

Atmospheric Formation

Beyond the asteroid belt and the colossus Jupiter is the planet Saturn. Saturn boasts 60+ moons that orbit the ringed giant. One moon has been of special interest – Titan. Why? After a little over a decade of scrutiny, scientists have realized that Titan’s atmosphere appears to be forming much like Earth’s did billions of years ago.

Your assignment is to write a research paper that discusses the similarities and differences of the formation of Earth’s early atmosphere and Titan’s atmosphere (pre-life). Topics that should be included are

- Theories on atmosphere origins
- Composition of the early atmospheres
- Conditions of the early atmospheres
- Temperatures of the early atmospheres
- Layers of the early atmospheres

Your assignment should include the following parts

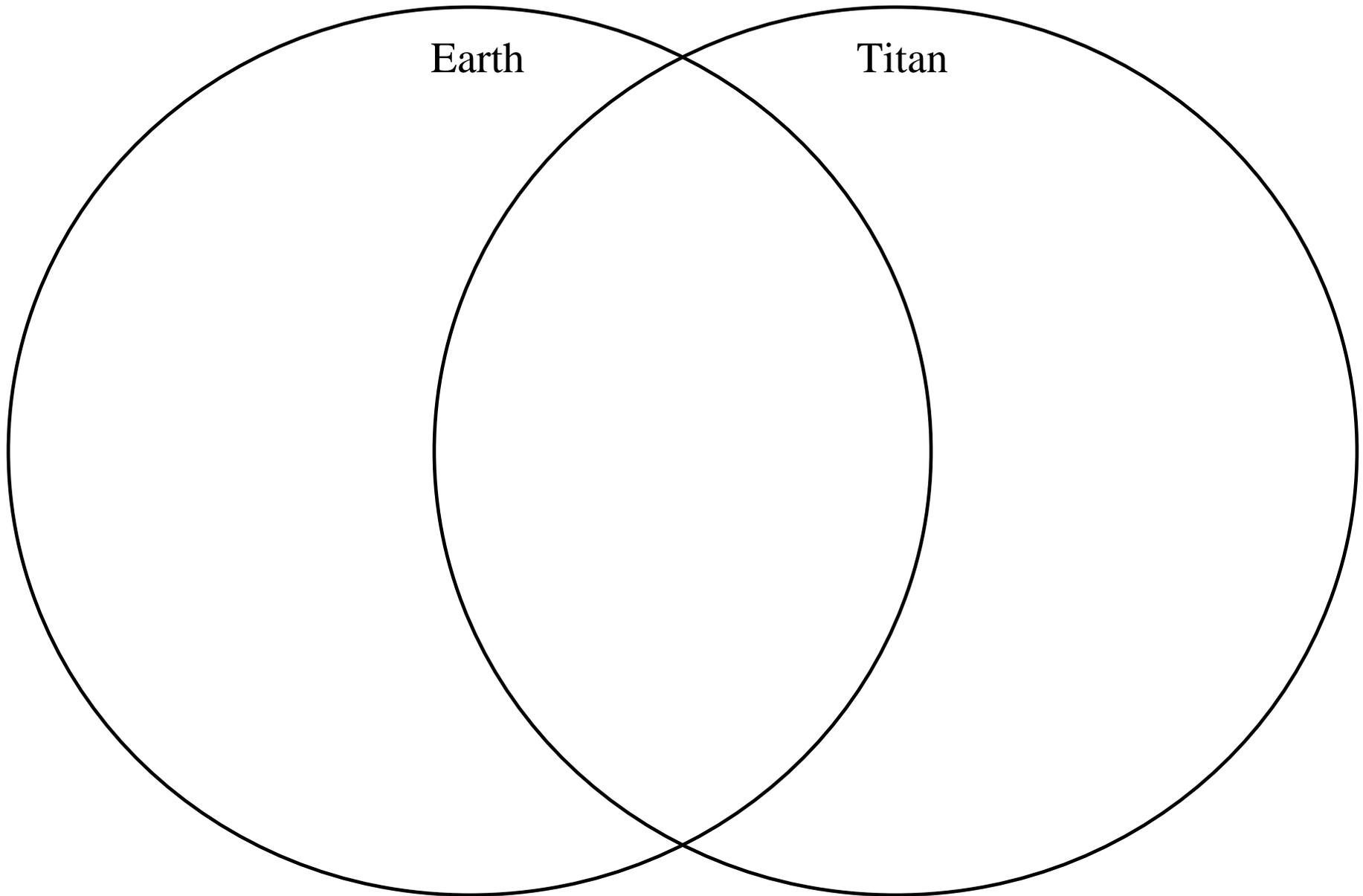
- Cover sheet
- Essay (introduction, body, conclusion)
- References

A rubric has been developed for this research paper. See teacher for copy.

SM1. Students will relate the formation, structure and composition of Earth’s atmosphere to the processes that cause weather.

a. Describe how atmospheric activity such as meteor bombardment, led to the formation of Earth’s early atmosphere.

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Student Name: _____

Class _____ Date _____

CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs and subheadings.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Amount of Information	All topics are addressed and all questions answered with at least 2 sentences about each.	All topics are addressed and most questions answered with at least 2 sentences about each.	All topics are addressed, and most questions answered with 1 sentence about each.	One or more topics were not addressed.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Mechanics	No grammatical, spelling or punctuation errors.	Almost no grammatical, spelling or punctuation errors	A few grammatical spelling, or punctuation errors.	Many grammatical, spelling, or punctuation errors.
Sources	All sources (information and graphics) are accurately documented in the desired format.	All sources (information and graphics) are accurately documented, but a few are not in the desired format.	All sources (information and graphics) are accurately documented, but many are not in the desired format.	Some sources are not accurately documented.
Diagrams & Illustrations	Diagrams and illustrations are neat, accurate and add to the reader's understanding of the topic.	Diagrams and illustrations are accurate and add to the reader's understanding of the topic.	Diagrams and illustrations are neat and accurate and sometimes add to the reader's understanding of the topic.	Diagrams and illustrations are not accurate OR do not add to the reader's understanding of the topic.

Points Earned _____ out of 24 _____ %

Comments _____

