

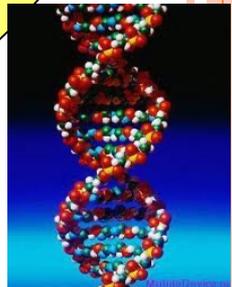
FRIDAY, MARCH 2

Science and Cloning



Today's English Studying Challenge

- **To prove that the students' knowledge and interest in science can be linked with their English class.**
- **To improve oral communication.**
- **To carry out a virtual experiment to understand how animals are cloned using nuclear transfer.**



I WANT **TO GET AN EXCELLENT MARK** IN THE LESSON.

THAT'S WHY I SHOULD ...

- be attentive, emotional, active

Yes No

- listen to my classmates and the teacher

Yes No

- read, ask and answer different questions

Yes No

- participate in discussions

Yes No

- bother my classmates to do the tasks

Yes No

- review / learn some words related to the topic of Science

Yes No

- carry out a virtual experiment to understand how animals are cloned using nuclear transfer

Yes No

- evaluate the issues associated with cloning animals including humans

Yes No



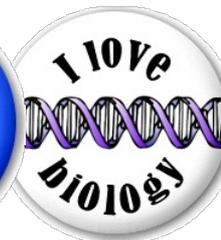
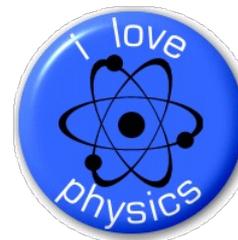
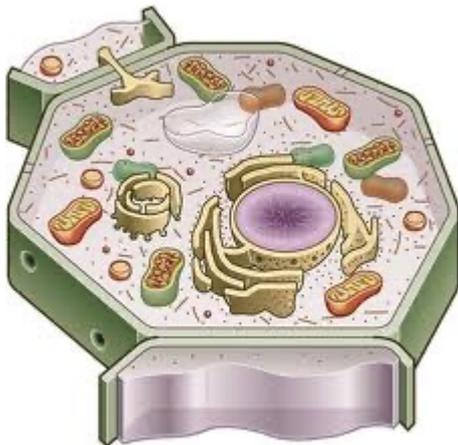
SCHOOL SUBJECTS



DO YOU LIKE SCIENCE LESSONS?



- Biology
- Chemistry
- Physics



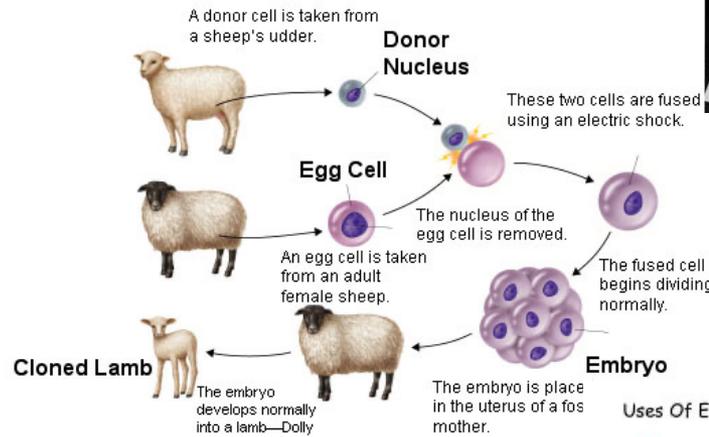
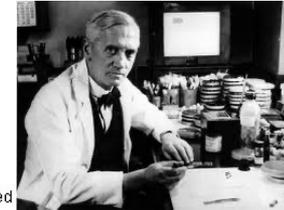
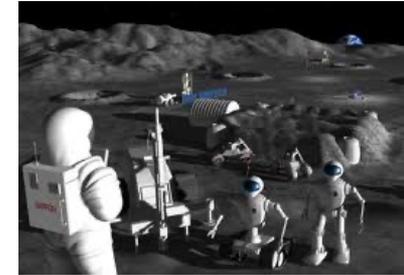


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SCIENCE AND MODERN LIFE



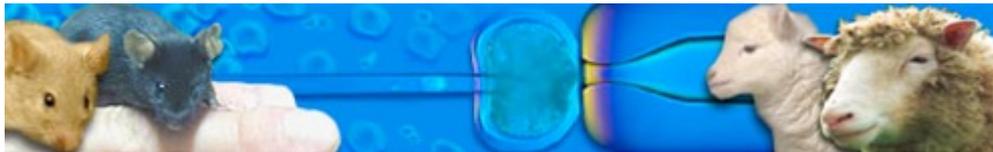
Uses Of Electricity In Our Daily Life



WHAT IS CLONING?



