

5. Heredity

Starter Quiz · 课前小测

AP Biology

Name: _____ Score: _____

1. What does **meiosis** produce?

- ☐ gametes (sex cells) with half the chromosome number
- ☐ two identical body cells
- ☐ ATP
- ☐ proteins

2. In **crossing over**, what happens?

- ☐ matching chromosomes swap sections of DNA
- ☐ the cell makes ATP
- ☐ DNA is destroyed
- ☐ the cell stops dividing

3. An **allele** is...

- ☐ one version of a gene
- ☐ a whole chromosome
- ☐ a type of protein
- ☐ a kind of cell

4. In **incomplete dominance**, a red and a white flower can give offspring that are...

- ☐ pink — a blend of the two
- ☐ always red
- ☐ always white
- ☐ blue

5. An organism's **phenotype** is shaped by...

- ☐ both its genotype and its environment
- ☐ only its genotype
- ☐ only its environment
- ☐ neither

6. Meiosis involves two divisions, producing four cells from one.

- ☐ True
- ☐ False

7. Genetic diversity helps a population survive changing conditions.

- ☐ True
- ☐ False

8. The set of alleles an organism carries is its _____ (its genetic make-up).

9. Some genes, like the human blood group gene, have more than two possible alleles.

- ☐ True
- ☐ False

10. Human height depends on both genes and environment (such as nutrition).

- ☐ True
- ☐ False

AP Biology

1. **gametes (sex cells) with half the chromosome number**

Meiosis makes **gametes** — sex cells with half the normal chromosome number.

2. **matching chromosomes swap sections of DNA**

In **crossing over**, homologous chromosomes exchange matching sections, creating new gene combinations.

3. **one version of a gene**

An **allele** is one version of a **gene** — for example, a version for brown eyes or blue eyes.

4. **pink — a blend of the two**

In **incomplete dominance** neither allele fully dominates, so the heterozygote is a blend — pink.

5. **both its genotype and its environment**

The **phenotype** is the result of the **genotype** *and* the **environment** working together.

6. **True**

Meiosis I and meiosis II together split one cell into four haploid gametes.

7. **True**

Variety means some individuals may cope with a new challenge — the raw material for evolution.

8. **genotype**

The **genotype** is the alleles present; the **phenotype** is the trait you can see.

9. **True**

The ABO gene has three alleles (A, B, O) — an example of **multiple alleles**.

10. **True**

Genes set a possible range for height; nutrition and health decide where within it you end up.