

THE AGE OF THE EARTH

Research paper
(100 Points)

Scientists love to ask questions, research and seek truth. As you know a part of the scientific method is researching, testing (which sometimes can only be tested with reason) and then drawing a conclusion. It is very important in science to look at all different sides of evidence, especially when the evidence isn't concrete. It is interesting that there is debate today about the age of our earth. I would like to challenge you to do the research on both sides of the debate, and draw your own conclusion after you have researched and tested the hypotheses.

"It is necessary to have a goal, and that this goal be a study to be completed or a truth to be unveiled." ~ Charles Darwin—Voyage of the Beagle Journal Entry

This research paper will be in **MLA format** and include the following:

Paragraph (at least 5 sentences each):

1→ Introduction with a quote

Explain what is to come in this paper.

2→ Theory 1 explained with evidences explained and cited

3→ Rebuttals to theory 1 (optional to add another paragraph after this to rebut the rebuttals.)

4→ Theory 2 explained with evidences explained and cited

5→ Rebuttals to theory 2 (optional to add another paragraph after this to rebut the rebuttals.)

6→ Your conclusion after researching these theories.

Your last page should be a *citations page*. (Use Purdue Owl for guidelines
<https://owl.english.purdue.edu/owl/resource>

You must have *2 different types of sources* at least EX: Books, websites, articles, etc...

*** Remember there is no plagiarism! Reword the information that you find, or quote it. Only about 40% of your paper MAX should be quotes! You need to write the majority of it in your own words.

Ideas of what to look for:

Age of rocks

The methods used to date rocks and the assumptions made in this dating

Fossil ages—methods used

Earth's topography and land forms

Catastrophic Events

Theorized Geologic Time Scale

******NOTE** you can only use radioactive dating as **ONE** piece of evidence.

ie→you can't use the date of a rock as one and the date of a meteor as another.

Research Tips for You!

INTERNET:

In most cases, you should *stay away from Internet information that doesn't provide the name of an author*. While the information contained in the article may be true, it is more difficult to validate information if you don't know the credentials of the author.

Observe the URL

If the information is linked to an organization, try to determine the reliability of the sponsoring organization. One tip is the url ending. If the site name ends with **.edu**, it is most likely an educational institution. Even so, you should be aware of political bias.

If a site ends in **.gov**, it is most likely a reliable government web site. Government sites are usually good sources for statistics and objective reports.

Sites that end in **.org** are usually non-profit organizations. They can be very good sources or very poor sources, so you'll have to take care to research their possible agendas or political biases, if they exist.

For instance, collegeboard.org is the organization that provides the SAT and other tests. You can find valuable information, statistics, and advice on that site. PBS.org is a non-profit organization that provides educational public broadcasts. It provides a wealth of quality articles on its site.

Other sites with the .org ending are advocacy groups that are highly political in nature. While it is entirely possible to find reliable information from a site like this, as always, you should be mindful of the political slant and acknowledge this in your work.

Online Journals and Magazines

A reputable journal or magazine *should contain a bibliography* for every article. The list of sources within that bibliography should be pretty extensive, and it should include scholarly, non-Internet sources.

Check for statistics and data within the article to back up the claims made by the author. Does the writer *provide evidence to back up his statements?*

News Sources

Every television and print news source has a web site. To some extent, you can rely on the most trusted news sources, but you should not rely on them exclusively. After all, network and cable news stations are involved in entertainment. Think of them as a stepping stone to more reliable sources.

Research Tips for You!

DON'T FORGET:

Evidence is concrete data that supports a hypothesis:

Example:

Hypothesis: Almost everyone loves cold pizza

★ **Evidence:** In a survey of 1,000 people, 90% of the people said they loved cold pizza.