- **Cloning** is the process of making an individual that is a genetic copy of another.
- **What is a clone?**
A clone is genetically identical to its “parent”.





Tsarevna the Swan



Tsarevna the Frog



Kashchey Immortal



CLONING

ISN'T

NEW

1. Russian tales

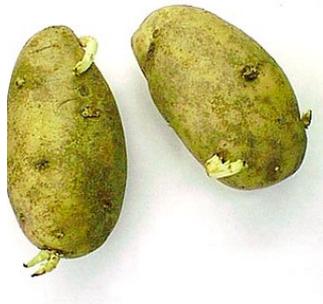


○ What is asexual reproduction ?

It is reproducing of plants *without using sex cells.*

Nature's been doing cloning for billions of years with plants.

Things like potato, strawberry, spider plants, grass **send out shoots** which can grow into a whole new plant. Plants are genetically identical.



CLONING

ISN'T

NEW

2. Asexual reproduction



CLONING

- If you grow a **plant from a cutting**, it's a type of cloning.

Cuttings will be genetically identical to parent plants.

ISN'T

NEW

3. Cutting



- Identical twins are *naturally-occurring clones* of each other even though they are genetically different from their parents.



CLONING

ISN'T

NEW

**4.
Identical
twins**



SO WHY CLONING IS IN THE NEWS?

Dolly the sheep

- What do scientists use to create a clone animal?

They use the genes of the first animal so they both have the same DNA.



Here Dolly is with her first-born lamb, *Bonnie*.



CLICK AND CLONE

INTERACTIVE EXPLORE



Try it yourself in the
mouse cloning
laboratory

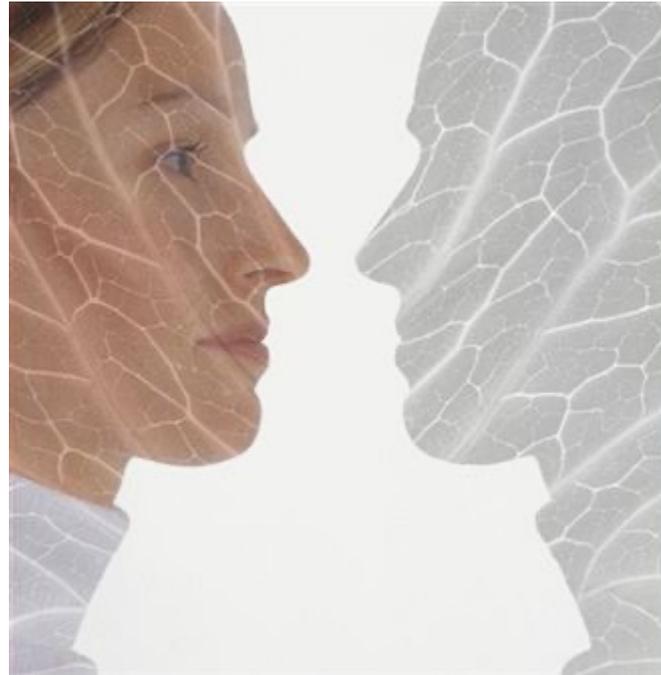
learn.genetics.utah.edu

Google: cloning a mouse



WHAT DOES A TERM 'SOMATIC CELL' MEAN?

- A **somatic cell** is any biological cell forming the body of an organism; that is any cell other than a germ/sex cell or stem cell.
- For example, in mammals, somatic cells make up all the internal organs, skin, bones, blood, and connective tissue.



Dear students,



for your creative, investigative and collaborative work!



- 1. to restore the cloning experiment step-by-step matching the pictures to the description (**Worksheet E**);
- 2. to do ex. 4 p. 75 WB;
- 3. **Worksheet F**



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