

Puzzle #74: Bit speed!

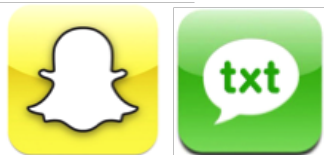
MoeZone

Real challenges for people living in the real world




Be safe!

Can you get hurt?
Can someone else get hurt?



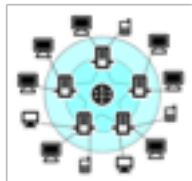
How long does it take for your friend to get a text or Snapchat from you? Does the time change if you are in another room or in another state? How do you think it gets to them?

ELEMENTARY



When you've connected to the Internet, what is the fastest speed you've ever had? During the uploading or downloading, did the speed change?

ADVANCED



Our Internet traffic here on the Range – what is the fastest it can travel to the Internet? What kind of equipment is needed to do that?

PROFESSIONAL

Send any solutions by July 23 to Moe Benda at mbenda@d.umn.edu.
Best solutions and next puzzle will appear in HTF on July 28.

Keep your eyes clean and bright, they are the window through which you see the world!

Moe's quote:

MoeZone Puzzle #73 solutions: Colors!

ELEMENTARY PUZZLE

Artists like to blend primary colors to make new and interesting colors. How many primary colors are there and how many different color blends can you make?

Michelle (Mt. Iron): There are three primary colors—blue, red and yellow—every conceivable color comes from a combination of these. My favorite is blending blue and yellow to make a green.

MOE'S NOTE: I use Crayola crayons as my color reference and I just checked—they have over 120! Which is your favorite?

ADVANCED PUZZLE

What part of our eyes enables us to see colors? What makes some people color blind?

Chris (Utah): Cones that we have in our eyes allow us to see colors. They detect the light reflected off of objects as light hits it and translates that to our brains. When someone is color blind, one or more of these sets of cones are not active.

PROFESSIONAL PUZZLE

Recent research has shown that some of us have more (advanced puzzle answer). Can those of us that do see more colors than others?

Chris (Utah): They have found that just as some are born with some cone cells not active, some of us are born with another set of cones—instead of three sets, they have four. This is called tetrachromacy. Scientists estimate that you can see 100X as many colors if you have four sets of cone cells. My question is, how do I know if you can see more colors or not? Or different colors? When I see blue, is it the same blue that you see? Check this out: <https://theneurosphere.com/2015/12/17/the-mystery-of-tetrachromacy-if-12-of-women-have-four-cone-types-in-their-eyes-why-do-so-few-of-them-actually-see-more-colours/>.