Iowa Science Teachers Journal

Volume 14 | Number 1 Article 14

1977

The Mole Hill Mnemonic

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The concept of a mole in chemistry is difficult for many introductory students to understand. I have discovered a crutch which seems to help some students become operational while improving their understanding of the abstraction called a mole. The crutch is of value only if the student is ultimately led to understand how it works, which usually happens by the end of the school year.

In presenting a problem such as finding the number of moles and atoms in 24 grams of carbon, I egotistically introduce William's Triangle which causes me a lot of static for the rest of the year. William's Triangle is shown below:

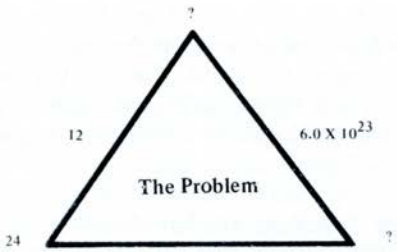

Fig. 1.William's triangle.

The triangle is viewed as a mole hill. Anytime you go up the hill to find an unknown you must divide by the number on the hillside. Anytime you go down the hill you must multiply by the number on the hillside. NO FAIR GOING ACROSS! A sample solution is shown in Fig. 2. Study will show that the rules work regardless of the type of unknown. Caution students to use the proper gram atomic weight for the chemical discussed in each problem.

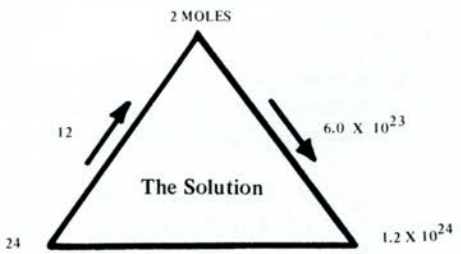

Fig. 2.