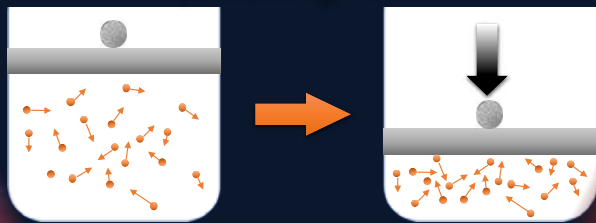


DID YOU KNOW?

Spacecrafts entering the atmosphere must reach this incredible hypersonic speed. That means that the compressed air can heat up the craft's heat shields to temperatures above 2000°C!

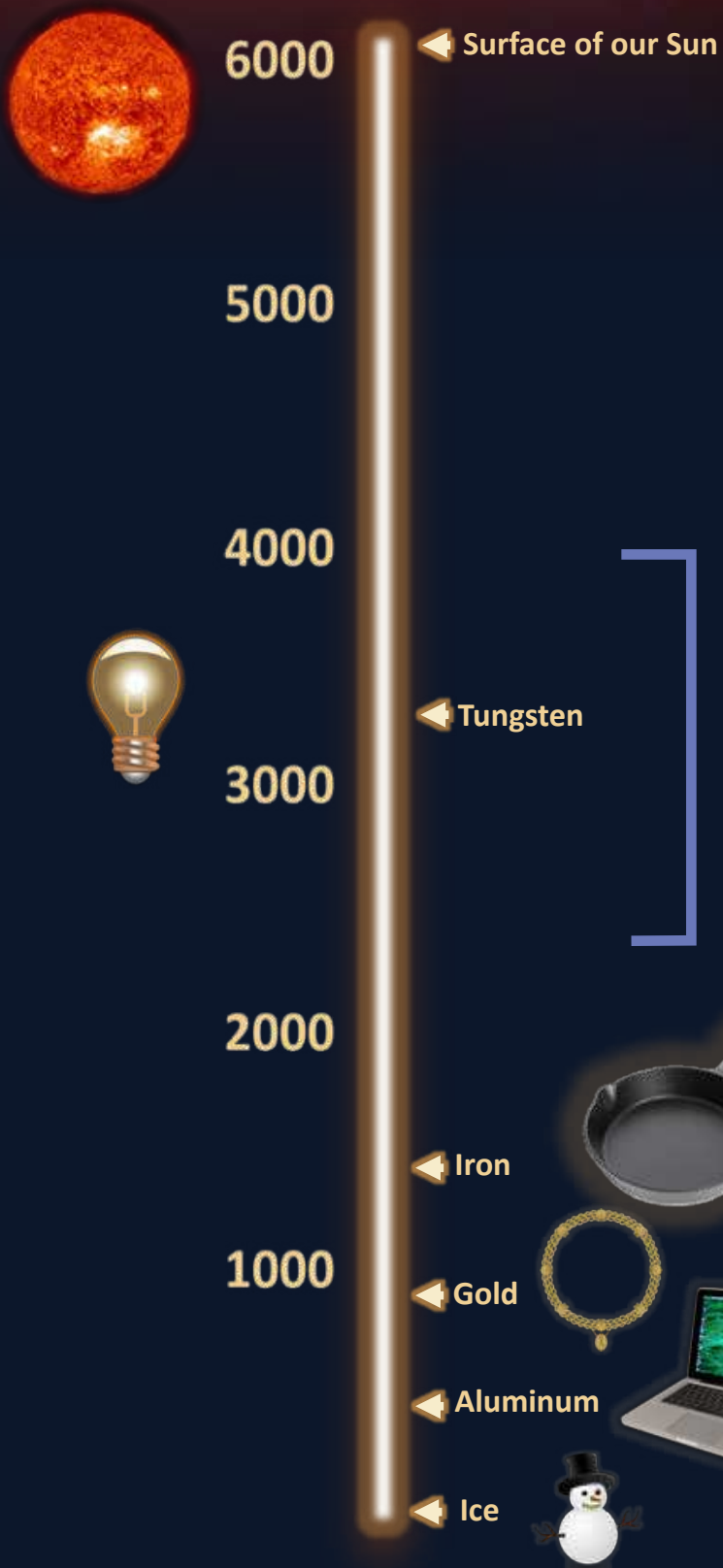


Compressing Air Atoms



At hypersonic speed (speed faster than 3,836 mph!), air cannot move away from objects fast enough, so it starts to compress.

MELTING POINTS IN °C



All air atoms have some amount of kinetic energy because they are always moving. When the atoms are compressed close together, their energy becomes extremely concentrated. All of that energy makes the air so hot it starts to glow!

Ultra-High Temperature Ceramics, also known as UHTCs, are a class of materials that start melting at 2500°C. This is a result of the strong bonds in between the atoms of the ceramics!

THIS MEANS THAT UHTCs CAN PROTECT SPACECRAFTS AT TEMPERATURES NO OTHER MATERIAL CAN!

For more information visit ceramics.org/ceramics-are-cool

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President's Council of Student Advisors

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