

Name \_\_\_\_\_

## Notes: How did life evolve/start on Earth?

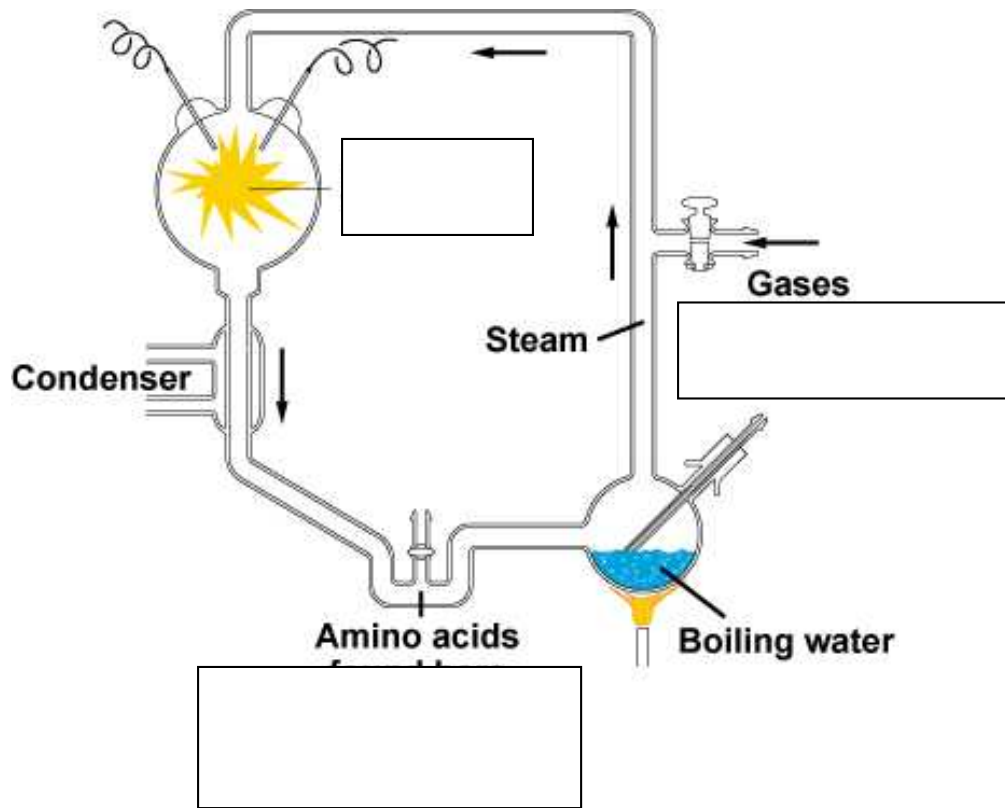
### **Urey-Miller Experiment**

Scientist designed an experiment to test if \_\_\_\_\_ on Earth could have initiated \_\_\_\_\_.

The Urey-Miller Experiment used \_\_\_\_\_ believed to be present on early Earth, an \_\_\_\_\_ current (simulating lightning), and boiling \_\_\_\_\_. They found that \_\_\_\_\_ organic \_\_\_\_\_ were created in a short amount of time.

*Fill in the boxes from the animation:*

<http://faculty.massasoit.mass.edu/whanna/122/page4/page29/page61/page61.html>



## **NASA Scientists create amino acids in space!**

[http://www.nasa.gov/centers/ames/news/releases/2002/02\\_33AR.html](http://www.nasa.gov/centers/ames/news/releases/2002/02_33AR.html)

Scientists shone \_\_\_\_\_ light on deep-space-like “\_\_\_\_\_” simulating conditions in \_\_\_\_\_. Deep space ice is common water ice laced with simple molecules (used wood alcohol and ammonia).

Discovered amino acids (essential to life):

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These can be made in \_\_\_\_\_ interstellar \_\_\_\_\_ where planetary systems and stars are made. Places where \_\_\_\_\_ and \_\_\_\_\_ are made.

The amino acids are \_\_\_\_\_ to ones found in carbon-rich \_\_\_\_\_. Earth could have been “\_\_\_\_\_” with amino acids from \_\_\_\_\_. This could have jump-\_\_\_\_\_ life on Earth.

In previous experiments, the irradiated interstellar ice “look-alikes” generated compounds called amphiphiles that can organize themselves to form \_\_\_\_\_; and molecules called quinones that play important \_\_\_\_\_ in the metabolism of all living organisms on Earth.