

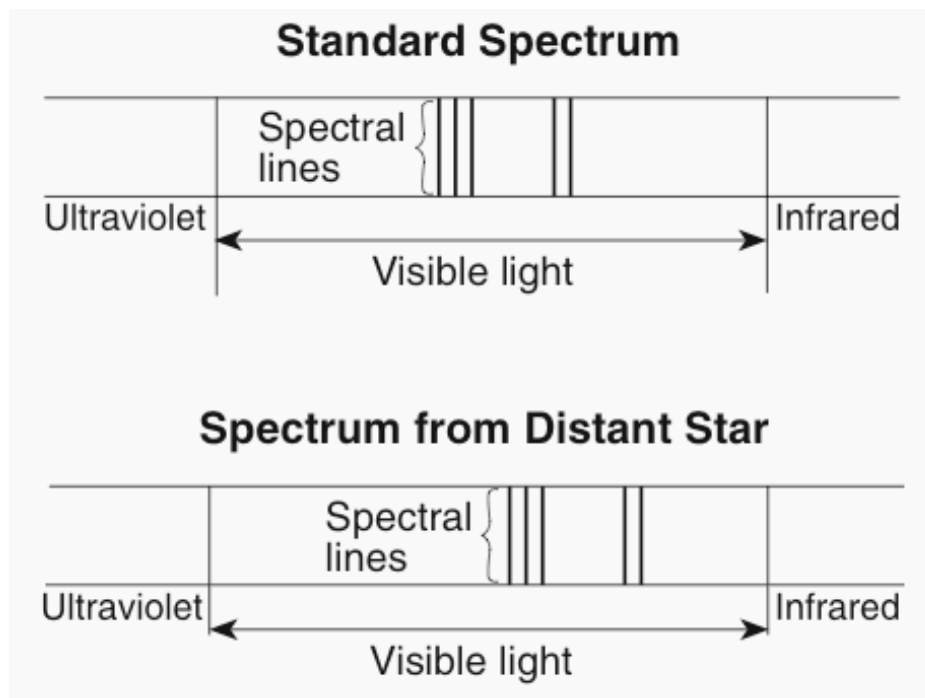
Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

## The Big Bang

\*The theory of the creation of the Universe which states that all matter and energy was once together in one point which exploded in all directions forming the Universe.

\*Whenever an object's visible spectrum is shifted to the red side (red-shifted), it means the object is moving away from the observer. If it is shifted to the blue side (blue-shifted), it means the object is moving towards the observer.

\*We have observed a constant "cosmic background radiation" coming from all directions in the Universe. This energy is the echo of the Big Bang.



\*This spectrum from this "distant star" is shifted to the right, towards the infrared wavelengths, and is therefore called "red-shifted". This means that this star is moving away from the observer. If the pattern of spectral lines were shifted towards the ultraviolet, or "blue-shifted", it would signify that the star is moving towards the observer.

**RED-SHIFT- MOVING AWAY**  
**BLUE-SHIFT- MOVING TOWARDS**

\*Every object in the Universe is red-shifted, meaning that the Universe is expanding