

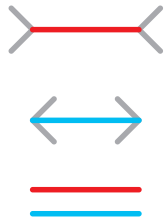



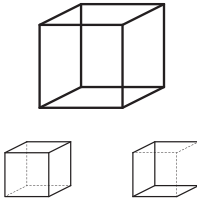
Illusions

You must be able to:

- Identify and describe the Müller-Lyer, Rubin's vase, Ames Room and Ponzo illusions
- Identify and describe the Kanizsa triangle and Necker cube
- Explain major causes of visual illusions.

What are Illusions?

- Taking in information from the senses is not always simple or accurate. Sometimes, two people may experience the same stimulus via their senses but perceive it differently.
- An **illusion** is a stimulus that causes a person to see something different from what is actually there, or where there are two or more possible interpretations of the same image.
- There are several famous examples of illusions, all of which have been studied and debated by psychologists.

<p>The Müller-Lyer illusion appears like a pair of arrowheads either pointing inwards towards a line, or outwards. Although the lines are the same length, most people perceive the line with the inward-pointing arrows as being longer.</p>	
<p>Rubin's vase is an illusion which can be interpreted as either two faces looking towards each other, or (using the space in between the faces) a vase.</p>	
<p>The Ames Room is a specially constructed room that appears ordinary when viewed from the front but is actually distorted, with one corner much further away than the other. If two people stand at the opposite corners, there is an illusion that one is much larger than the other.</p>	
<p>The Kanizsa triangle shows three circles with wedge-shaped sections removed like the corners of a triangle. People tend to see the sides of the triangle appearing faintly, especially towards the corner areas.</p>	
<p>The Necker cube is a 2D shape that tends to be interpreted as a cube – but there are two possible ways that it could be facing, making it possible for a person to 'flip' the way they perceive the shape.</p>	

Explanations for Illusions

- Illusions show that some aspects of perception are fairly automatic. Even when you know about them, it is hard to avoid seeing the effect of the illusion.
- Illusions do not have a single explanation. Instead, they rely on several different factors that affect perception. All of them in some way cause us to perceive something inaccurately or lead to more than one possible interpretation that we struggle to reconcile.
- Two particular causes of illusion are ambiguity and fiction.

Ambiguity	There are two or more ways that a two-dimensional shape on the page or screen can be perceived. The Necker cube and Rubin's vase are examples of ambiguous figures.
Fiction	The person perceives something that is not actually there. The Kanizsa triangle is an example of a fiction – there is actually no triangle, yet people perceive one. According to the Gestalt approach to psychology, this is because of a tendency to perceive objects as wholes rather than many small parts, and to mentally connect objects that appear to belong together.

- Misinterpreted depth cues are another cause of illusions. Some illusions occur because the cues that guide us to depth and distance can also mislead the processes of perception.
- A key example of this is the **Ponzo illusion**. Here, the cue of linear perspective tricks the mind into thinking that the images closer to the vanishing point are larger.
- Depth cues are used in art with the aim of being misinterpreted, so that people perceive a flat, two-dimensional picture as a scene with depth and distance.
- Size constancy (see page 19) is another cause of illusions. When the context makes an object look closer or further away than it is, the process of size constancy causes it to appear larger or smaller than it really is. This occurs in the Ames Room illusion.

Quick Test

1. In which illusion do people tend to see a triangle that is not actually there?
2. What term is used to describe illusions where an image has more than one possible interpretation?
3. Why do people experience the Ponzo illusion?

Key Point

Illusions are a much-studied group of stimuli that are either ambiguous or cause people to perceive things that are not actually there.

Ponzo illusion



This shows two identical lines on top of a pair of lines which are drawn towards a vanishing point.

Key Point

Illusions can be caused by errors in the processing of depth cues and size constancy.

Key Words

illusion
Müller-Lyer
Rubin's vase
Ames Room
Kanizsa triangle
Necker cube
ambiguity
fiction
Gestalt approach
Ponzo illusion