

Exercise 1.18

You are hiking in the mountains and find a shiny gold nugget. It might be the element gold, or it might be “fool’s gold,” which is a nickname for iron pyrite, FeS_2 . Which of the following physical properties do you think would help determine if the shiny nugget is really gold—appearance, melting point, density, or physical state?

Solution

Appearance won’t help because iron pyrite looks the same as gold, and physical state won’t help because both gold and iron pyrite are solids. Melting point and density will help because they’ll be different for gold and iron pyrite.