

Exercise walk-through

2.1

Perception

AP Psychology

Perception

Unit 1 ended with **sensation**, the detection of a stimulus. **Perception** 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** starts from the raw sensory information and builds upwards.
- **Top-down processing** starts from what you already expect and know.
- **Selective attention** focuses on one input. The **cocktail party effect** is hearing your own name across a noisy room.
- **Inattentional blindness** is failing to see something visible because attention was elsewhere; **change blindness** is failing to notice that something has changed.

Perception, continued

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

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

The Gestalt grouping principles

figure and ground

one part is seen as the object, the rest as background – and it can flip

closure

the brain **fills in gaps** to complete a familiar shape

proximity

things close together are grouped as one

similarity

things that look alike are grouped as one

perceptual constancy

an object looks the same even as its retinal image changes – a door stays rectangular as it swings

Gestalt 's claim is that the whole is grouped **before** the parts are examined. Perception is organised, not assembled.

Exercises 2.1-2.2

2.1 State the difference between bottom-up and top-down processing. [2]

2.2 Explain what inattentional blindness demonstrates about perception. [2]

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2.1

- bottom-up builds a percept from incoming sensory data; top-down interprets it using expectation, context and prior knowledge
-

2.2 Explain what inattentional blindness demonstrates about perception. [2]

2.2

- attention is required for conscious perception; an unattended event can be fully visible and still go unnoticed

Exercise 2.3 (a)

2.3 A door appears rectangular even when seen at an angle.

(a) Name the phenomenon.

[1]

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[1]

(a)

- shape constancy

Exercise 2.3 (b)

2.3 A door appears rectangular even when seen at an angle.

(b) State what the retinal image actually shows.

[1]

Exercise 2.3 (b)

2.3 A door appears rectangular even when seen at an angle.

(b) State what the retinal image actually shows.

[1]

(b)

- a trapezoid, not a rectangle

Exercises 3.1-3.2

3.1 Reading a smudged word correctly because of the sentence around it is mainly [1]

☐

A bottom-up processing

B top-down processing

C sensory adaptation

D transduction

3.2 Judging that a car is far away because it looks small relies on a [1]

☐

A binocular cue

B monocular cue

C Gestalt closure principle

D perceptual constancy

Exercises 3.1-3.2

3.1 Reading a smudged word correctly because of the sentence around it is mainly [1]

- ☐ **A** bottom-up processing
B top-down processing
C sensory adaptation
D transduction

3.1 B

- context and expectation supply the interpretation the data alone does not

3.2 Judging that a car is far away because it looks small relies on a [1]

- ☐ **A** binocular cue
B monocular cue
C Gestalt closure principle
D perceptual constancy

3.2 B

- relative size is available to one eye, so it is a monocular cue

Exercise 3.3 (a)

3.3 Viewers counting passes in a video fail to notice an obvious unexpected event.

(a) Name the effect.

[1]

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(a)

- inattentional blindness

Exercise 3.3 (b)

3.3 Viewers counting passes in a video fail to notice an obvious unexpected event.

(b) Explain what it shows about the role of attention.

[2]

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3.3 Viewers counting passes in a video fail to notice an obvious unexpected event.

(b) Explain what it shows about the role of attention. [2]

(b)

- perception is selective, not a complete recording, so what is unattended may never reach awareness at all

Exercise 3.4 (a)

3.4 Applied research task. Participants were shown an ambiguous drawing that can be seen either as a duck or as a rabbit. Group A had just been shown photographs of farm birds; Group B had just been shown photographs of woodland mammals. 78% of Group A reported a duck; 74% of Group B reported a rabbit. Both groups received identical visual information.

(a) Identify the independent and the dependent variable.

[2]

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(a) Identify the independent and the dependent variable. [2]

(a)

- Independent variable – the type of photographs shown beforehand, birds or mammals (1). Dependent variable – which animal the participant reported seeing in the ambiguous drawing (1)

Exercise 3.4 (b)

3.4 Applied research task. Participants were shown an ambiguous drawing that can be seen either as a duck or as a rabbit. Group A had just been shown photographs of farm birds; Group B had just been shown photographs of woodland mammals. 78% of Group A reported a duck; 74% of Group B reported a rabbit. Both groups received identical visual information.

(b) Name the psychological concept the results demonstrate, and explain how the study supports it. [2]

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- **Perceptual set** – the readiness to perceive one thing rather than another (1). The two groups received identical sensory input but reported different images, so the difference must come from the expectation created by the priming photographs (1)

Exercise 3.4 (c)

3.4 Applied research task. Participants were shown an ambiguous drawing that can be seen either as a duck or as a rabbit. Group A had just been shown photographs of farm birds; Group B had just been shown photographs of woodland mammals. 78% of Group A reported a duck; 74% of Group B reported a rabbit. Both groups received identical visual information.

(c) Explain the difference between sensation and perception, using this study as the example. [2]

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(c)

- **Sensation** is the detection of physical stimulus energy by the receptors and its transduction into neural signals – here, the same pattern of light falling on every participant's retina (1). **Perception** is the brain's organisation and interpretation of that input, which is why the same signal became a duck for one group and a rabbit for the other (1)

Exercise 3.4 (d)

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(d) State **one** reason why the results do not show that the participants' eyes worked differently. [1]

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(d) State **one** reason why the results do not show that the participants' eyes worked differently. [1]

(d)

- The stimulus was physically identical for everyone, and participants were randomly allocated, so any difference in the eyes themselves would be spread evenly across both groups (1)