

## Introduction

Pattern recognition depends on our own database of shapes. Does the spelling of a word feel/look right or wrong? Visualisation is one of the skills needed for spelling.

Vision drives our response. If you want to touch something, the eyes tell the brain and the brain tells the hand to reach and grasp. What we DO depends on what we SEE and understand. Vision drives movement.

An awareness of space is needed for balance and contact with other objects. Where am I? And where is it? And how far must I reach my hand to touch it?

The eyes work closely together to give us depth perception. Accurate and fast appreciation is needed in sports, driving and in the work environment.

Adaptation and learning is called Neuroplasticity. If you put your hand in a fire, the mere sight of fire in the future will tell you something about heat.

Right at the top of the pyramid overleaf, is the skill of reading. It is a high brain function and uses many ocular and brain skills, it is so complex that it is truly amazing that any of us can read at all.

Happy reading!

# The Pyramid of Visual Skills

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## Vision is complex and depends on a variety of factors.

The basic eye examination will address the bottom layer of the pyramid shown opposite – the basic tools needed for the job. Can you see the bottom line with either eye? Are you capable of moving your eyes up, down, right and left and can you converge inwards towards a near object? Is there any field loss, or additional blind spots? All this is about the hardware of the visual system but to drive it efficiently takes software (our brain) as well.

In order to learn, the brain has to be active. Paying attention to the task in hand may take much concentration especially if the child is not capable of sitting still.

Being alert rather than tired, knowing how and where to point your eyes and doing so accurately is necessary to give instant stereo vision without delay. Often when the eyes are not moving at the same speed then a split second delay is apparent at each eye movement. This slows down reading speed and can also cause loss of place.

Scanning is the ability to co-ordinate central/peripheral vision, so the eyes know where they are going and where they have been.



What do you see? Young lady or old lady.



Do you see a vase or two faces? They're both there!



Do you see a rabbit or a duck? If you look hard, you can see both!



Do you see grey anywhere in this two coloured illusion?



## Increasing levels of brain functions

Response to changes in learning  
Neuroplasticity

Visual Memory  
Visualisation

Pattern and shape recognition  
Updating internal database  
Scanning (and saccades)

Attention and alertness. What are the distractions? Central v peripheral vision.  
Effort! Accuracy of eye movements

Ability of eye movements, clarity, field of vision and eye health.  
This layer only, should be addressed in a basic (NHS) eye exam

Fluent and enjoyable reading with comprehension and retained information