

➤ Main Ideas, Key Points, Questions:

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

➤ Objective(s):

- *Describe the conditions under which nuclear fusion reactions occur.*
- *Understand and calculate the amount of energy that is released in a nuclear fusion reaction.*

➤ 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 may ask yourself: "If I was going to explain this to someone else, what would I say?"

Answer the following.

1. Define nuclear fusion in your own words.

2. Why must nuclear fusion reactions take place at very high temperatures?

3. What is the difference in mass between the smaller nuclei that fuse together and the newly formed heavier nucleus called?

4. What equation relates the mass defect with the amount of energy that is released in a nuclear fusion reaction?

5. Write the total equation for the proton-proton chain reaction that takes place in stars.

6. In what part of a star does nuclear fusion take place?

Answer the following.

7. Why do stars emit mostly infrared and visible light and not gamma rays?

8. What does it mean that we are all “made of stardust”?
