

High School Biology

Cloning worksheet

1. What is a clone?

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2. Plant clones may be produced by cuttings or tissue culture. Fill in the table with some advantages and disadvantages of each method.

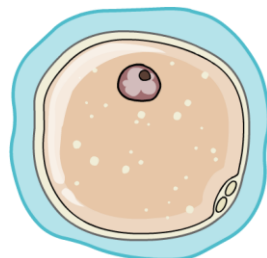
	advantages	disadvantages
cuttings		
tissue culture		

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3. Two methods of cloning animals are embryo transplant and adult cell cloning. Fill in the table with true or false to compare the differences and similarities of these methods.

	embryo transplant	adult cell cloning
Fertilization takes place.		
An embryo is separated into individual cells.		
A nucleus is removed from an unfertilized egg and replaced with that from an adult cell.		
Host mothers are often used.		
Each embryo cell goes on to form a new embryo.		
Offspring are produced which are clones of each other.		
Embryo cells are clones of the parent.		
New offspring form with the best characteristics of both parents.		
Fertility drugs are usually used.		



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4. Therapeutic cloning can be used to cure certain diseases. Arrange these statements into the correct order.

event	order
The embryo will die.	
The embryo cell is allowed to divide.	
The nucleus of an embryo cell is replaced with DNA from the patient.	
The stem cells can be used to treat the patient.	
Over five days, the dividing embryo will produce stem cells with the same genes as the patient.	
The stem cells are removed.	

5. Some people believe that therapeutic cloning is an important medical development, but others feel that it is wrong. What do you think and why?

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