

**Main Ideas, Key Points,
Questions:**

After watching the video segment, write down key points, main ideas and big questions.

Objective(s):

- *To use physical models to explain the fusion of hydrogen to form new elements.*
- *To explain the formation of elements heavier than iron in supernova explosions.*

Notes:

During the video segment, use words, phrases or drawings to take notes.

Summary:

*After watching the video segment, write at least three sentences explaining what you learned.
You can ask yourself: "If I was going to explain this to someone else, what would I say?"*

After watching the video and performing any associated labs and/or experiments, you should be able to answer the following:

- 1. What do we mean by a Z/N ratio?**
- 2. What is nuclear fusion?**
- 3. How can nuclear fusion cause two hydrogen nuclei to form a helium nucleus?**
- 4. Why can fusion in a star the size of the Sun not produce nuclei larger than an iron nucleus?**

You will now engage in a model of the nuclear fusion process using miniature marshmallows. When you have completed this activity, you may continue the Unit 11D video.

- 5. In your marshmallow model of nuclear fusion, your hands crush the marshmallows together. What forces causes this fusion in a star?**
- 6. What does the piece of pasta placed next to the helium nucleus represent?**