. Somatic cell nuclear transfer was the method used to create \_\_\_\_\_.
6. A \_\_\_\_\_ is any cell in the body other than the two types of reproductive cells, sperm and egg.
7. It's the differences in our \_\_\_\_\_ that make each of us unique.
8. To make Dolly, researchers isolated a \_\_\_\_\_ from an adult female sheep. Next, they \_\_\_\_\_ the \_\_\_\_\_ from that cell to an egg cell from which the nucleus had been removed. After a couple of chemical tweaks, the egg cell, with its new nucleus, was behaving just like a freshly fertilized \_\_\_\_\_. It developed into an \_\_\_\_\_, which was implanted into a \_\_\_\_\_ and carried to term.
9. \_\_\_\_\_ (be specific! I need the name of the mammal!) was the first ever mammal to be cloned from an adult somatic cell.
10. Play the natural reproduction movie for this question: Because the offspring contains a combination of the two sets of parent's chromosomes, it is not genetically identical to either parent but is \_\_\_\_\_, instead, \_\_\_\_\_.

11. Play the somatic cell nuclear transfer movie for this question: The somatic cell is \_\_\_\_\_ in a media that causes it to \_\_\_\_\_ \_\_\_\_\_ as an udder cell.

12. An egg cell is \_\_\_\_\_ from a different animal. The egg cell's \_\_\_\_\_ is removed.

13. The egg cell and the somatic cell are \_\_\_\_\_ using an \_\_\_\_\_.

14. Go to this web site and follow the instructions!

<http://gslc.genetics.utah.edu/units/cloning/clickandclone/> List all 6 steps in the “click and clone” procedures.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

15. What color was the cloned mouse? \_\_\_\_\_

16. In the real mouse cloning experiment, what was the name of the first born survivor?

\_\_\_\_\_

17. <http://gslc.genetics.utah.edu/units/cloning/clissues/> Go to this website. List the 7 questions about the ethics of cloning on a notebook sheet of paper. Answer the questions as truthfully as you can... There are no right or wrong answers to these questions. Staple the questions and answers to this paper!