

# Doppler Shift CER

Name \_\_\_\_\_

Science-8, Teacher \_\_\_\_\_

Period \_\_\_ Date \_\_\_\_\_

Red shift and blue shift measurements were recorded for a group of galaxies. How does the data below support the ideas that the universe is expanding?

### EM Spectrum Shift of Observed Galaxies

Galaxy	Red Shift	Blue Shift
1	2%	0%
2	5%	0%
3	10%	0%
4	3%	0%

*Write a claim, give evidence and scientific reasoning to support both your claim and your reasoning when responding to the question.*

#### Claim

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#### Evidence

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<b>Reasoning</b>
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**\*Please write using complete sentences and proper writing conventions\***

## Doppler Shift CER STUDENT Rubric

Component	Level			
	0	1	2	Feedback
<p><b>Claim –</b> A conclusion that answers the original question.</p>	Does not make a claim.	<p>Makes an inaccurate claim.</p> <p><b>Does the information support an expanding universe?</b></p>	<p>Makes an accurate and complete claim.</p> <p><b>Does the information support an expanding universe?</b></p>	
<p><b>Evidence –</b> Scientific data that supports the claim. The data needs to be appropriate and sufficient to support the claim.</p>	Does not provide evidence, or only provides inappropriate evidence. (Evidence that does not support the claim.)	<p>Provides appropriate, but insufficient evidence to support claim. May include some inappropriate evidence.</p> <p><b>What does the data table tell you?</b></p>	<p>Provides appropriate and sufficient evidence to support claim.</p> <p><b>What does the data table tell you? Do you need all the information on the data table to support your claim?</b></p>	
<p><b>Reasoning –</b> A justification that links the claim to the evidence. It shows why the data counts as evidence by using appropriate and sufficient scientific principles.</p>	Does not provide reasoning, or only provides reasoning that does not link evidence to claim.	<p>Provides reasoning that links the claim and evidence. Repeats the evidence and/or includes some scientific principles, not sufficient.</p> <p><b>What is red shift and blue shift?</b></p>	<p>Provides reasoning that links evidence to claim. Includes appropriate and sufficient scientific principles.</p> <p><b>What is red shift and blue shift? How does this relate to the idea of an expanding universe?</b></p>	