

Cognition

AP Psychology ■ Unit 2

AP Psychology



What we will cover

- 1 Perception
- 2 Depth, Constancy, and Movement
- 3 Thinking and Problem-Solving
- 4 Memory Systems
- 5 Encoding and Storing
- 6 Retrieving and Forgetting

Perception

Unit 1 ended with **sensation**, the detection of a stimulus. **Perception** 知觉 is what the brain does next: it organises and interprets that information. The same signal can be perceived in more than one way.

- **Bottom-up processing** 自下而上加工 starts from the raw sensory information and builds upwards.
- **Top-down processing** 自上而下加工 starts from what you already expect and know.
- **Selective attention** 选择性注意 focuses on one input. The **cocktail party effect** 鸡尾酒会效应 is hearing your own name across a noisy room.
- **Inattentional blindness** 无意视盲 is failing to see something visible because attention was elsewhere; **change blindness** 变化盲视 is failing to notice that something has changed.

Perception, continued

Internal filters shape perception. A **schema** 图式 is a mental framework built from past experience. A **perceptual set** 知觉定势 is a readiness to see something in a particular way.

External filters matter too: **context** 情境 and cultural expectations change what people report seeing.

Depth, Constancy, and Movement

To perceive a three-dimensional world from a flat retinal image, the brain uses **depth cues** 深度线索.

Thinking and Problem-Solving

Two ways to solve a problem:

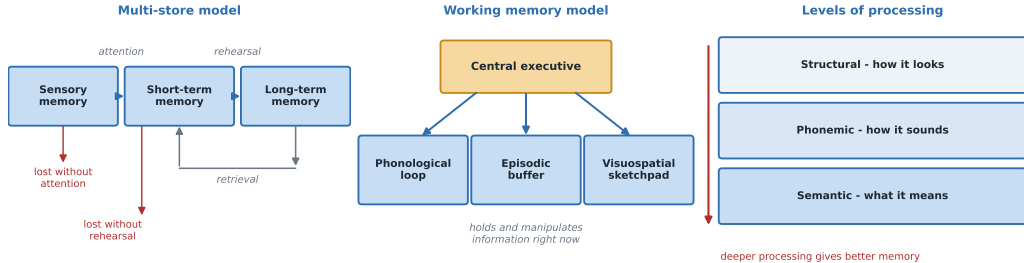
- An **algorithm** 算法 tries every possible solution and is guaranteed to work, but is slow.
- A **heuristic** 启发式 is a mental shortcut. It is fast but can lead to error – the **representativeness heuristic** 代表性启发式 judges by how well something matches a prototype, and the **availability heuristic** 可得性启发式 judges by how easily examples come to mind.

Thinking and Problem-Solving, continued

Thinking can also get stuck. A **mental set** 心向 is the tendency to repeat a solution that worked before. **Functional fixedness** 功能固着 is seeing an object only in its usual use.

The **gambler's fallacy** 赌徒谬误 (believing a run must end) and the **sunk-cost fallacy** 沉没成本谬误 (continuing because of what is already spent) both hinder good decisions.

Memory Systems



the distinction this unit turns on

Memory Systems

Memory is divided by how information is processed.

- The **multi-store model** 多重存储模型 proposes **sensory memory** 感觉记忆 (including **iconic** 图像记忆 and **echoic** 声像记忆 stores), **short-term memory** 短时记忆, and **long-term memory** 长时记忆.
- The **working memory model** 工作记忆模型 treats the middle stage as active, not a waiting room. It has a **phonological loop** 语音回路, a **visuospatial sketchpad** 视空间模板, and a **central executive** 中央执行系统.
- The **levels of processing model** 加工水平模型 says deeper processing gives better memory: **shallow** processing of appearance, then sound, then **deep** processing of meaning.

Encoding and Storing

Storage differs by system. **Maintenance rehearsal** 保持性复述 repeats information to hold it; **elaborative rehearsal** 精细复述 links it to what you already know and works better.

- **Mnemonic devices** 记忆术 such as the **method of loci** 位置法 aid encoding.
- **Chunking** 组块 groups items into meaningful units, which raises how much short-term memory can hold.
- The **spacing effect** 间隔效应 shows that spreading study over time beats **massed practice** 集中练习 (cramming).
- The **serial position effect** 系列位置效应 means items at the start (**primacy** 首因效应) and end (**recency** 近因效应) of a list are remembered best.

Encoding and Storing, continued

A few people show **highly superior autobiographical memory** 超常自传体记忆, which suggests biological differences.

Storage can also be impaired: **Alzheimer's disease** 阿尔茨海默病 and **infantile amnesia** 婴儿期遗忘 both limit what can be stored or recovered.

Retrieving and Forgetting

Retrieval takes two forms: **recall** 回忆 (producing information without cues) and **recognition** 再认 (identifying it among options). Recognition is easier, which is why a multiple-choice question feels easier than an essay.

Practising retrieval helps too – the **testing effect** 测试效应 shows that testing yourself beats rereading.

Intelligence and Testing

- **Standardization** 标准化 – the test is given under consistent procedures and scored against a comparison group.
- **Validity** 效度 – it measures what it claims to. **Construct validity** 构念效度 and **predictive validity** 预测效度 are both examinable.
- **Reliability** 信度 – it gives similar results each time, checked by **test-retest reliability** 重测信度 and **split-half reliability** 分半信度.

Intelligence and Testing, continued

Early tests produced an **intelligence quotient (IQ)** 智商 by dividing mental age by chronological age.

Modern scores are compared with a **normal curve** 正态曲线 of the population.

Exam tips

- Keep **sensation** and **perception** apart: detecting is sensation, interpreting is perception.
- **Bottom-up** starts with the stimulus; **top-down** starts with expectation. Say which the scenario shows.
- Learn the interference pair by direction: **proactive** means old material acts forward onto new.
- For **encoding** questions, name a specific strategy – chunking, spacing, elaborative rehearsal – not "studying harder".
- On testing questions, separate **reliability** from **validity**. A test can be reliable and still measure the wrong thing.
- When data are given, quote a figure before naming the concept. Findings-based parts award the link between the number and the term.