

Karen Garcia
SCED 548, Fall 2019
September 7, 2019

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

Scientific Investigations Use a Variety of Methods

The Article, “*Exploding Stars Scattered Traces of Iron Over Antarctic Snow*” (Sciencenews), provides various examples in which the Nature of science, specifically “Scientific Investigations use a Variety of Methods” (NGSS) is performed by professionals on a daily basis and it’s crucial to the development of new findings. The article states: “*Previous studies have found iron-60, an isotope spewed from supernovas, in ocean sediments and on the moon (SN: 7/10/99, p.21). But those depositions were a few million years old, and are thought to be the result of ancient nearby explosions blastings waves of debris through space. The new study reveals the Earth is still encountering isotopes in modern times,*” (SN: 8/7/19) which presents an example of the importance of having multiple perspectives, revising , and acknowledging new data in order to continue monitoring the world around us.

Science is a Human Endeavor

This particular article demonstrates the ability of human curiosity to observe the world beyond our skies as explained on NGSS matrix. The individuals that dedicated their time, energy, and resources to make this particular research a reality took their imagination to a whole new layer of understanding: “*Iron from outside the solar system has sprinkled down Antarctica in recent years,*”

(SN: 8/7/19). Under this tenet, creativity, imagination, and collaboration were the key elements that helped researchers conclude that the iron was coming from beyond our atmosphere.

Science is a Way of Knowing

This research has sparked curiosity, as well as opened a door of possibilities in regards to how our world interacts with the cosmos. With the new findings other scientists and the general public can benefit, as well as possibly come to other understandings beyond this research. As the article comes to an end, it explains: “Astrophysicist Brian Fields of the University of Illinois at Urbana- Champaign, who was not involved in the research, ‘It’s telling us about the recent history of our whole neighborhood in the galaxy and about the lives and deaths of massive stars’”(SN: 8/7/19). The NGSS purpose is to help foster appreciation for our world, and beyond to the stars, this article reflects how Earth is part of something much bigger, and how there is more happening that is beyond our view.

Make Sense of Problems and Persevere in Solving Them

Nuclear physicist Gunther Korschinek along with his colleagues are not the first scientist attending this matter. The research began two decades ago. It seems that making sense of all data collected until this point, and the interval of time that is taken to achieve such results, clearly depicts a spirit of perseverance that its a vital part of the CCSSM. The practice of making sense of problems can be a long process with many revisions, and editing, but the spirit of perseverance is key to problem-solving.

Reason Abstractly and Quantitatively

During the research process, Korschinek and his team performed various operations that required mathematical practices listed on the CCSSM such as: interpreting data, collecting data, and solving for unknown variables, among others.

Model With Mathematics

In order to support the theory that iron-60 dust is originating from supernovas and is covering part of the Antarctic snow, experts supported their findings with mathematical evidence. As part of their evidence, nuclear physicists model with: algebraic expressions, graphs, specific units of measurements, questioning results, the use of precise language and symbols, among other mathematical practices recommended by CCSSM.

References

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