~~NOT EVIDENCE:~~ cold pizza is good

Rebuttals are arguments against a *specific* piece evidence:

Example (a rebuttal against the evidence above):

Rebuttal: That survey was only taken from people in Alabama, not taking into consideration other states, thus making the survey not valid. (attacks the specific evidence)

~~NOT A REBUTTAL:~~ Everybody likes spaghetti better than cold pizza

Some Websites to use (DON'T LIMIT YOURSELF TO THESE!!!):

www.agiweb.org ---"Dating the Fossil Record"---

pubs.usgs.gov ---"Age of the Earth"—

www.newton.dep.anl.gov ---"Oldest Rock on Earth"—

www.creation.com ---"101 Evidences for a Young Age of the Earth and Universe"— (not as reliable with a dot com so be cautious)

Research you must find at least 3 evidences for each):

THEORY: The age of the earth is: 4.6 Billion yrs old

Evidences for this theory(# corresponding to the site where they were found!)	Rebuttals(# corresponding to the site where they were found!)	Rebuttals to the Rebuttal (optional) (# corresponding to the site where they were found!)

Research (you must find at least 3 evidences for each):

THEORY: The age of the earth is: About 6,000 yrs old

Evidences for this theory (# corresponding to the site where they were found!)	Rebuttals (# corresponding to the site where they were found!)	Rebuttals to the rebuttal (optional) (# corresponding to the site where they were found!)

THE AGE OF THE EARTH

How to write the research paper
(Rough Draft)

Paragraph 1:

Sentence 1—Catchy quotation about the age of the Earth and citation

EX: A famous scientist, James Hutton, once said "The present is the key to the past." (Glencoe, Focus on Life Science)

Sentence 2—states the importance of the Age of the Earth

EX: The age of the Earth is still a hot topic of debate today among scientists, as it helps us to define who we are and when we began.

Sentence 3—One theory is.... (state the first theory going to be discussed)

Sentence 4—Another theory is...(State the second theory going to be discussed)

Sentence 5—States the importance of looking at the evidences and rebuttals for both sides.

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How to write the research paper
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Paragraph 2:

Sentence 1—Introduces the first theory and states what it is by transitioning from paragraph 1.

EX: In regards to the age of the Earth, there are scientists who hold to a [insert theory 1 here without brackets] year old earth, and their theory is based on some essential pieces of evidence.

Sentence 2—State evidence 1 for theory 1 with citation

EX: One piece of evidence that was found is (author, article title)

OR

According to [enter authors name here without brackets] in the article [enter article title here without brackets]

Sentence 3—State evidence 2 for theory 1 with citation

Sentence 4—State evidence 3 for theory 1 with citation

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How to write the research paper
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Sentence 5—Transition sentence mentioning that there are rebuttals to these evidences.
EX: While these evidences may be compelling, there are others who have found arguments against these claims.

Paragraph 3:

Sentence 1—Introduces that there are rebuttals specifically for the theory mentioned above.

EX: There are some scientists who would disagree with a [enter theory 1 here talked about in paragraph 1 without brackets] year old earth based on some counter-evidences found.

Sentence 2—state rebuttal against evidence 1 with citation

EX: According to....[insert evidence 1] cannot be correct because [insert rebuttal 1] (author, title)

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How to write the research paper
(Rough Draft)

Sentence 3—State rebuttal against evidence 2 with citation

Sentence 4—State rebuttal against evidence 3 with citation

Sentence 5—Transition sentence mentioning that there is still another theory out there.
EX: These scientists have found many evidences against [state theory 1], and thus there must be yet another theory with more evidences.

Paragraph 4:

Sentence 1—Introduces the first theory and states what it is by transitioning from paragraph 1.

EX: In regards to the age of the Earth, there are scientists who hold to a [insert theory 1 here without brackets] year old earth, and their theory is based on some essential pieces of evidence.

Sentence 2—State evidence 1 for theory 1 with citation

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How to write the research paper
(Rough Draft)

EX: One piece of evidence that was found is (author, article title)

OR

According to [enter authors name here without brackets] in the article [enter article title here without brackets]

Sentence 3—State evidence 2 for theory 1 with citation

Sentence 4—State evidence 3 for theory 1 with citation

Sentence 5—Transition sentence mentioning that there are rebuttals to these evidences.
EX: While these evidences may be compelling, there are others who have found arguments against these claims.

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How to write the research paper
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Paragraph 5:

Sentence 1—Introduces that there are rebuttals specifically for the theory mentioned above.

