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Physical Science B

1. **Forces (15.00%)**

Learning Targets

1.1 **I can design and construct a rocket that will travel the farthest distance when shot at a 45 degree angle.**

Learning Target	Descriptor	Definition
4	Proficient	I can design and construct a rocket that will travel the farthest distance when shot at a 45 degree angle.
3	Developing	I can research and determine a way to design a rocket that will travel a far distance.
2	Basic	I can record and convert measurements of length and mass using SI units.
1	Minimal	I can recall Newton's third law.
0	No Evidence	No evidence shown.

2. **Energy (25.00%)**

Learning Targets

2.1 **I can distinguish between each of the different forms of energy using examples and explain the source/cause of each form of energy. (electric, thermal, mechanical, nuclear, chemical, electromagnetic/radiant)**

Learning Target	Descriptor	Definition
4	Proficient	I can distinguish between each of the different forms of energy using examples and explain the source/cause of each form of energy. (electric, thermal, mechanical, nuclear, chemical, electromagnetic/radiant)
3	Developing	I can explain each of the forms of energy using examples.
2	Basic	I can define each of the forms of energy.
1	Minimal	I can list each of the forms of energy.
0	No Evidence	No evidence shown.

2.2 **I can evaluate and calculate changes in kinetic, potential, and thermal energy in macroscopic and microscopic scenarios.**

Learning Target	Descriptor	Definition
4	Proficient	I can evaluate and calculate changes in kinetic, potential, and thermal energy in macroscopic and microscopic scenarios.
3	Developing	I can explain changes in and between kinetic, potential, and thermal energy in everyday situations.
2	Basic	I can use the formulas for kinetic, potential, and thermal energy to calculate each given a problem
1	Minimal	I can define kinetic, potential, and thermal energy.

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Learning Target	Descriptor	Definition
0	No Evidence	No evidence shown.

2.3 I can examine everyday technology in order to illustrate changes in the forms of energy from inputs through outputs, recognizing the Law of Conservation of Energy.

Learning Target	Descriptor	Definition
4	Proficient	I can examine everyday technology in order to illustrate changes in the forms of energy from inputs through outputs, recognizing the Law of Conservation of Energy.
3	Developing	I can explain the energetic inputs and outputs of a device but cannot justify them using the Law of Conservation of Energy.
2	Basic	I can chart the changes in energy forms in a device, but cannot explain why the changes occur.
1	Minimal	I can identify energy forms present in everyday pieces of technology.
0	No Evidence	No evidence shown.

3. Work and Machines (25.00%)

Learning Targets

3.1 I can evaluate a situation in order to determine and explain whether or not work (scientific definition) has occurred. In order to justify my evaluation, I will be able to calculate changes in work and power to provide data to support my answer.

Learning Target	Descriptor	Definition
4	Proficient	I can evaluate a situation in order to determine and explain whether or not work (scientific definition) has occurred. In order to justify my evaluation, I will be able to calculate changes in work and power to provide data to support my answer.
3	Developing	I can calculate changes in work and power for various situations.
2	Basic	I can explain why work has, or has not occurred.
1	Minimal	I can determine whether or not work has occurred.
0	No Evidence	No evidence shown.

3.2 I can analyze everyday objects in order to determine which type of simple machine (and subclass if applicable) is being utilized in that object and calculate its ideal mechanical advantage.

Learning Target	Descriptor	Definition
4	Proficient	I can analyze everyday objects in order to determine which type of simple machine (and subclass if applicable) is being utilized in that object and calculate its ideal mechanical advantage.
3	Developing	I can differentiate between each of the six simple machines and their sub classes.

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Learning Target	Descriptor	Definition
2	Basic	I can calculate the ideal mechanical advantage for each type of simple machine.
1	Minimal	I can list each of the six types of simple machines and their sub classes.
0	No Evidence	No evidence shown.

3.3 I can design and construct a Rube Goldberg style compound machine utilizing each of the six simple machines within it to perform an everyday task. I will be able to explain where each simple machine is being used within my compound machine.

