

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!