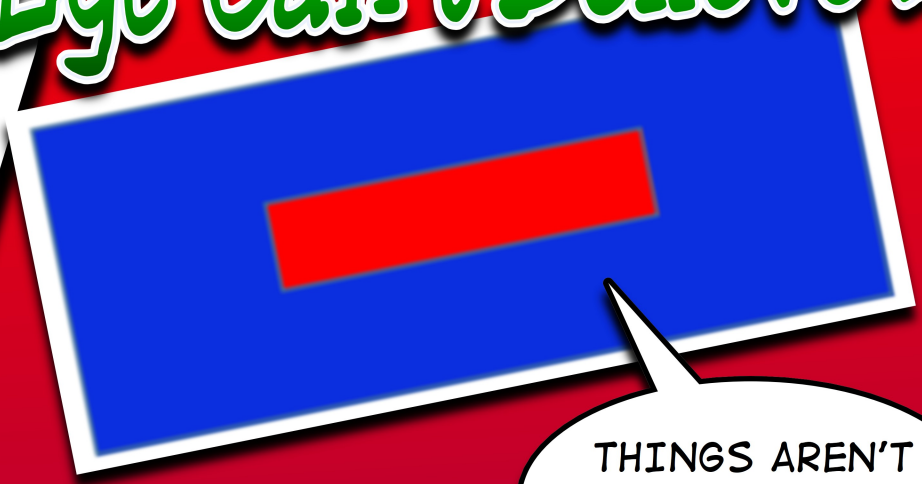
The lab of MR.Q

Eye Can't Believe It!



What you need:

RED AND BLUE CONSTRUCTION PAPER
SCISSORS
TAPE/GLUE
LARGE, FLAT, WHITE SURFACE (PAPER, WHITEBOARD, OR WALL)

What to do:

CUT OUT A RECTANGULAR PIECE OF RED CONSTRUCTION PAPER AND GLUE IT INTO THE CENTER OF A LARGER SHEET OF BLUE CONSTRUCTION PAPER AS SHOWN IN THE IMAGE ABOVE.
TAPE THIS TO A LARGE WHITE WALL OR OTHER LARGE WHITE SURFACE.
STEP BACK A COUPLE OF PACES AND STARE AT THE RED AND BLUE SQUARE IMAGE FOR ABOUT 30 SECONDS WITHOUT LOOKING AWAY.
IMMEDIATELY SHIFT YOUR EYES TO A PLAIN WHITE SURFACE.
OBSERVE WHAT APPEARS IN YOUR VISION-ESPECIALLY THE COLORS.

What's going on?

THIS ACTIVITY DEMONSTRATES A PHENOMENON CALLED AN AFTERIMAGE. AFTERIMAGES OCCUR BECAUSE THE CELLS IN YOUR EYES, CALLED CONES, GET TIRED WHEN YOU STARE AT A BRIGHT COLOR FOR TOO LONG. CONES ARE RESPONSIBLE FOR DETECTING DIFFERENT COLORS OF LIGHT, BUT IF THEY ARE OVERUSED, THEY STOP RESPONDING TEMPORARILY. WHEN YOU THEN SHIFT YOUR GAZE TO A WHITE SURFACE, YOUR BRAIN TRIES TO FILL IN THE "MISSING" INFORMATION BY SHOWING YOU THE COMPLEMENTARY COLOR, THE OPPOSITE OF THE ONE YOU WERE JUST STARING AT. AS A RESULT, YOU SEE A GHOST-LIKE IMAGE IN NEW COLORS, EVEN THOUGH NOTHING IS REALLY THERE. IN THIS EXPERIMENT, THE RED RECTANGLE APPEARS GREEN, WHILE THE BLUE BACKGROUND LOOKS YELLOW OR YELLOW-ORANGE, WHICH ARE EXACTLY THE COMPLEMENTARY COLORS OF RED AND BLUE. IT'S A FASCINATING EXAMPLE OF HOW YOUR BRAIN CAN TRICK YOU WHEN IT DOESN'T HAVE ALL THE INFORMATION.