Learning Target	Descriptor	Definition
4	Proficient	I can design and construct a Rube Goldberg style compound machine utilizing each of the six simple machines within it to perform an everyday task. I will be able to explain where each simple machine is being used within my compound machine.
3	Developing	I can design & construct a Rube Goldberg style compound machine utilizing more than half of the six simple machines within it to perform an everyday task. I will be able to explain where each simple machine is being used within my compound machine.
2	Basic	I can design & construct a Rube Goldberg style compound machine utilizing fewer than half of the six simple machines within it to perform an everyday task. I will be able to explain where each simple machine is being used within my compound machine
1	Minimal	I can design a Rube Goldberg style compound machine that includes each of the six simple machines.
0	No Evidence	No evidence shown.

4. Waves (25.00%)

Learning Targets

4.1 I can compare and contrast transverse and compressional waves, distinguishing between the various parts and providing examples of each.

Learning Target	Descriptor	Definition
4	Proficient	I can compare and contrast transverse and compressional waves, distinguishing between the various parts and providing examples of each.
3	Developing	I can provide real world examples of both types of waves.
2	Basic	I can label the parts of both transverse and compressional waves.
1	Minimal	I can define transverse and compressional waves.
0	No Evidence	No evidence shown.

4.2 I can calculate the speed, frequency, wavelength, and period of various waves through theoretical values and experimental data.

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Learning Target	Descriptor	Definition
4	Proficient	I can calculate the speed, frequency, wavelength, and period of various waves through theoretical values and experimental data.
3	Developing	I can differentiate between wavelength, wave frequency, and wave speed. In doing so, I can explain how changes in each of the factors will impact the others.
2	Basic	I can define wavelength, wave frequency, and wave speed.
1	Minimal	I can identify the symbols for wave frequency, wavelength, and wave speed.
0	No Evidence	No evidence shown.

4.3 I can distinguish between reflection, refraction and diffraction and provide examples of each.

Learning Target	Descriptor	Definition
4	Proficient	I can distinguish between reflection, refraction and diffraction and provide examples of each.
3	Developing	I can compare and contrast refraction, diffraction, and reflection.
2	Basic	I can identify whether or not refraction, diffraction, and reflection are occurring through the evaluation of scenarios or experiments.
1	Minimal	I can define reflection, refraction and diffraction.
0	No Evidence	No evidence shown.

4.4 I can evaluate how the wavelength and frequency of sound and the electromagnetic spectrum determine how I perceive a wave, including Doppler shifts.

Learning Target	Descriptor	Definition
4	Proficient	I can evaluate how the wavelength and frequency of sound and the electromagnetic spectrum determine how I perceive a wave, including Doppler shifts.
3	Developing	I can compare electromagnetic waves, discussing how frequency and wavelength determine technological applications. I can discuss how frequency determines the sounds I hear and determine how changes in frequency will change the sound.
2	Basic	I can identify how frequency and wavelength determine the energy of sound and electromagnetic waves.
1	Minimal	I can list each of the waves in the electromagnetic spectrum.
0	No Evidence	No evidence shown.

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5. **English Learning Target (10.00%)**

Learning Targets

5.1 **I can read to identify and explain the central idea of a topic-specific text while also determining supporting details used and summarizing information accurately.**

Learning Target	Descriptor	Definition
4	Proficient	I can read to identify and explain the central idea of a topic-specific text while also determining supporting details used and summarizing information accurately.
3	Developing	I can read to identify and explain the central idea of a topic-specific text while also determining supporting details used.
2	Basic	I can read to identify the central idea of a topic-specific text while also determining supporting details used.
1	Minimal	I can read to identify the central idea of a topic-specific text.
0	No Evidence	No evidence shown.

5.2 **I can produce clear and coherent writing, with sound conventions and mechanics, in which the development, organization, and style are appropriate to the task.**

Learning Target	Descriptor	Definition
4	Proficient	I can produce clear and coherent writing, with sound conventions and mechanics, in which the development, organization, and style are appropriate to the task.
3	Developing	I can produce coherent writing, with minimal errors in conventions and mechanics, in which the development and organization are appropriate to the task.
2	Basic	I can produce coherent writing, with few errors in conventions and mechanics, with evident organization and appropriate to the task.
1	Minimal	I can produce coherent writing appropriate to the task.
0	No Evidence	No evidence shown.

Submitted on 1/31/2022 by