

## CNO Cycle Activity

2. What is the CNO cycle?

The CNO cycle is one of the two sets of fusion reactions in large stars that converts hydrogen to helium.

3. What percent of a high mass star is in the forms of carbon, nitrogen, and oxygen?

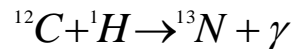
Less than 2%.

4. What role do they play in the fusion process in high mass stars?

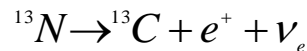
Carbon, nitrogen, and oxygen act as hydrogen fusion catalysts, speeding up the process.

5. Select one of the reactions in the diagram above and “translate” it into words.

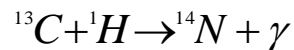
carbon-12 plus hydrogen yields nitrogen-13 plus a gamma ray photon



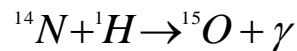
nitrogen-13 yields carbon-13 plus a positron plus an electron neutrino



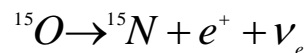
carbon-13 plus hydrogen yields nitrogen plus a gamma ray photon



nitrogen-14 plus hydrogen yields oxygen-15 plus a gamma ray photon



oxygen-15 yields nitrogen-15 plus a positron plus an electron neutrino



nitrogen-15 plus hydrogen yields carbon-12 plus helium-4

