1. Homeostasis is:

   ☐ growing new cells

   ☐ breaking down food

   ☐ making the body match the outside temperature

   ☐ keeping internal conditions steady despite changes outside

2. The nephron is:

   ☐ a hormone

   ☐ the tiny tube that is the kidney's functional unit

   ☐ the tube to the bladder

   ☐ the outer capsule of the kidney

3. The hormone that controls water reabsorption in the kidney is _____.

   _____

4. When blood glucose is high, insulin:

   ☐ makes liver cells break glycogen down into glucose

   ☐ makes liver and muscle cells take in glucose and store it as glycogen

   ☐ has no effect on liver or muscle cells

   ☐ raises blood glucose by releasing stored sugar

5. Guard cells close the stomata to reduce water loss when the plant is short of water.

   ☐ True ☐ False

6. Removing the amino group from excess amino acids in the liver is called _____.

   _____

7. Ultrafiltration happens at the _____ – the knot of capillaries inside the Bowman's capsule.

   _____

8. Which part of the brain detects the water potential of the blood?

   ☐ the ureter

   ☐ the glomerulus

   ☐ the collecting duct

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9. When blood glucose is low, glucagon:

   ☐ makes liver cells store glucose as glycogen

   ☐ makes muscle cells release insulin

   ☐ makes liver cells break glycogen back into glucose, raising the level

   ☐ lowers blood glucose by making cells take it in

10. When a plant is short of water, the hormone _____ makes its stomata close.

    _____

1. **keeping internal conditions steady despite changes outside**

   Homeostasis keeps internal conditions (temperature, water, glucose) steady so cells work well.

2. **the tiny tube that is the kidney's functional unit**

   Each kidney has about a million nephrons; each makes urine by filtration and reabsorption.

3. **ADH**

   ADH makes the collecting duct more permeable to water.

4. **makes liver and muscle cells take in glucose and store it as glycogen**

   Insulin lowers blood glucose by promoting uptake and storage as glycogen.

5. **True**

   Closing the stomata is how a plant conserves water – part of homeostasis in plants.

6. **deamination**

   It produces ammonia, which the liver converts to urea for the kidneys to excrete.

7. **glomerulus**

   High blood pressure in the glomerulus forces small molecules out into the capsule.

8. **the hypothalamus**

   The hypothalamus monitors blood water potential and triggers ADH release from the pituitary.

9. **makes liver cells break glycogen back into glucose, raising the level**

   Glucagon raises blood glucose by breaking down glycogen into glucose in the liver.

10. **ABA**

    ABA is the stress hormone that triggers stomatal closure to save water.

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