

Ms 217 Robert A Van Wyck The Green Magnet School for Career Exploration– Science Grade 8 Course Sample

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| Unit *According to NYC and State | 1. REPRODUCTION, HEREDITY, AND EVOLUTION | 2. Forces and Motion on Earth | 3. Earth, Sun, Moon System | 4. HUMANS IN THEIR ENVIRONMENT: NEEDS AND TRADEOFFS |
| Essential Question | How do chemicals affect the environment? And what can we do about it? | How can Newton’s Laws help us create a more sustainable future? | To what extent is it possible that there is life beyond earth?? | How does human consumption of resources impact the environment and our health? |
| Career | Environmental Analyst, Research Scientist, Ecologist, Pharmacologist, Toxicologist, Public Health, official/researcher | Physicist, Engineer | Astronomer, Engineer, Urban Planner, Architect, Astronaut | Ecologist, Environmental Researcher, Physicist, Activist/Lobbyist, Community Organizer, Lawyer, Politician |
| Month(s) | Sept – Oct | Nov -Dec | Jan - Mar | Apr-June |
| What Magnet Standard(s) Can you connect to? | Sustainability Inquiry Technology | Sustainability Inquiry Technology | Sustainability Inquiry Technology | Sustainability Inquiry Technology |
| What is a culminating project you can do for this unit? | Study the group of chemicals known as Endocrine Disruptors. Select one and create a multimedia presentation covering the effects of the chemical on humans and other living organisms, an example of the chemical ending up in the environment, how it got there and propose a way of remediating the problem or avoiding similar future degeneration of environmental systems. | Select an engine commonly used to generate electricity and explain how Newton’s 3 Laws are involved in its function. Considering your research of the engine’s fuel, design and efficiency, explain whether this type of engine fits in our sustainable future. | Imagine yourself an interplanetary explorer. Based on your knowledge of the Solar system, Earth and Moon relationship and living systems, create a multimedia presentation describing a habitable planet you discovered. Describe the properties that planet and its system have to maintain life as you know it. Defend the decisions you made in choosing this imaginary planet and propose a plan for creating sustainable human colonies on this new planet (sources of energy? Food? Natural resources?). | Select any one of the many environmental issues you studied and using multimedia technology create a case study presentation on that issue. Conclude with a solution you and your classmates can implement to fight this type of environmental degradation. After all the presentations are done, vote for the solution you think is the best one and implement it with the rest of your class. |

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| <p>How will the project connect to the standard</p> | <p>The student will demonstrate an in-depth knowledge of the workings of the endocrine system. The students will demonstrate knowledge of the interactions between the built and natural environments. The student will demonstrate how activism can be used to solve environmental issues.</p> | <p>The student will demonstrate knowledge of responsible use of limited resources.</p> | <p>The student will demonstrate knowledge of the limited resources available to an isolated biosphere. The student will demonstrate knowledge of the effects the built environment has on the natural environment.</p> | <p>The student will demonstrate knowledge of the effects of anthropogenic environmental pressures on other organisms. The students will demonstrate a knowledge of remediation techniques in existence now and propose new ones. The students will demonstrate first hand experience with activism and environmental remediation.</p> |
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