





Land Yacht

Name(s): _____

Date: _____

NGSS GOALS	 BRONZE	 SILVER	 GOLD	 PLATINUM
1. Student work related to this Crosscutting Concept: In this project, we built a land yacht with different sized sails. We tested it with a fan at different angles.				
Energy and matter: Flows, cycles, and conservation: Energy may take different forms and can be tracked as energy flows through a design system.	<ul style="list-style-type: none"> We built a land yacht. We practiced running our land yacht on the test track in front of the fan. <input type="checkbox"/>	<ul style="list-style-type: none"> We met Bronze. Built different sized sails for our experiments. We aimed the fan at our vehicle from different angles. <input type="checkbox"/>	<ul style="list-style-type: none"> We met Silver. We built and tested a wind sucker. We changed and tested our wind sucker design with at least two additional ideas from the list on our Student Worksheet. <input type="checkbox"/>	<ul style="list-style-type: none"> We met Gold. We proposed at least two additional things to test how the energy from the fan can be transferred to a LEGO® sail vehicle. <input type="checkbox"/>
2. Student work related to this Practice: In this project, we investigated how the size of our wind sail affects the motion of our land yacht. We also investigated wind direction and a unique design called a 'wind sucker'.				
Planning and Carrying Out Investigations: Identify independent and dependent variables and controls, how measurements will be recorded, and how many data are needed to support a claim.	<ul style="list-style-type: none"> We completed at least two out of the three possible investigations on our student worksheet. We identified at least one 'control' (e.g. wind speed, sail size or wind angles) to keep the same in through our experiments. <input type="checkbox"/>	<ul style="list-style-type: none"> We met Bronze. We completed all three investigations. We chose the correct measurement tools. We identified at least two 'controls' (e.g. wind speed, sail size or wind angles) to keep the same through our experiments. <input type="checkbox"/>	<ul style="list-style-type: none"> We met Silver. We identified at least three 'controls' (e.g. wind speed, sail size or wind angles) to keep the same through our experiments. <input type="checkbox"/>	<ul style="list-style-type: none"> We met Gold. We proposed at least one new experiment. We identified the independent and dependent variable for our new experiment. We identified at least three 'controls' for our new experiment. <input type="checkbox"/>
3. Student work related to this Practice: In this project, we labelled our design for a wind-powered vehicle.				
Obtaining, Evaluating, and Communicating Information: Integrate qualitative and/or quantitative information in written text with visual displays to clarify claims and findings.	<ul style="list-style-type: none"> We labeled one important part of our land sailor design. <input type="checkbox"/>	<ul style="list-style-type: none"> We met Bronze. We labeled two extra important parts of our land sailor design. We explained how one of the important parts of our land sailor works. <input type="checkbox"/>	<ul style="list-style-type: none"> We met Silver. We explained how all three important parts of our land sailor work. <input type="checkbox"/>	<ul style="list-style-type: none"> We met Gold. We created and shared our diagram and explanation to classmates. We revised our work and made it more clear for our classmates to understand. <input type="checkbox"/>
Notes:				