

Star Light Star Bright

ACTIVITY 1 - THE INSIGHT PROVIDED BY STARLIGHT LAB

How do scientists know the composition of stars? It's actually quite easy. Use the following directions to complete this activity, and then answer the questions that follow.

Materials - spectroscope, colored pencils

Procedure:

1. Hold the spectroscope so the slit is on the right, and the numbers are on the left.
2. Focus your scope on the light sources provided, draw and color the lines you see on the spectrum.

red orange yellow green blue violet

red orange yellow green blue violet

red orange yellow green blue violet

red orange yellow green blue violet

red orange yellow green blue violet

3. How are the spectrums of each light source different?

4. How are the spectrums of each light source similar?

5. What CCC was used in this experiment?

ACTIVITY 2 – STUFF IN STARS!

Each of the elements found on the periodic table have unique characteristics. If the atoms of an element are energized enough, they will give off light. This light is a spectrum or combination of unique wavelengths called an emission spectrum. They are like fingerprints for the element. When astronomers look at starlight and analyze it with a spectroscope, they can determine what elements are found in the star.

For this activity, you will look at the spectroscopy results for star A and Star B. Your objective is to use your amazing new-found knowledge and identify all of the elements that make up the light emission from.

STAR A

Copy the spectroscopy results for star A below

red orange yellow green blue violet

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6. Identify all of the elements found in star A

- a.
- b.
- c.

STAR B

Copy the spectroscopy results for Star B below

red orange yellow green blue violet

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7. Identify and list all of the elements found in star B

- a.
- b.

8. How is each element like a fingerprint?

9. How do you think (hypothesis) observing and analyzing the spectroscopy of different stars help astronomers learn more about the universe? Use information from the 2 activities to help answer this question. Make sure to use full, complete sentences for full points.