

This practice test is designed to help you determine what concepts you DO know and more importantly what concepts you DO NOT know!

Go through the practice test **THREE** times:

(1) On your own (2) With your notes (3) With another student

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Each time, if you cannot answer a question, draw a circle around it to identify that you should review this concept when preparing for the test.

Multiple Choice. Choose the BEST answer (1 mark each)

- b 1. Which structure controls what enters and leaves a cell?
- Nucleus
 - Cell membrane
 - Ribosome
 - Mitochondria
- a 2. Which base does thymine always pair with?
- Adenine
 - Cytosine
 - Guanine
 - Thymine
- d 3. Which of the following best describes binary fission?
- A form of asexual reproduction in which spores are created.
 - The transfer of genetic material directly from one cell to another.
 - The fusing together of two cells to form one.
 - A form of asexual reproduction through cell elongation and then division.
- c 4. Reproduction by vegetative propagation occurs when
- Amoebas divide in half
 - Planaria are cut in half and grow back the missing parts
 - A tree produces new green shoots in springtime
 - Yeast cells produce new smaller cells that break off and float away
- b 5. The stage of mitosis during which the nucleolus and nuclear membrane disappear is
- Anaphase
 - Prophase
 - Telophase
 - Metaphase

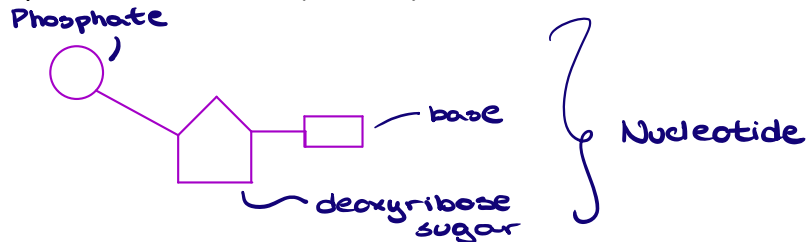
Short Answers.

1. Write out the complementary sequence of the following DNA strand (1 mark)

Strand 1: C C A T G G T C A

Strand 2: G G T A C C A G T

2. Draw and label the 3 parts of a nucleotide (3 marks)



3. What are 2 advantages and 1 disadvantage of asexual reproduction? (3 marks)

Advantage 1: Only one parent needed (no need to spend energy to find a mate)

Advantage 2: Reproduction occurs quickly

Disadvantage 1: Lack of genetic diversity

4. What method does a planarian (flatworm) use to reproduce asexually? Describe this method of reproduction (2 marks)

Method: Fragmentation

Description: Organisms break into 2 or more fragments that develop into a brand new individual

5. What stage does a cell spend most of its life cycle in? What is it doing during this time? (2 marks)

Interphase - the cell grows larger and doubles the number of organelles
- DNA in the nucleus is copied
- Creates a centrosome (aids during cell division by pulling

6. Describe what is happening to DNA during the 4 phases of mitosis (4 marks) (the chromatids apart)

Prophase - DNA condenses into duplicated chromosomes
Nuclear membrane breaks down

Metaphase - Chromosomes line up in the middle of the cell

Anaphase - Sister chromatids get pulled apart to each end of the cell

Telophase - Chromosomes decompress
- 2 nuclei form
↳ Each nucleus contains a complete copy of cell's DNA