

Powerhouse		Grade 1: Energy In Our Lives	
Lesson Plan	Coding Tool	Offline coding	
	Cross-curricular	<ul style="list-style-type: none"> • Coding • Math 	
Big Ideas <ul style="list-style-type: none"> • Humans need to be responsible for the way in which we use energy. (Overall expectations 1 and 2) • Everything that happens is a result of using some form of energy. (Overall expectations 1, 2, and 3) 	Specific Expectations <p>2.3 design and construct a device that uses energy to perform a task</p> <p>2.8 use a variety of forms to communicate with different audiences and for a variety of purposes</p>		
Description <p>This screen less coding exercise will have students play a drawing game, where they use limited “energy” to draw houses with specific criteria using shapes.</p>			
Materials <ul style="list-style-type: none"> • Worksheet • Markers 	Computational Thinking Skills <ul style="list-style-type: none"> • Algorithms 		
Introduction <p>Explain the concept of the game to students. On their handouts are shapes with assigned numbers these numbers represent the amount of “energy” it costs to draw one of those shapes. They’ll have several challenges listed with a limited amount of “energy” and will have to draw houses using only the shapes they can afford. This is similar to coding with a limited amount of memory resources as well; you need to think about how you use your code in the best way to accomplish your goal without wasting resources.</p> <p>Students will need to add up all their pieces values to calculate how much it cost to draw their houses and stay within the limits of their “energy”.</p>			
Action <p>Prior to playing the game, it could be beneficial to discuss the energy and where it comes from with students. And the game we’re playing today is just a fun representation of energy and how we use it.</p> <ul style="list-style-type: none"> • Hand out the worksheet to your class • Lead them through the first challenge together • Have students complete the worksheet • You could make additional challenges if you have time 			



Together. Ensemble.

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