



## FULL STEAM AHEAD Seed Lessons

ART	DANCE	MUSIC	THEATRE
<p><b><u>SCIENCE</u></b></p> <ul style="list-style-type: none"> <li>• Formation of Sedimentary Rocks - Discuss the patterns, colors and layers found within sedimentary rocks and discuss the concept of abstract art. Compare pictures of abstract art to pictures of sedimentary rock. Use the inspiration of sedimentary rocks to create an abstract painting.</li> <li>• Create artwork using leaf rubbings and create a poster about how a tree gets its water.</li> </ul>	<p><b><u>SCIENCE</u></b></p> <ul style="list-style-type: none"> <li>• Create movement to represent concepts that cannot be seen, such as electricity and electromagnetism.</li> <li>• The Moon's endless Dance – As the Moon orbits, or moves around the Earth, the phase changes – how much we see of the Moon changes. Use movement to explore the Cycles of Moon – how to physicalize it – big light and shadows.</li> </ul>	<p><b><u>SCIENCE</u></b></p> <ul style="list-style-type: none"> <li>• Create Musical Instruments from Recycled Materials</li> <li>• Explore how pitch is altered based on the width and length of various strings. Make and test predictions.</li> </ul>	<p><b><u>SCIENCE</u></b></p> <ul style="list-style-type: none"> <li>• Reduce, Reuse, Recycle - examine the process of recycling. Write and perform a commercial and create a stage set backdrop made of recycled materials.</li> <li>• Write a mountain-creation legend and act out the legend to demonstrate understanding of one of the three ways a mountain can be formed.</li> </ul>
<p><b><u>TECHNOLOGY</u></b></p> <ul style="list-style-type: none"> <li>• Design an original App – Brainstorm an App of your own. Draw and Color a screenshot of the logo! Give it a name and write a description what it does. Post your logo in your classroom.</li> <li>• Create a stop-motion video showing the lunar cycle on the iPad.</li> </ul>	<p><b><u>TECHNOLOGY</u></b></p> <ul style="list-style-type: none"> <li>• Show dancers' movements from a different perspective. Use USB webcams mounted to the above-stage lighting grid, open source software, and available on-hand computers to track the dancers' movements in real time.</li> <li>• Wearable technology – moved onto the dancers themselves - Create LED-sparkling tutus or other dance costumes.</li> </ul>	<p><b><u>TECHNOLOGY</u></b></p> <ul style="list-style-type: none"> <li>• Create a podcast about your favorite songs and musicians.</li> <li>• Create a videogame about how to read music.</li> </ul>	<p><b><u>TECHNOLOGY</u></b></p> <ul style="list-style-type: none"> <li>• Videotape a dramatization of your favorite story.</li> <li>• Work with a partner to create paper plate masks and act out a historic moment in history. Create an Ignite! presentation about this experience.</li> </ul>

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<p><b><u>ENGINEERING</u></b></p> <ul style="list-style-type: none"> <li>• Create a sculpture with clothespins, craft sticks and binder clips to create a structure that can support weight.</li> <li>• Students construct a prototype of Sketch Da Vinci's parachute while learning about falling objects, gravity, and drag. Then construct prototype of his parachute.</li> </ul>	<p><b><u>ENGINEERING</u></b></p> <ul style="list-style-type: none"> <li>• Improvise a dance with a small group to show how a pulley works.</li> <li>• Choreograph a dance that illustrates how gears work.</li> </ul>	<p><b><u>ENGINEERING</u></b></p> <ul style="list-style-type: none"> <li>• Recycle a soda can by turning it into a silly robot. Create a little song about a "can" do attitude to sing about your robot.</li> <li>• Work in teams to study the structural design, geometry and strength of suspension, truss, and arch bridges and to build a set of bridges. Create and perform a rap about your bridge and the engineering behind it.</li> </ul>	<p><b><u>ENGINEERING</u></b></p> <ul style="list-style-type: none"> <li>• Classify and measure the wind by studying the Beaufort Scale and building an anemometer. Then, interpret characteristics of the wind by representing them through pantomime.</li> <li>• Act out basic simple machines: the lever, a wedge, the wheel, ramps, a screw.</li> </ul>
<p><b><u>MATH</u></b></p> <ul style="list-style-type: none"> <li>• Draw Pikes Peak, our American mountain, and then determine a scale to show the proper elevations by using fractions and logical-mathematical thinking.</li> <li>• Create an original comic strip to convey a mathematical concept.</li> </ul>	<p><b><u>MATH</u></b></p> <ul style="list-style-type: none"> <li>• Choreograph and narrate a scenario that involves counting and simple operations or a scenario that involves solving an equation.</li> <li>• Make a graph on the floor with tape. Using a set of X and Y coordinates, create movement to plot the points on the graph. The x-coordinate tells how many steps to take to the right (positive) or left (negative) on the x-axis. And the y-coordinate tells how many steps to move up (positive) or down (negative) on the y-axis.</li> </ul>	<p><b><u>MATH</u></b></p> <ul style="list-style-type: none"> <li>• Patterns in Music - Create and sing a song with an AB pattern or ABC pattern of pitches and construct an AB or ABC pattern using math manipulatives or simple items found in the classroom.</li> <li>• Use fractions to explain musical notation.</li> </ul>	<p><b><u>MATH</u></b></p> <ul style="list-style-type: none"> <li>• Construct a mock baseball field using an assortment of materials, including pattern blocks, tiles, and a variety of geometric shapes, and enact a skit showing the physical movements used in baseball.</li> <li>• Enact "Mirror Mirror" to lead into a study of Reflections and Lines of Symmetry. Demonstrate a mirror mime routine with a partner. Incorporate hand movements, facial gestures, body movements, and feet movements while moving in synchrony.</li> </ul>
<p><b><u>RESOURCES:</u></b>  <i>From STEM to STEAM – Using Brain-Compatible Strategies to Integrate the Arts</i> by David A. Sousa and Tom Pilecki, Corwin Publishers, 2013.  <i>STEAM Point – A Guide to Integrating Science, Technology, Engineering, the Arts and Mathematics through Common Core</i> by Susan M. Riley, Education Closet, 2012.  <a href="https://artsedge.kennedy-center.org/educators/how-to/growing-from-stem-to-steam">https://artsedge.kennedy-center.org/educators/how-to/growing-from-stem-to-steam</a>  <a href="http://www.intelfreepress.com/news/ballet-dance-wearable-technology/9050/">http://www.intelfreepress.com/news/ballet-dance-wearable-technology/9050/</a></p>			