Banich & Compton (2011) Cognitive Neuroscience, 3Rd Ed. Wadsworth Cengage.

Jamie Ward (2010). Student's Guide to Cognitive Neuroscience, 2nd Ed. Psychology Press M Gazzaniga, R Ivry & G Mangun (2002) Cognitive Neuroscience 2nd Ed. Norton

How do we recognise objects of different sizes, orientations or configurations as the same thing?

Parallel processing: Different areas of the brain are responsible for different aspects of perception.

Dorsal is responsible for "where", whereas ventral is responsible for "what", ie ventral parts of the brain have receptive fields.

The ventral visual-processing stream consists of the areas of the occipital, occipitotemporal, and temporal regions that are devoted to processing visual stimuli. Certain characteristics of cells in these areas seem to be especially adaptive for object recognition.

In other words, areas in the posterior region have more simple functions, but as we travel to the anterior region of the brain the processing become more complex and the receptive fields become larger. A large receptive field is necessary to allow for objects to be recognized regardless of its size. co.u

Important points to remember:

- The ventral-visual processing stream allows up to protiate colour. (Figure-ground separation)
- tempral and tempored regions of the brain Is located in the occipital occ
- Posterior + vi 201

Deficits in object recognition:

Visual agnosia is an inability to recognize objects within the visual modality that cannot be explained by other causes such as memory or general mental decline. It is modality specific, meaning that it manifests in only one of the senses; in this case it is visual. The word "agnosia" means "without knowledge". There are two main times of agnosia, namely Apperceptive and Associative agnosia. They differ in that apperceptive agnosia is the inability to "see" a given object. They fail to match shapes and colours and fail to see things as a whole. They also fail at line orientation so battle to distinguish words as a whole. They therefore battle to copy whole images or patterns and they cannot give meaning to it. Damage to the occipital lobe is associated with this type of agnosia. Whereas associative agnosia; the patient can quite easily copy and identify images. However, they would be unable to draw the same image from memory. They are able to recognize an object in front of them, however the key thing here is that they cannot attach semantic meaning to it. For example, they may identify and copy a picture of an anchor, but when shown it later would be unable to recall its context.

Differences between the Agnosias:

- Apperceptive Agnosia
 - Diffuse occipital damage
 - Cannot put stimuli together into meaningful image