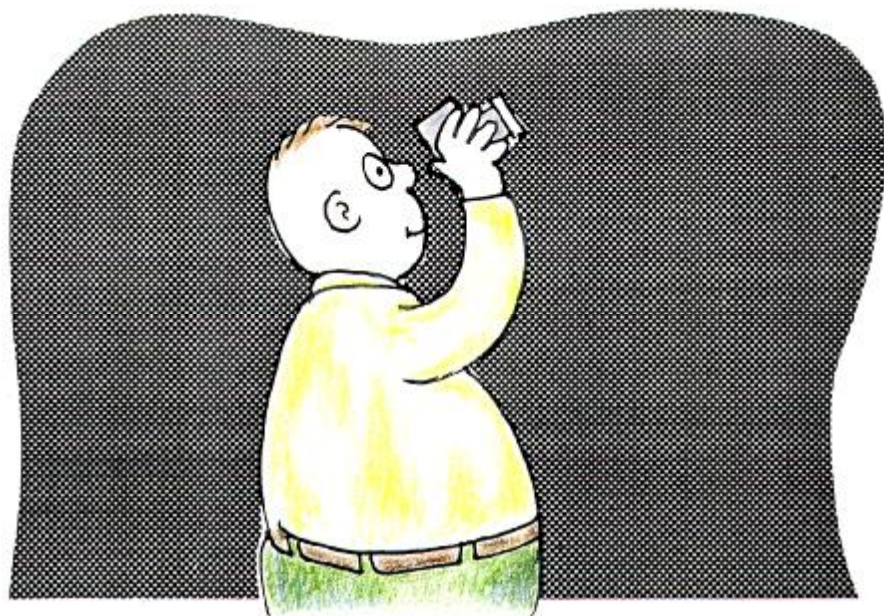


NEXT-TIME QUESTION

CONCEPTUAL Physics

Because of the enormous number of stars in the universe, aim a digital camera at the nighttime sky and every pixel is in the line of sight of many stars! Why, then is so much of the night sky dark?



Why isn't the night sky ablaze with light?



Hewitt
Drawit!



ARBOR SCIENTIFIC
TOOLS THAT TEACH.

NEXT-TIME QUESTION

Because of the enormous number of stars in the universe, aim a digital camera at the nighttime sky and every pixel is in the line of sight of many stars! Why, then, is so much of the night sky dark?



Answer:

Looking out into space is looking back in time. Because the universe is young, light can reach us from no more than some 15 billion light years away. So we don't see stars that far and that long a time ago. (If there were any stars beyond that, we would have no way of knowing — their light would not have reached us.) Distant stars are too dim to be seen by our naked eye or our camera not only because they are far away, but also because they are *moving* away — a result of the universe's expansion. Light waves from distant sources are stretched into the infrared and radio portions of the spectrum — a stretching of light called the *redshift* — which adds to dimming. So there's a lot of dark sky out there!

Astrophysics is far out!



The universe is permeated with electromagnetic waves, but very little is in the visible part of the spectrum.



Check out Olbers' paradox!



thnx to Richard Crowe and Ken Ford

Hewitt
Drewitt!