EX: There are some scientists who would disagree with a [enter theory 1 here talked about in paragraph 1 without brackets] year old earth based on some counter-evidences found.

Sentence 2—state rebuttal against evidence 1 with citation

EX: According to....[insert evidence 1] cannot be correct because [insert rebuttal 1] (author, title)

Sentence 3—State rebuttal against evidence 2 with citation

Sentence 4—State rebuttal against evidence 3 with citation

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How to write the research paper
(Rough Draft)

Sentence 5—Transition sentence mentioning that there is still another theory out there.

EX: These scientists have found many evidences against [state theory 1], and thus there must be yet another theory with more evidences.

Paragraph 6:

Sentence 1—briefly recap that there are different theories of the age of the earth

Sentence 2—Recap both theories that were mentioned.

Sentence 3—State your opinion as to how old you think the earth is based on the evidences.

Sentence 4—State specifically why you found your opinion to be most correct

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Sentence 5—Closure sentence could ask the reader their opinion, or sum up the paper leaving it open ended.

EX: After looking at the different theories and evidences, it is plain to see that this debate will continue for years to come.

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How to write the research paper
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MLA format:

Double Spaced	Double space the whole paper
Heading	On left side top of paper (see example) Every page is numbered (see example)
1" margins	All around the paper
Title	Paper must have a title

The diagram illustrates the layout of an MLA-style research paper. At the top left, a vertical double-headed arrow labeled "1" indicates the margin for the student's name. Below this, the text "Your Name" is written. To the right of the name, the text "double space text" is written with a horizontal arrow pointing left, indicating the spacing between the name and the rest of the header. Below the name is "Instructor's Name", followed by "Class information (English 1A)", and "Date". On the right side, the text "Winters 1" is written above "Page Number", with an arrow pointing from the page number up to the page number. Below the header information, the text "Center Title of Essay" is centered. Below the title, the text "Begin your paragraph one double-spaced line below" is written, with a horizontal double-headed arrow labeled "1" indicating the margin. Below this, the text "your centered title; the paragraph should begin with a 1/2" tabbed indent. The paper's heading goes in the upper-left corner of the first page only. Use 1" margins all around. Double space everything, including blocked quotes. Do not justify the right margin." is written. On the left side, a horizontal double-headed arrow labeled "1" indicates the margin. On the right side, the text "double space text" is written with a horizontal arrow pointing left, indicating the spacing between the text and the right margin.

1" ↑
Your Name
Instructor's Name
Class information (English 1A)
Date

double space text ←

Winters 1
↑
Page Number

Center Title of Essay

Begin your paragraph one double-spaced line below ← 1" →

← 1" → your centered title; the paragraph should begin with a 1/2" tabbed indent. The paper's heading goes in the upper-left corner of the first page only. Use 1" margins all around. Double space everything, including blocked quotes. Do not justify the right margin. double space text ←

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How to write the research paper (Rough Draft)

Alphabetical

Works Cited

One
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Age of the Earth RUBRIC

Category	Sub category	Your Score	Possible	TOTAL
Project Completed	-----		20	
Paragraph 1	5 Sentences		4	
	Quote&citation		2	
	Mention Theories		3	
	Well written (no "I"s)		1	
Paragraph 2	# Different Evidences		3	
	Correct Citations		3	
	5 sentences		2	
	Well written (no "I"s)		2	
Paragraph 3	# Relevant Rebuttals		3	
	Correct Citations		3	
	5 sentences		2	
	Well written (no "I"s)		2	
Paragraph 4	# Different Evidences		3	
	Correct Citations		3	
	5 sentences		2	
	Well written (no "I"s)		2	
Paragraph 5	# Relevant Rebuttals		3	
	Correct Citations		3	
	5 sentences		2	
	Well written (no "I"s)		2	
Paragraph 6	5 Sentences		3	
	Concludes		3	
	Opinion with reason		4	
Citations Page	# Types of sources		2	
	Alphabetical		5	
	MLA Format		3	
Paper MLA Format	Double Spaced		3	
	Heading		3	
	1" margins		3	
	Title		1	
TOTAL (100)				

