

Name: _____ Pd: _____ Date: _____

Other Solar System Research Project

Astronomy

Introduction: *Given the trillions of stars that are estimated to exist within the Universe, can you imagine how many exoplanets there are besides those in our Solar System? What other star systems, besides our own, have been discovered? Are they all like our own system, with one star and a combination of rocky and gaseous planets predictably orbiting an average size star? Or, are star systems like snowflakes, with endless and unrepeatable variations of characteristics?*

Target: Research one exosystem found within our Universe. There are many different components that need to be thoroughly described and analyzed. All of the information is listed below. Be sure to examine the rubrics in detail and follow all necessary steps.

Components:

1. Research

Use at least FIVE reliable (scholarly) sources to research the required information plus two or more additional questions of your choosing.

Questions

- First identify all of the “Research Questions” before you begin to seek information.

Findings and Sources

- Organize findings using the notecard method. See Mrs. Witucki for the notecards. Your research must be thorough enough to answer the questions and understand the explanations. It is important to collect as much information as possible, and then choose what information you will include in the final paper.
- You must use at least FIVE resources (more may be needed depending on the exosystem selected). When using the internet, stick to .gov or .org sites! Google is not a source! Understanding the explanations and being able to put information in your own words will require you to browse many sources, so your source list will continue to grow. Keep an accurate record of what information you collected from each source. **Tip:** *as soon as you realize that you are going to use a source, first record the information about the source!*

DUE DATE: _____

2. Rough Draft

Type a “rough draft” of the research paper and ask two trusted friends or family members to proofread. Provide them with a hard copy of the typed draft so they can comment. Have this person write their name and date of review on the top of your draft and also sign it at the end.

Format: MLA

- Title
- Page number in footer
- Header (Name, Course name, period #, Date) on first page only
- Works Cited Page
- 7-10 pages, not including Works Cited
- 11 or 12-point font
- Arial or Times New Roman
- Double spaced

DUE: _____

3. Final Paper

Revise and rewrite the research paper after accounting for suggestions from others. The paper should include an introduction, body, and conclusion. Choose an appropriate tone given the informative nature of the research that you are presenting. Provide as much information as is needed to address all research questions in an organized manner. You will be graded on format, focus, content, organization, style, and conventions. Refer to the attached rubric for details about grading.

SUBMIT YOUR FINAL PAPER WITH THE ROUGH DRAFT AND PROOFREAD COPIES!

DUE: _____

RESEARCH QUESTIONS

About the Star...

1. How many stars are in the system? (Yes, it could be a binary or multi-star system)
2. Identify the star name(s), location in terms of galaxy, and approximate distance from you.
3. What are some details about the star like its type, age, life cycle stage, composition, mass?

About the Planets... (The star system that you choose must have AT LEAST 3 bodies orbiting the star(s))

1. How many planets are in the system?
2. Do the planets have any known moons? If so, how many? Are they named? What information is known about the rotation and/or revolutionary periods? What information is known about their size or composition?
3. What are some facts about the planets in terms of composition, revolution, rotation, axial tilt, atmosphere, proximity to star, etc?

4. Are any of the planets or moons within the “habitable zone” from the star? Or, are any of the bodies in the system “Earth-like”? If so, what information shows this? If not, why?

About the Discovery...

1. Who/when/how/why was the star system discovered?

2. What current research is being conducted on the star system? What questions are still unanswered?

Choice/Additional Questions... (you must have at least two!)

1. **Question:**

Why this question? (*Justify...*)

2. **Question:**

Why this question? (*Justify...*)

GRADING

WRITING RUBRIC

	3	2	1
Structure	<i>Includes a clear intro, body, and conclusion</i>	<i>Attempts to include an intro, body, and conclusion</i>	<i>No clear intro, body, and/or conclusion</i>
Format	<i>Follows all requirements for typeface, font size, spacing, header, and footer</i>	<i>Follows more than half of the formatting requirements</i>	<i>Follows less than half of the formatting requirements</i>
Organization	<i>Ideas are organized logically with apparent transitions between ideas.</i>	<i>Ideas are somewhat organized and there is an attempt at transitioning between ideas.</i>	<i>Ideas are poorly organized and/or ideas are difficult to follow.</i>
Style	<i>Uses advanced vocabulary and sentence structure with evidence of understanding meaning. Uses appropriate tone for the given purpose.</i>	<i>Vocabulary and sentence structure is simplistic but correct. Tone is appropriate.</i>	<i>Vocabulary and sentence structure is incorrect and/or tone is inappropriate.</i>
Conventions	<i>Shows minimal grammatical, mechanical, and usage errors (3 or less) with no sentence fragments or run-ons.</i>	<i>Shows minimal grammatical, mechanical, and usage errors (4-5) with no more than 2 sentence fragments or run-ons.</i>	<i>Many errors in grammar, mechanics, and usage and/or more than 2 fragments or run-ons.</i>

RESEARCH AND CONTENT RUBRIC

	15	10	5	0
Discovery	<i>Complete and thorough explanation of when, how, and who discovered the star system; identifies and explains current or ongoing research.</i>	<i>Simple explanation of discovery and/or some missing information; identifies but does not explain current or ongoing research</i>	<i>Much information is missing about the discovery of the star system and/or current research</i>	<i>Misinformed or completely inadequate explanation of discovery</i>
Star	<i>Detailed identification and explanation of star facts with no missing information.</i>	<i>Simple explanation of star facts and/or 1-2 pieces of missing information</i>	<i>3-4 pieces of information are missing regarding about the star.</i>	<i>Misinformed or completely inadequate identification and/or explanation of star</i>
Planets	<i>Detailed identification and explanation of information about planets in the system with no missing information.</i>	<i>Simple explanation of information about planets and/or 1-2 pieces of missing information</i>	<i>3-4 pieces of information are missing about planets and/or explanation and elaboration is completely lacking</i>	<i>Misinformed or completely inadequate details and/or explanation about planets</i>
Choice Topics	<i>Both research questions are clear and thoroughly answered.</i>	<i>Research questions are unclear or lacking appropriate detail; OR only one research question is clearly identified and</i>	<i>Research questions are unclear and are lacking appropriate detail</i>	<i>Missing choice topics or answers are misinformed or details are too lacking to show any understanding.</i>

		<i>answered</i>		
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SCORING

1. Research: Questions and Sources (25 pts)

- Research Questions Completed _____ / 11 points
- Source Card 1 _____ / 3 points
- Source Card 2 _____ / 3 points
- Source Card 3 _____ / 3 points
- Source Card 4 _____ / 3 points
- Source Card 5 _____ / 3 points

2. Rough Draft and Signed Copies (25 pts)

- Rough Draft _____ / 15 points
- Following all rubrics and guidelines!*
- Signed Draft 1 _____ / 5 points
- Signed Draft 2 _____ / 5 points

3. Final Research Paper (100 pts)

- Writing _____ / 15 points
- Content _____ / 60 points
- Works Cited _____ / 15 points
- Drafts _____ / 10 points

TOTAL: _____ / 150