

Bell Block School
Year 7 Astronomy - Honours Points Project
Academic Badge

Project Guidelines:

In order to successfully complete this project you must **collect 10 points** over a variety of 10 different tasks. Each task is worth a different amount of points. You can choose to complete your project in a variety of different formats of your own choice (eg. slide show, poster, paper, Canva document, video etc.).

Once you have completed your project and are ready to submit it to your teacher for signing off **please attach and complete this task checklist to your project** either digitally or printed. Your classroom teacher can print this for you if required.

Task Checklist:

Task Number and Name	Number of Points	Tasks Completed	Teacher Sign Off
<u>Task 1</u> Sun Facts	1	•	
<u>Task 2</u> The Life Cycle of a Star	2	•	
<u>Task 3</u> Solar and Lunar Eclipse	1	•	
<u>Task 4</u> Astronomical Event Report	2	•	
<u>Task 5</u> Phases of the Moon	3	•	
<u>Task 6</u> Solar System Scale Model	3	•	
<u>Task 7</u> Science Fiction	2	•	
<u>Task 8</u> Comets, Meteors, Asteroids & Meteorites	2	•	
<u>Task 9</u> The Solar System and Stars	1	•	
<u>Task 10</u> Space Terms	1	•	
10 Points Required to Complete Project			


1 Point	Sun Facts
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<p>Task 1</p>	<p>Learn and share 12 fascinating facts about the Sun! Present them in a creative and cool way that connects to the theme of 'SUN' and 'SPACE'.</p> <p>1 Collect 12 Interesting Facts</p> <ul style="list-style-type: none"> Research and list 12 cool facts about the Sun. These could include things like its size, temperature, role in our solar system, or how it affects life on Earth. <p>2 Presentation Style</p> <ul style="list-style-type: none"> Present your facts in a creative way: Think about how you can visually represent the Sun and space. You could create a poster, a 3D model, a digital presentation, or anything else that looks sunny and space-themed. Get creative with colours, images, and shapes that represent the Sun and space! 🌞🌌 <p>This task allows you to explore the wonders of our Sun and share the knowledge in a fun, engaging way! 🌟</p>
<p>2 Points</p> <p>Task 2</p>	<p>The Life Cycle of a Star</p> <p>Create a poster or chart that describes the life cycle of stars, like our Sun.</p> <p>1 Key Stages of the Star Life Cycle</p> <ul style="list-style-type: none"> Include these stages: <ol style="list-style-type: none"> Nebula – The cloud of gas and dust where stars are born. Protostar – When the dust and gas start to come together and heat up. Main Sequence – The stage our Sun is currently in, where it burns hydrogen into helium. Red Giant / Supergiant – When the star starts to run out of fuel and expands. Supernova (for larger stars) – A massive explosion that spreads elements into space. White Dwarf / Neutron Star / Black Hole – The final stages of a star's life depending on its size. <p>2 Visual Representation</p> <ul style="list-style-type: none"> Design your chart or poster to clearly show each of these stages in the life cycle. Use arrows, images, and labels to illustrate how the star evolves over time.

	<p>This is your chance to visually represent the fascinating journey of stars and how they transform throughout their life! 🌟</p>
<p>1 Point</p> <p>Task 3</p>	<p>Solar and Lunar Eclipse</p> <p>1 Simple Explanation of the Difference</p> <p>Explain in simple terms the difference between a Solar and Lunar Eclipse. Draw a diagram showing the difference.</p> <p>2 Labelled Diagram</p> <ul style="list-style-type: none"> • Draw a diagram to show both types of eclipses. • For the solar eclipse, label the Sun, Moon, and Earth, showing the Moon between the Earth and Sun. • For the lunar eclipse, label the Sun, Earth, and Moon, showing the Earth between the Sun and Moon. <p>This task will help you understand and visually explain the difference between these two fascinating celestial events! 🌟🌑</p>
<p>2 Points</p> <p>Task 4</p>	<p>Astronomical Event Report</p> <p>Write a short report about a recent or upcoming astronomical event. This could be anything from a solar eclipse, meteor shower, comet, or planetary alignment. Keep the report concise, no longer than one side of an A4 sheet.</p> <p>1 Research the Event</p> <ul style="list-style-type: none"> • Find out details about the event you want to write about, such as the date, location, and what makes it special. • Mention any important facts, such as how it can be observed, any unique features, or the science behind it. <p>2 Report Structure</p> <p>Your report should include:</p> <ul style="list-style-type: none"> • Introduction: Briefly introduce the event. • Details: Provide key information about the event (where it will happen, when it's visible, etc.). • Significance: Explain why this event is important or interesting. • Conclusion: Wrap up with any additional thoughts or ways

