Nature of Science & Math: Analyzing the Presence in Everyday Communication

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Methods of Stem Education - Elementary

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The article I chose to read for the this assignment is titled, “Fighting the cold virus and other threats, body makes trade-off, says study.” A Yale University research team looked at cells exposed to a cold virus along with different environmental factors and found that the body will make a trade-off in what it fights off. Hence saying some people get the cold virus, and other don’t.

Scientific Knowledge is Based on Empirical Evidence

According to the NGSS matrix, one example of this is “Science uses tools and technologies to make accurate measurements and observations” (NGSS, 2013). The researchers demonstrated this by using the same conditions in cell culture when they exposed the cells to the virus.

Science is a Way of Knowing

One example of this is “Science is a way of knowing used by many people, not just scientists” (NGSS, 2013). The topic being discussed in the article is good knowledge for the general public, not just scientists. It could also help doctors explain why patients react differently to a virus. The article suggests, “New research could help solve the mystery of why some people exposed to the cold virus get ill while others don’t” (ScienceDaily, 2018).

Scientific Knowledge is Open to Revision in Light of New Evidence

The matrix states, “Science explanations can change based on new evidence” (NGSS, 2013). The whole basis of this article relates to this tenet. Researchers found new evidence on an ongoing health related topic. Based on the initial observations, the researchers chose to investigate further, creating more new evidence.

Although the article demonstrates use of many of the science tenets, it was hard to observe where math practices came into play. It can be inferred that the researchers did practice some of these math practices, but it wasn’t exactly documented in the article.

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MP6: Attend to Precision

The researchers need to communicate with others and be careful in specifying their units of measure. Another item from this practice is to calculate accurately and proficiently. If the researchers weren't doing this, they wouldn't have reliable data.

MP7: Look For and Make Use of Structure

The Common Core description of the practices states, "Mathematically proficient students look closely to discern a pattern or structure" (CCSS, 2018). The article describes how the researchers examined the different types of cells and the patterns that they found within each cell in regards to the response of the virus.

MP1: Making Sense of Problems and Persevering to Solve them

I chose this practice because I think it relates to science as much as it does math. The description states, "Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution" (CCSS, 2018). This is what we do with our science students when we present them with a problem to solve. They need to create their own way of solving the problem. This is what the researchers in this study had to do, too. They had an idea and had to find their own way of finding the evidence.

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