

1.7 The Hydrologic (Water) Cycle

Name: _____ Class: _____ Date: _____

Total: 9 marks

KEY WORDS transpiration 蒸腾 • evaporation 蒸发 • precipitation 降水 • water cycle 水循环

Objective

Build the skills to answer exam questions on the **hydrologic (water) cycle**.

You must be able to:

- name the processes (**evaporation** 蒸发, **transpiration** 蒸腾, condensation, **precipitation** 降水, runoff, infiltration)
- describe how water moves between reservoirs
- explain how humans alter the cycle

1 Worked examples

Study these first. Each one shows the method for a question type used later — follow the steps and you can do the Practice and Exam-style questions yourself.

■ The processes

The **water cycle** moves water by:

- Evaporation** — liquid water becomes vapor.
- Transpiration** — water evaporates from plant leaves.
- Condensation** — vapor forms clouds.
- Precipitation** — rain/snow falls.
- Runoff** — water flows over land to rivers/oceans.
- Infiltration** — water soaks into the ground (groundwater).

■ Reservoirs

Water is stored in oceans (most), ice caps, groundwater, lakes/rivers, and the atmosphere.

■ Human disturbance

Paving land increases runoff and reduces infiltration; **deforestation** reduces transpiration; **withdrawing groundwater** faster than it recharges depletes aquifers.

■ A worked link

Cutting a forest reduces transpiration and infiltration, so more water runs off quickly, raising flood risk and lowering groundwater recharge.

2 Practice

Now apply the methods above.

2.1 What is transpiration? [1]

2.2 What process soaks water into the ground? [1]

2.3 Name the largest reservoir of water. [1]

3 Exam-style questions

3.1 Water evaporating from plant leaves is called [1]

- | | |
|---|---|
| A | B |
| C | D |
- A** precipitation
B infiltration
C transpiration
D runoff

3.2 A city paves over a large grassy area.

(a) Explain the effect on runoff and infiltration. [2]

(b) State one consequence of increased runoff. [1]

3.3 Explain how deforestation changes the local water cycle.

[2]