
Star Properties

Apparent Magnitude

= how bright a star seems to us

Apparent Magnitude

Based on a ranking scale:

+1, +2, +3, +4, + 5, +6…

Each level is 100 times brighter than the last one.

Absolute Magnitude

= how bright a star *really is*

Stars seem brighter or less bright depending on how far away they are.

This star may actually be brighter than the other one, but it is too far away

Absolute Magnitude

Absolute brightness is how bright stars are if they were all the same distance away

This star may actually be brighter than the other one, but it is too far away

Luminosity

= the star’s brightness power

How much energy goes out of the star when it shines

Luminosity

is measured in WATTS

…like a light bulb

It tells you how much light energy is coming out of the star

Light from a star tells us its composition

Hydrogen & helium are not the only elements in stars.

Stars also contain…

sodium, magnesium, calcium, & iron.

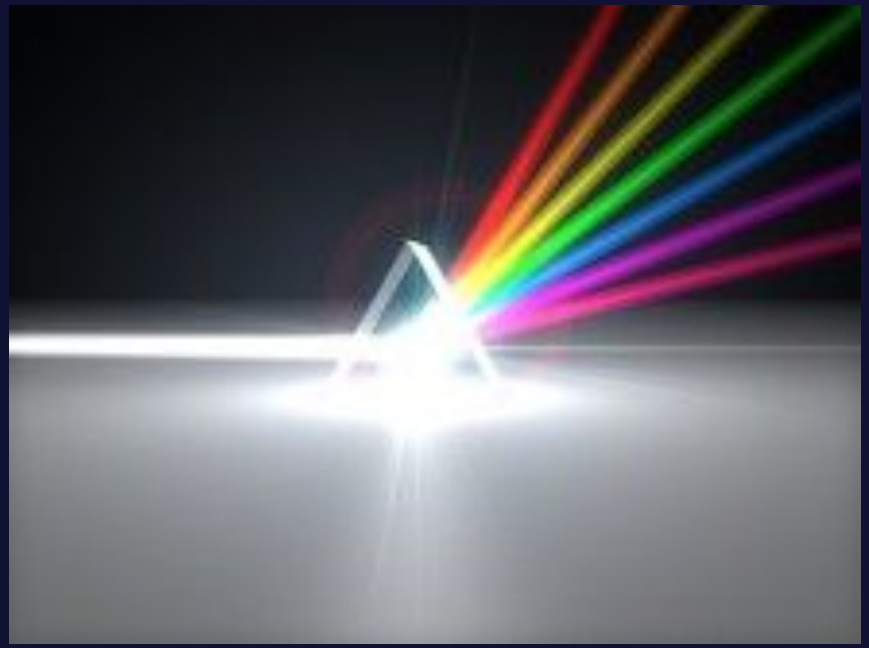
Light from a star tells us its composition

Light from other stars is like our sun…

You can divide it with a prism.

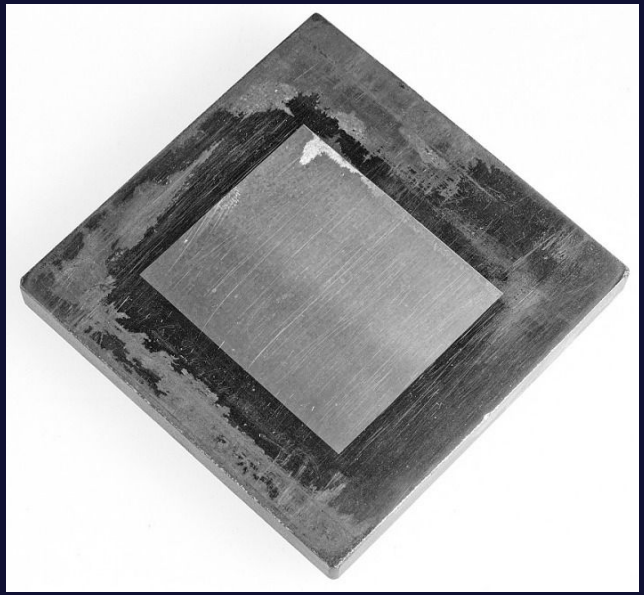
Light from a star tells us its composition

The prism shows you all the colors that are actually in the light.



Light from a star tells us its composition

Scientists use a special kind of prism to find out which elements are in a star.



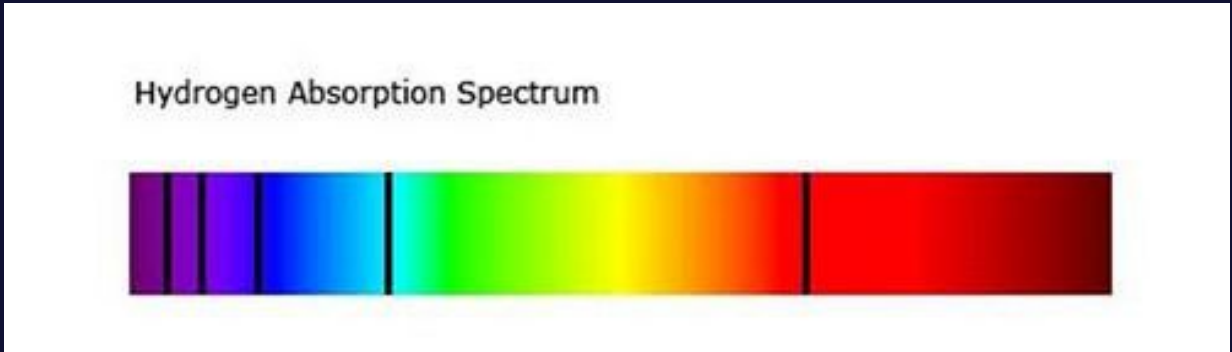
It's called a diffraction grating

Light from a star tells us its composition

The diffraction grating shows scientists patterns of

lines & colors

Each element has its own pattern. This one is hydrogen.



