



Willows Preparatory School 2020-2021

Subject Aims

- Understand and appreciate science and its implications
- Consider science as a human endeavor with benefits and limitations
- 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
- Develop sensitivity towards the living and non-living environments
- Reflect on learning experiences and make informed choices

Keys to Class

❖ **STANFORD NGSS 6th grade SCIENCE**

- PDFs made available through OneNote

❖ **OneNote – Content Manager**

- Course assignments, learning modules, laboratory investigations, supplementary material, and reflections.
- Primary location for collaboration and project work.

❖ **Next Generation Science Standards (NGSS) within the IB Framework** – Students assessed through IB criteria

Collaboration
Knowledge Construction
Real-World Context

Communication
Self-Regulation
Applying Technology

I.B. Grading Criteria

Objective A: Knowing and Understanding	<ul style="list-style-type: none"> • 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?
Objective B: Inquiring and designing	<ul style="list-style-type: none"> • 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?
Objective C: Communicating	<ul style="list-style-type: none"> • 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?
Objective D: Reflecting on the impacts of science	<ul style="list-style-type: none"> • 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?

Content Brief

Semester 1	Semester 2
<ul style="list-style-type: none"> ❖ Setting things in motion <ul style="list-style-type: none"> • Structure & Function • Information Processing • Conservation of energy and energy transfer Extreme living <ul style="list-style-type: none"> • Definitions of Energy • Defining and Delimiting Engineering Problems • Developing Possible Solutions • Optimizing the Design Solution 	<ul style="list-style-type: none"> ❖ Nature via Nurture <ul style="list-style-type: none"> • The Roles of Water in Earth's Surface Processes • Weather and Climate • Inheritance of Traits • Variation of Traits ❖ A warmer World <ul style="list-style-type: none"> • Human Impact on Earth Systems • Global Climate Change • Growth and Development of Organisms • Defining and Delimiting Engineering Problems