Incorporating Geoscience into the AP Chemistry Curriculum

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As a current geoscience undergraduate intending to pursue a PhD in geochemsitry, and as one who arrived at this point via an interest in chemistry, the interplay of chemistry and geoscience at the high school level, or lack thereof, has become a topic of great importance to me. My personal experience with high school chemistry, and AP Chemistry in particular, was successful in that it gave me an excellent foundation in chemistry; I did well enough on the AP exam to be placed on the honors track in chemistry at Boston College. It did not, however, expose me to as much geoscience as I wish it had. Upon arriving at Boston College, I realized that while I was still interested in chemistry, my passions would be better served by and cultivated in the Earth and Environmental Sciences department. I was very lucky to have had this epiphany, but I am sure there are many students like me who, inspired by their success in high school chemistry, continue down the most straightforward path for lack of exposure to less conventional but equally exciting and rigorous paths. Although AP Chemistry is already a challenging curriculum to teach, since so much information must be transmitted in such a short period of time, I believe it can become a place to explore the huge variety of fields that are accessible for someone with a good understanding of chemistry; I think this is particularly important because AP often serves the best and most passionate students who would benefit most from this kind of exposure. I know from experience that the curriculum can be restrictive, but I do think it is possible to incorporate a wider variety of ideas into the curriculum. For instance, practice problems that traditionally use organic chemistry scenarios are analogous to practice problems in mineralogy, and many techniques and topics discussed in AP Chemistry also have geochemical applications that could be incorporated, such as mass spectrometry. Even if this material is mentioned in passing and is never actually tested, just the knowledge that it exists as a viable option can be enough to spark an interest. I believe that incorporating geoscience through examples and problems that enhance understanding can broaden students' horizons and help them think about wider possibilities in their futures, without preventing them from succeeding on the AP Chemistry exam.