



IS SEEING BELIEVING?

BACKGROUND INFORMATION & RATIONALE

Our class made a concave face using plaster of Paris and a plastic mask. We modified an illusion called The Hollow Face to see if the viewer would see a convex face which appeared to watch them as they moved. Since our brains do not compute the concave face, visually our minds will make the assumption that it sees a convex face.

Many viewers commented that our face made them think of the faces in the Haunted Mansion at Disneyland.

HYPOTHESIS

Our class will deceive our viewers into believing a face made from a plaster of Paris mold is watching them, as they move.

MATERIALS

- 9½" x 12" aluminum baking pan
- medium plastic bag
- plaster of Paris
- measuring cup
- scissors
- spoon
- plastic mask
- Vaseline
- sand paper
- paint
- paint brush
- paper towels
- water hose

PROCEDURE

- Using our materials list we first placed our baking pan into a medium sized plastic bag.
- We poured 1.5L water into a baking pan with 3 cups (700ml) plaster of Paris, stirring the contents until the mixture was smooth and ready to pour.
- The mixture of plaster of Paris was carefully smoothed evenly in the baking pan.
- We then pressed the plastic mask, which had a layer of Vaseline on the face, into the plaster.
- We pressed the mask into the plaster firmly, several times.
- We removed the plastic mask and washed it and our hands thoroughly with the garden hose.
- The mold was left to dry for 24 hours.
- We used the plastic bag to lift the mold out of the baking pan.
- We then used sand paper to clean up and smooth our mold.
- We used acrylic paint to paint our face a flesh color.
- We placed our plastic face on the chalk well of our chalk board and invited students and teachers to walk slowly sideways left or right and awaited their response.

RESULTS

Our class was able to prove our hypothesis. We followed a procedure that resulted in a concave face, an irregular pattern for our brains to process. The result was a face made with plaster of Paris and a mold. This face appears to follow our viewers as they walk left or right.

Our viewers loved this! We had 100% success from our 70 viewers. This experiment was fun and we enjoyed learning about how our brains process information.

CONCLUSION

In part, what a person sees depends on what patterns the brain is accustomed to seeing. An image received by the retina is transmitted by the optic nerve to the brain. In the case of our plaster face, the brain is not familiar with this irregular pattern (a concave face) so the brain reconstructs the plaster image to make a familiar pattern. The brain's memory reconstructs a convex face, one where the nose sticks out.

As you move around a regular image of a face part of it disappears from view. The side farthest away from you is blocked by the side nearest you. With the inverted face image, no part of the face sticks out to block your view. Therefore you see the entire face as you move around it and the face appears to move with you.

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