HNC @ HOME 2026

A Level Biology – *Activity 1*

How did life on earth begin?

In this video, you can discover more about the mysterious origins of life on Earth.
Watch the video here: https://youtu.be/de1hiS_XjWg

The mysterious origins of life on Earth - Luka Seamus Wright

Watch the video and answer the below questions:

1. What are the necessities for any life form to exist, as mentioned in the video transcript?
2. Why is water considered a crucial element for life to begin and thrive?
3. How do autotrophs differ from heterotrophs in terms of energy generation?
4. Why were locations close to the surface of the ocean or on land not ideal for the first life forms to emerge?
5. What makes hydrothermal vents a potential cradle of life according to the video transcript?
6. What evidence supports the theory that the Last Universal Common Ancestor (LUCA) lived near hydrothermal vents?
7. What distinguishes black smokers from white smokers in terms of their composition and temperature?
8. Why are white smokers now considered more suitable for hosting the cradle of life compared to black smokers?
9. What specific characteristics of Lost City on the Mid-Atlantic Ridge make it a favoured candidate for the origin of life on Earth?
10. How did adjacent black smokers potentially contribute to the evolution of life at Lost City?

Extension: watch this extension video and access the background resources on the web page (background essay and discussion questions)
https://www.pbslearningmedia.org/resource/nsn11.sci.life.evo.lifeorigins/revealing-theorigins-of-life/