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| **Where Do Chemical Elements Come From? - By Carolyn Ruth** **Question Sheet** |
| 1. What is a supernova?
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| 1. What are the two things that stars emit/release during the explosion?
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| 1. Where were elements formed according to paragraph 3?
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| 1. What is a young star primarily composed of?
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| 1. Use the information in paragraph 2 to fill in the blanks with what element forms next?A. 2 Protons+ 2 Neutrons=

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B. Helium nucleus + Helium nucleus=

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C. Beryllium + Helium=

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D. Carbon + Helium=

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| 1. True or False: Nuclear reactions that form elements heavier than iron do not release energy; instead, they consume energy.
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| 1. From paragraph 6, in your own words describe what happens when a star cannot support the crushing forces of gravity?
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| 1. What are the two special conditions that exist in the supernova that allow for the formation of elements heavier than iron?
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| 1. How many Earth masses of iron did the supernova observed in 1987 eject?
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| 1. When does the “s” process start?
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| 1. What are isotopes?
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| 1. How many protons does an isotope of nickel have? How many neutrons can an isotope of nickel have? (this should be a range)
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| 1. What is an interstellar cloud?
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| 1. What are the gasses and their percentages in the interstellar cloud?
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| 1. What are silicates?
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| 1. How have all the elements on Earth (except for hydrogen) formed?
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| 1. What are we made of?
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| 1. What is the main idea of the reading?
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| 1. What are 3 pieces of evidence that support your main idea?
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| 1. What are two things you learned from this reading?
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