

### Mini Glossary

**asexual reproduction:** a form of reproduction in which one parent organism produces offspring without meiosis and fertilization

**budding:** a form of asexual reproduction that occurs when a new organism grows by mitosis and cell division on the body of its parent

**cloning:** a type of asexual reproduction performed in a laboratory that produces identical individuals from a cell or from a cluster of cells taken from a multicellular organism

**fission:** cell division in prokaryotes that forms two genetically identical cells

**regeneration:** a form of asexual reproduction that occurs when an offspring grows from a piece of its parent

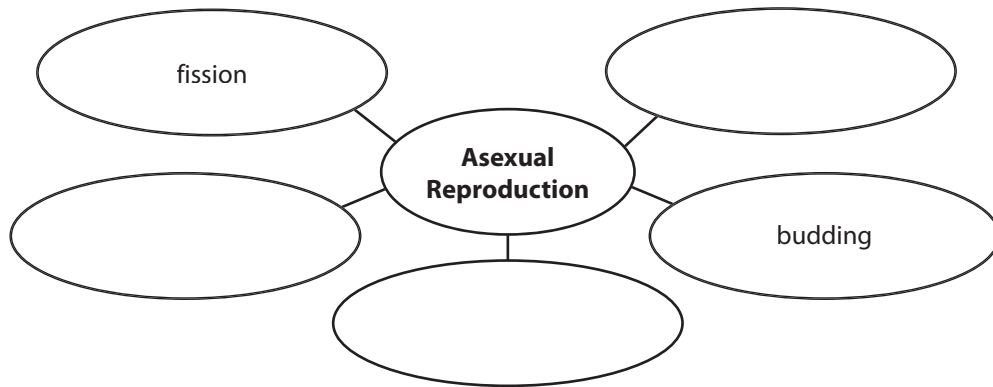
**vegetative reproduction:** a form of asexual reproduction in which offspring grow from a part of a parent plant

1. Review the terms and their definitions in the Mini Glossary. Write a sentence that compares regeneration and vegetative reproduction.

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2. Fill in the spider map below with the different types of asexual reproduction. Use terms from the Mini Glossary.



3. How did discussing what you learned from each paragraph with another student help you learn about asexual reproduction?

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#### What do you think **NOW?**

Reread the statements at the beginning of the lesson. Fill in the After column with an A if you agree with the statement or a D if you disagree. Did you change your mind?



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## Lesson 2 | Asexual Reproduction (continued)

### Main Idea


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### Details

 **Sequence** the steps of cell division through fission.

1. Fission starts with a prokaryote, which does not have a membrane-bound nucleus.
2. The prokaryote's _____ is copied.
3. The cell grows longer, pulling the two _____ apart.
4. The cell membrane _____ _____.
5. The cell splits. Two _____ are formed.

I found this on page \_\_\_\_\_.

 **Write** a complete sentence that defines mitotic cell division and identifies what type of organism undergoes the process.


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I found this on page \_\_\_\_\_.

 **Draw** a representation of budding. Write a definition of the term on the lines below your drawing.

Definition: \_\_\_\_\_

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## Lesson 2 | Asexual Reproduction (continued)

### Main Idea

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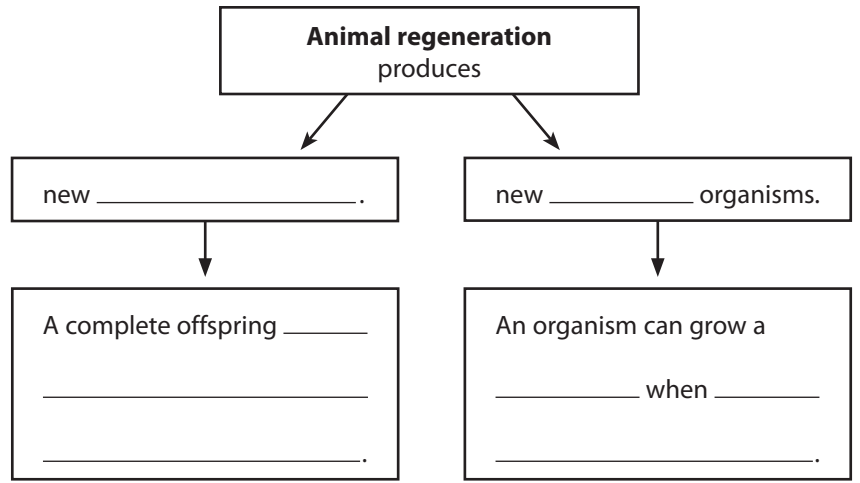
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### Details

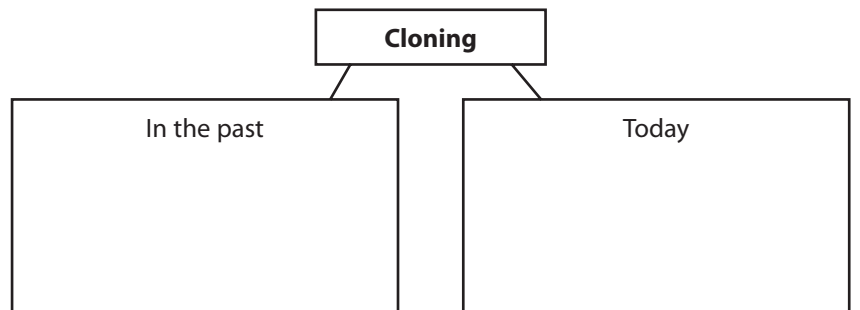
 **Explain** how animal regeneration can produce two results.



 **Identify** the structures of plants usually involved in vegetative reproduction.

_____	_____	_____
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 **Explain** how the definition of cloning has changed over time.



**Identify** three advantages of using tissue culture to clone plants.

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_

## Lesson 2 | Asexual Reproduction (continued)


### Main Idea

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### Details


**Sequence** the steps scientists used to produce the cloned sheep, Dolly.

1. A cell is removed from the first animal. DNA is removed from an unfertilized egg cell from a second animal.
2. The cells from the two animals are _____. The new cell contains _____.
3. The cell develops into an embryo in the lab.
4. _____ into the animal that donated the unfertilized egg.
5. A new individual is born. This individual is an _____.

 **Classify** features of asexual reproduction as advantages or disadvantages. Write “A” for advantage and “D” for disadvantage in the center column of the table below. Explain your reasoning in the right-hand column.

I found this on page \_\_\_\_\_.

Does not require a mate		
Can occur rapidly		
Produces little genetic variation		

 **Synthesize It** Use your understanding of asexual reproduction to explain why it is important that organisms reproduce in a variety of ways.

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