

Name: \_\_\_\_\_

### 7.14AC (Heredity/Genetics) and 7.14B (Reproduction) Test Review Key

1. What is asexual reproduction?

Requires only one parent, parent makes an exact copy of its DNA, the offspring is a “clone” of the parent

2. What are the methods of asexual reproduction?

Binary fission (when single celled organisms copy their DNA and divide into two equal halves); vegetative propagation (when plants grow new plants that are genetically identical); budding (parent cell copies its DNA and the offspring grows out of the side of the offspring)

3. What type of offspring does asexual reproduction produce?

Uniform, clone, identical

4. What is sexual reproduction?

Requires two parent (male –sperm and a female – egg), parents DNA combine, and offspring is a genetic combination of parents

5. What are the methods of sexual reproduction?

- Pollination (when pollen is transferred from the female organ of a plant to the male organ)
- external fertilization (when the female lays an egg and it is fertilized by the sperm outside of the female; usually requires a medium – such as water – for the sperm to swim to the egg)
- internal fertilization (when the egg is fertilized within the female;
  - Mammals (gorillas, lions, elephants, rats, zebras, and dolphins) have live births
  - insects, birds, reptiles lay eggs

6. What type of offspring does sexual reproduction produce?

Diverse, unique

7. What is heredity?

The passing of genetic information from one generation to the next

8. Where do organisms get their genetic material from?

Their parents

9. What are genes?

a segment of your DNA

10. On what structure are genes located?

On chromosomes

11. Where are genes stored in the cell?

On chromosomes within the nucleus of a cell

12. What is a trait?

is a physical or behavioral characteristic expressed by your genes

13. What is a genotype?

The organisms genetic makeup; it consist of one allele from each parent; represented by capital and lowercase letters

14. What is a phenotype?

is the way the organism looks and/or behaves (what you see); it is based on the genotype

15. What is a dominant trait?

It is an allele that is strong and covers up other alleles; represented by capital letters

16. What is a recessive trait?

It is an allele that is weaker than others and can be covered up by other alleles; represented by lowercase letters; only seen in the phenotype if there are two recessive alleles present in the genotype

17. What does homozygous mean?

Two of the same alleles

- Example:
  - Two dominate alleles (capital letters) – homozygous dominate
  - Two recessive alleles (lowercase letters) – homozygous recessive

18. What does heterozygous mean?

Two different allele pairing

- Example:
  - One dominate and one recessive allele (a capital and a lowercase)

19. If you have a heterozygous allele pairing, which trait will show through?

The dominate allele

