1. What does **meiosis** produce?

   ☐ gametes with half the chromosome number

   ☐ two identical body cells

   ☐ proteins for growth

   ☐ ATP for cell division

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

   ☐ matching chromosomes swap sections of DNA

   ☐ the cell stops dividing

   ☐ DNA is destroyed

   ☐ the cell makes ATP

3. An **allele** is…

   ☐ one version of a gene

   ☐ a type of protein

   ☐ a kind of cell

   ☐ a whole chromosome

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

   ☐ always red

   ☐ always white

   ☐ red and white spotted

   ☐ pink

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

   ☐ neither

   ☐ only its genotype

   ☐ both its genotype and its environment

   ☐ only its environment

6. Meiosis involves a single division, producing two cells from one.

   ☐ True ☐ False

exercises.lol exercises.com.cn

☐ True ☐ False

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

   _____

9. Every gene has exactly two possible alleles.

   ☐ True ☐ False

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

    ☐ True ☐ False

1. **gametes 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**

   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. **False**

   False. Meiosis has two divisions, meiosis I and meiosis II, producing four haploid cells from one.

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. **False**

   False. A person carries at most two alleles, but a population can have more: the ABO blood group gene has three (A, B and O).

10. **True**

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

exercises.lol exercises.com.cn