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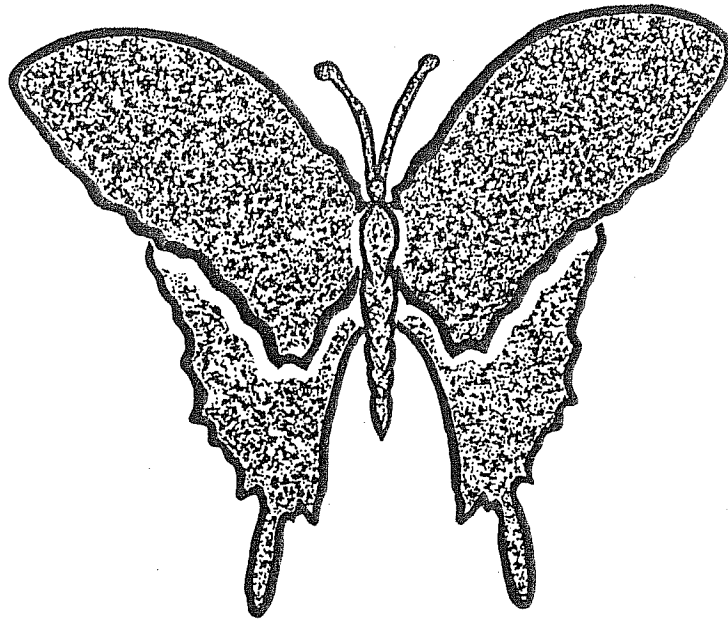
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RANDOM DOT STEREO BUTTERFLY



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STEREO OPTICAL

STEREO TESTS

Stereo Optical's complete line of Stereo Tests provide an easily administered check of stereoscopic depth perception at any age level. Its purpose is to measure how minutely the two eyes can discern differences in the distances of objects from the observer, and from this identify conditions such as Amblyopia and Strabismus (lazy eye).

Other depth determinants such as size, overlapping, perspective, etc. must be excluded to demonstrate the integrity of the fusion mechanism. The Stereo Optical 3-D Vectograph is an ideal medium for this test. Without introducing instruments or lenses or prisms, the images for the right eye and left eye may be superposed, and stereoscopic disparities introduced in graded steps.

The Random Dot stereo tests now provide more opportunity to achieve excellent validity and reliability. Binocularly devised random dot patterns require the individual to extract a form figure from ground without the help of any monocularly visible contours.

Three tests are presented for use here:

1. The Random Dot Butterfly establishes gross stereopsis, especially useful for young children.
2. The Circle Patterns provide a finely graded sequence for critical testing.
3. The Series of Animals, from which a forward-appearing one is selected, facilitates the testing of the younger children.

To administer, hold the picture straight before the patient to maintain the proper axis of polarization. Provide good light, but avoid reflections on the shiny surfaces. Although the graded tests are standardized for sixteen inches, minor variations in distance will have little effect on the score. Polarized viewers must always be worn-over glasses, if used. For the bifocal wearer, position the test properly for near-point viewing.

RANDOM DOT BUTTERFLY

Hidden in the random dot is a butterfly configuration. The individual being tested should be able to identify the configuration, as well as trace its shape.

If there is not a quick response, do not conclude too rapidly that there is no stereoscopic fusion. Some binocular individuals rely heavily on monocular clues of depth such as motion parallax, overlap, size, perspective, shading, and when binocular disparity is the only one present, as in this test, the perceptual response may develop slowly. So let the subject study it for a while, giving him encouragement and suggestions. Poor response

from some children may be because of communication difficulties and not visual inadequacy. Be simple and direct to assist understanding. Encourage the child to point rather than relying solely on verbal responses.

This butterfly presents three different levels of gross stereopsis

- Top of upper wings 2,000 Seconds of Arc
- Bottom of lower wings 1,150 Seconds of Arc
- Tip of abdomen 700 Seconds of Arc

Use the L and R at the bottom to check suppression.

STEREO TEST—CIRCLES

This is a graded series which tests fine depth discrimination. Within each square are four circles. Only one of the circles has a degree of crossed disparity. It should appear forward of the plane of reference for those having normal fusion. The design of a circle within a circular window establishes a constant distance from test object to reference plane. Variation in this distance will influence the ability to judge relative depth. To equate this test with other stereopsis tests, a factor to compensate for different distances from test object to reference plane must be considered. The distance for this test is established at 15 minutes of arc at 16 inches.

Start with No. 1. Say to the patient: "Look at each of the four circles and tell me which one seems to come out closer to you—top, bottom, right or left." Continue until patient gives up trying, or makes two successive mistakes.

SCORING—Refer to chart below. Record the level of stereopsis at the last one chosen correctly. If the patient makes one mistake, then gets the next one right, go back and have him try the missed one again to determine if he can achieve this level of stereoscopic discrimination, or just guessed the more difficult one.

STEREO TEST—CIRCLES		Reference distance constant 15 minutes of arc
Test	Correct Answers	Angle of Stereopsis at 16 inches
1	Bottom	800 seconds
2	Left	400 seconds
3	Bottom	200 seconds
4	Top	140 seconds
5	Top	100 seconds
6	Left	80 seconds
7	Right	60 seconds
8	Left	50 seconds
9	Right	40 seconds

STEREO TEST—ANIMALS

This test presents three levels for testing young children. In each line, one of the five animals appears forward from the others. It will help the children if you point to the animals in the line being tested and ask: "Does one of these animals seem to come out closer to you than the others?"

SCORING—Refer to chart below. Try the patients on all three lines. If he misses one, but gets the next more difficult one, go back and have him try the missed line again to determine if he can achieve this level of stereoscopic discrimination, or just guessed the following one.

STEREO TEST—ANIMALS		Approximate Scores		
Test	Correct Answer	Angle of Stereopsis at 16 inches	Shepard Percentage	Verhoff Distance
A	Cats	400 seconds	15%	.1
B	Rabbit	200 seconds	30%	.2
C	Monkey	100 seconds	50%	.3

NOTE: Please store your Stereo Tests in a cool, dry place when not in use. High heat and humidity may cause fading.

Do not spray any liquid directly on test or 3D viewers. Clean with soft, slightly damp cloth only.