	<p>people can experience the event.</p> <p>This task helps you learn about exciting astronomical events and share your knowledge with others!</p>
<p>3 Points</p> <p>Task 5</p>	<p>Phases of the Moon</p> <p>In this task, you will create an informational presentation to explain the different phases of the moon. Your presentation should help others understand the cycle of the moon's phases and how they occur.</p> <p>Steps to Follow:</p> <ol style="list-style-type: none"> 1. Introduction: <ul style="list-style-type: none"> Start your presentation by explaining what the moon phases are and why they happen. Briefly mention that the moon's phases are a result of its position relative to the Earth and Sun. 2. List the Phases: <ul style="list-style-type: none"> Include each of the eight phases of the moon, from the new moon to the full moon. These are: <ol style="list-style-type: none"> 1. New Moon 2. Waxing Crescent 3. First Quarter 4. Waxing Gibbous 5. Full Moon 6. Waning Gibbous 7. Last Quarter 8. Waning Crescent 3. Describe Each Phase: <ul style="list-style-type: none"> For each phase, explain what it looks like and how long it lasts. Include the order in which the phases occur. 4. Visuals: <ul style="list-style-type: none"> Add images or diagrams to show what the moon looks like during each phase. Use visuals to help explain the position of the Earth, Moon, and Sun during each phase. 5. Fun Facts: <ul style="list-style-type: none"> Include some interesting facts about the moon's phases or the science behind them, such as how long it takes for the moon to complete a full cycle. 6. Conclusion: <ul style="list-style-type: none"> Finish with a brief summary of the moon phases and why they are important. <p>Presentation Format:</p> <p>You can present your information using Google Slides, PowerPoint, or</p>

	<p>another presentation tool of your choice. Be sure to organise your slides clearly and make your information easy to understand.</p> <p>Good luck with your presentation, and make it fun and informative! 🌙</p>
<p>3 Points</p> <p>Task 6</p>	<p>Solar System Scale Model</p> <p>In this task, you will create a scale model of the solar system to help demonstrate the sizes and distances between the planets.</p> <p>Steps to Follow:</p> <ol style="list-style-type: none"> Research the Solar System: <ul style="list-style-type: none"> Find out the diameters of each planet and their distances from the Sun. This will help you create an accurate scale model. Choose Your Scale: <ul style="list-style-type: none"> Decide on a scale to use for your model. For example, you might choose 1 cm = 1 million kilometres. This will help you shrink the sizes and distances of the planets to fit in your model. Create the Planets: <ul style="list-style-type: none"> Using your scale, create the planets using materials such as foam balls, paper, or other craft supplies. Be sure to label each planet. Position the Planets: <ul style="list-style-type: none"> Arrange the planets in order around the Sun, making sure to use your chosen scale for the distances. You can lay them out on a long piece of paper, poster board, or set them up in a 3D space. Label the Model: <ul style="list-style-type: none"> Label each planet and its position relative to the Sun. You can also include other key details, such as the name of each planet, its size, and any important facts. Presentation: <ul style="list-style-type: none"> Present your scale model to the class or to your teacher. Explain the scale you used and how you made your model. <p>This task will help you understand the scale and structure of the solar system in a creative and hands-on way! 🌍 🚀</p>
<p>2 Points</p> <p>Task 7</p>	<p>Science Fiction</p> <p>In this task, you will write a fictional story imagining what it would be like</p>

