



10th Grade Science

Willows Preparatory School 2020-2021

Subject Aims

- Understand and appreciate science and its implications
- Cultivate analytical, inquiring and flexible minds that pose questions, solve problems, construct explanations and judge arguments
- Develop skills to design and perform investigations, evaluate evidence and reach conclusions
- Build an awareness of the need to effectively collaborate and communicate
- Apply language skills and knowledge in a variety of real-life contexts
- Reflect on learning experiences and make informed choices.

Keys to Class

- **OneNote** – We use OneNote to distribute course assignments, readings, links, and reflections. We also use OneNote as means of collaboration and project work.
- **Homework** – Our homework assignments revolve primarily around guiding students through the course material using a combination of applied contexts and practice drills. On average, students should be spending anywhere between 1 and 2 hours on Science homework a week. This may fluctuate depending on projects or investigations taking place in class
- **Collaborative learning environment** – Students are encouraged to engage the class and one another in discussion of principles and their implications

I.B. Grading Criteria

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| <p>Objective A: Knowing and understanding</p> | <p>Are students able to explain scientific knowledge using the appropriate language? Can students apply their scientific knowledge to solve problems in new and unfamiliar situations? Can students use and evaluate information to make scientifically supported judgements?</p> |
| <p>Objective B: Inquiring and designing</p> | <p>Can students explain a problem or question that can be tested by a scientific investigation? Can students formulate a testable hypothesis that can identify independent and dependent variables as well as a logical justification for their relationship?</p> |
| <p>Objective C: Processing and evaluating</p> | <p>Can students present collected data and transform data to reflect meaningful analysis? Are students able to evaluate a hypothesis based on experimental results as well as the validity of the experimental method?</p> |
| <p>Objective D: Reflecting on the impacts of science</p> | <p>Are students able to connect scientific topics and relate them to specific real-world issues? Are students able to discuss the implications of scientific breakthroughs or discoveries and their relevance? Can students document the work of others and sources of information used?</p> |

Content Brief

| Semester 1 | Semester 2 |
|---|--|
| <p>Mechanics and Space Heat / Thermal physics Solar System Circuits Light & Sound Climate Change</p> | <p>Electromagnetic Spectrum Environment Electricity & Magnetism Nuclear physics Dynamics Astrophysics</p> |