

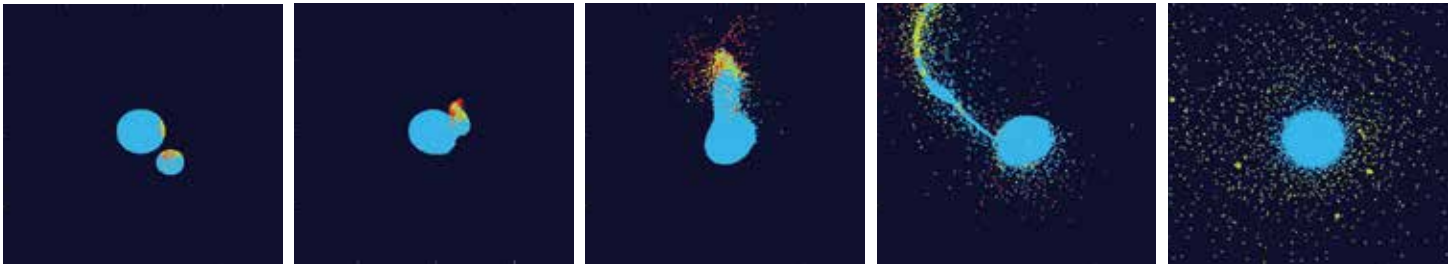
Article-Based Observation

Directions: After reading the article "[How Earth got its moon](#)," answer these questions:

- 1. What was the moon-formation idea proposed in the mid-1970s?**
- 2. Why does the author describe Earth's moon as an "oddball"?**
- 3. A study in 2001 analyzed rocks collected during the Apollo mission to the moon. How did these lunar rocks support the hypothesis that the moon was formed by multiple impacts and contradict the giant-impact hypothesis?**
- 4. What did planetary scientist Raluca Rufu and her colleagues learn recently that supports the multi-impact hypothesis? Explain how their findings support this hypothesis and why scientists were not able to figure this out previously.**
- 5. According to planetary scientist Nicolas Dauphas, how does the isotopic combination of materials that make up Earth tell a story that supports the idea of a single impact? What does Dauphas say supplied the Earth's mass?**

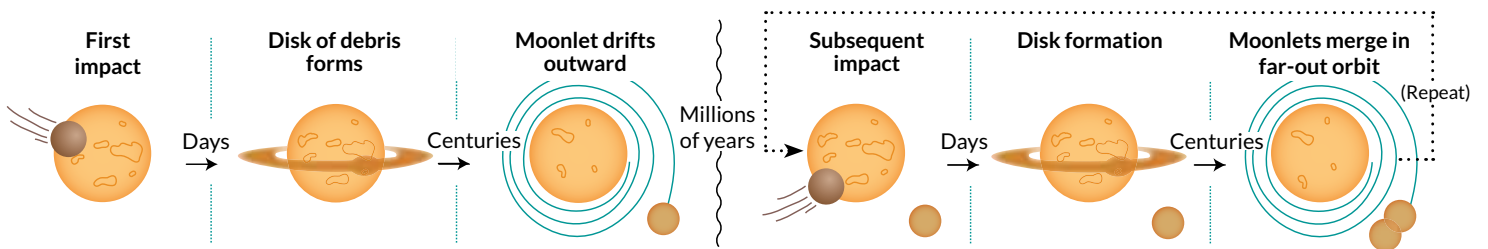
6. Planetary scientist Sarah Stewart states that we need to test all the new ideas about the moon's formation. Describe the recent test that used temperature to help explain how the moon formed, and explain which moon-formation idea is consistent with the results.

7. Explain the similarities and differences between the graphic titled "Making moons" and the computer simulation images shown below.



R. CANUP/SWRI

Making moons The multi-impact hypothesis says several small hits sent terrestrial materials into orbit that eventually formed our large moon.



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