	<p>to live in a space station.</p> <p>Steps to Follow:</p> <ol style="list-style-type: none"> 1. Setting the Scene: <ul style="list-style-type: none"> ○ Begin by describing the space station. Where is it located? What does it look like inside and outside? How does it feel to be in space? 2. Main Character: <ul style="list-style-type: none"> ○ Create a main character who lives on the space station. What is their role on the station? Are they an astronaut, scientist, or something else? What is their personality like? 3. Plot: <ul style="list-style-type: none"> ○ Think of an adventure or challenge your character faces while living in the space station. Maybe something unexpected happens, like a technical problem, a spacewalk, or a strange discovery. How does your character deal with it? 4. Imagining the Details: <ul style="list-style-type: none"> ○ Include interesting details like the technology on the space station, daily life in space, how your character interacts with other people, and any space-related problems they may encounter. 5. Ending: <ul style="list-style-type: none"> ○ Conclude your story with how the problem or challenge is resolved. Does your character learn something new? Does something surprising happen? <p>Your story should be no more than two sides of an A4 sheet.</p> <p>Use your creativity to make the story exciting and imaginative!</p> 
<p>2 Points</p> <p>Task 8</p>	<p>Comets, Meteors, Asteroids & Meteorites</p> <p>In this task, you will create a poster that clearly explains the differences between comets, meteors, asteroids, and meteorites.</p> <p>Steps to Follow:</p> <ol style="list-style-type: none"> 1. Research Each Object: <ul style="list-style-type: none"> ○ Comets: What are they made of, and how do they behave? Where do they come from, and what makes them different? ○ Meteors: What is a meteor, and how does it travel through space? What happens when it enters Earth's

	<p>atmosphere?</p> <ul style="list-style-type: none"> ○ Asteroids: Where do asteroids come from, and what size are they? Are they similar to comets or meteorites? ○ Meteorites: How are meteorites different from meteors? What happens when a meteor lands on Earth? <p>2. Poster Design:</p> <ul style="list-style-type: none"> ○ Create a clear and colourful design that visually explains the differences. Use images or diagrams of each object to help illustrate your points. ○ Include labels for each object, and use arrows or symbols to show key features like size, movement, and composition. <p>3. Text Explanation:</p> <ul style="list-style-type: none"> ○ Include short and clear descriptions next to each image to explain what each object is and how it differs from the others. <p>4. Comparison:</p> <ul style="list-style-type: none"> ○ You can also include a comparison chart or list that shows the main differences between comets, meteors, asteroids, and meteorites. <p>Presentation:</p> <ul style="list-style-type: none"> ● Make sure your poster is neat, easy to read, and visually appealing. Use colours, shapes, and fonts to make your information stand out. <p>This task will help you understand the unique characteristics of these space objects while developing your creative skills! 🖋️</p>
<p>1 Point</p> <p>Task 9</p>	<p>The Solar System and Stars</p> <p>In this task, you will list the 9 known planets in our solar system and explain the key differences between planets and stars.</p> <p>Steps to Follow:</p> <p>1. List the Planets:</p> <ul style="list-style-type: none"> ○ Name each of the 9 known planets in the solar system in order, starting from the one closest to the Sun. <p>2. Describe the Difference Between Planets and Stars:</p> <ul style="list-style-type: none"> ○ Write a brief explanation of the main differences between planets and stars. Consider factors like composition, movement, and how they produce light. <p>Presentation:</p> <ul style="list-style-type: none"> ● Make sure your explanation is clear and concise, and feel free to

	<p>add drawings or diagrams to enhance your task.</p> <p>This task will help you learn more about the planets in our solar system and the distinct characteristics that separate them from stars! 🌟🌍</p>
<p>1 Point</p> <p>Task 10</p>	<p>Space Terms</p> <p>In this task, you will write down the meanings of the following space-related terms:</p> <ol style="list-style-type: none"> Light Year Astronomical Unit Escape Velocity <p>Steps to Follow:</p> <ol style="list-style-type: none"> Research: <ul style="list-style-type: none"> Look up the definitions of each term: light year, astronomical unit, and escape velocity. Write the Definitions: <ul style="list-style-type: none"> For each term, write a clear and simple definition in your own words, explaining what they mean and how they are used in space science. <p>Presentation:</p> <ul style="list-style-type: none"> Make sure your definitions are accurate and easy to understand. You can include any examples that help explain the terms. <p>This task will help you understand important concepts used in astronomy and space exploration! 🔭</p>