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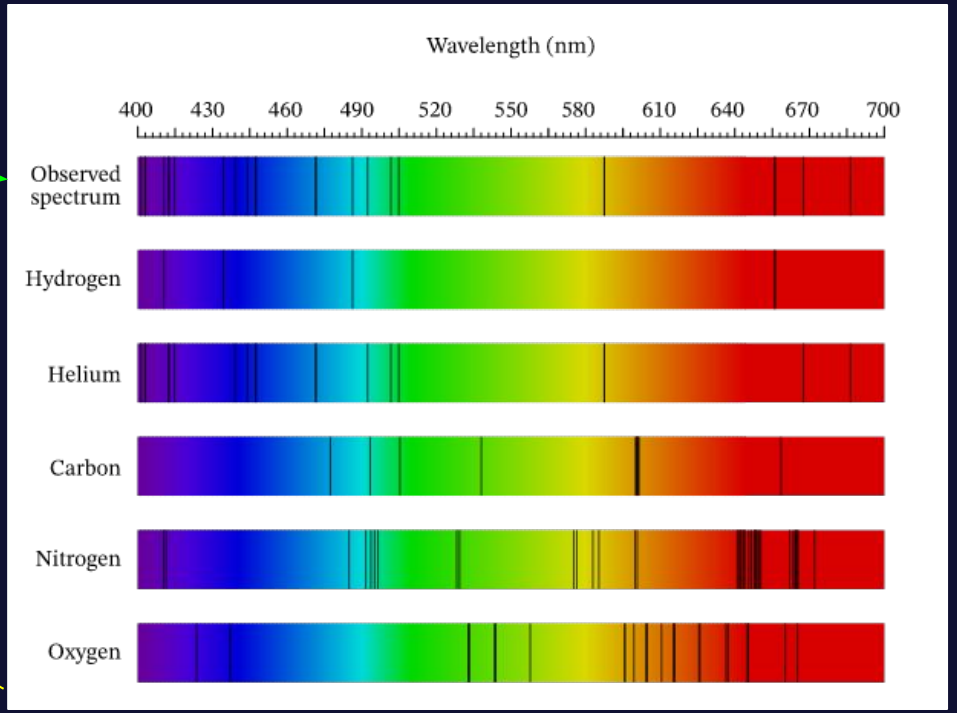
Light from a star tells us its composition

Scientists view the star through the diffraction grating.

They match the colors/lines with known elements to determine which elements are in the star.



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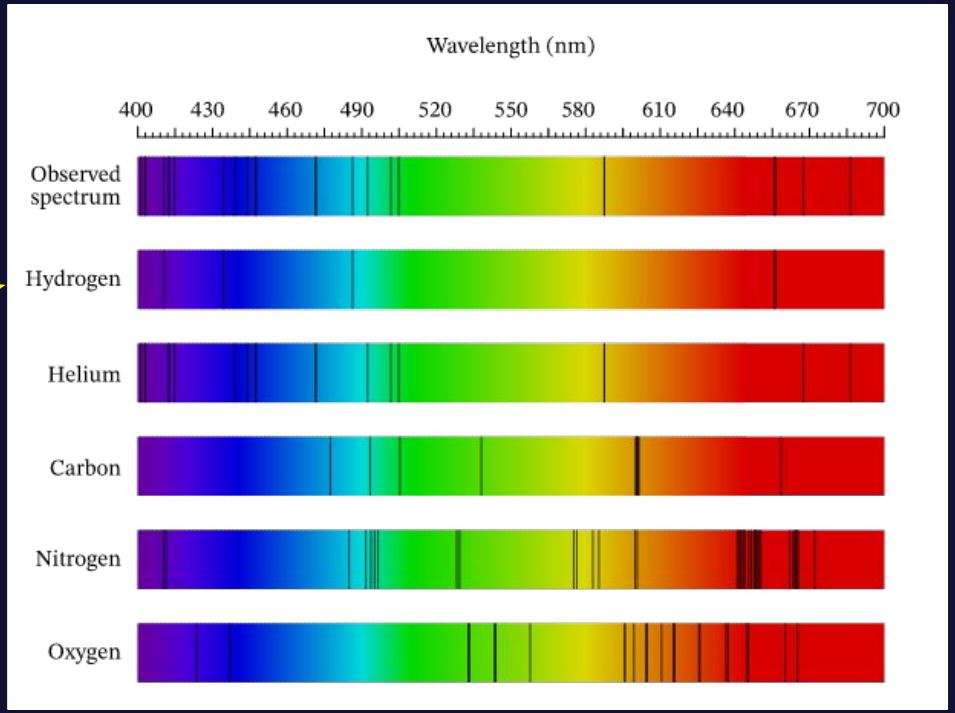
Light from a star tells us its composition

Here you can see that

hydrogen & helium

have lines that match the observed sample



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