

Which Art standards could relate to a current lesson you teach? Submit a lesson plan you would like to modify to include an arts element and discuss in 1 paragraph how you think the arts standards could enhance your lesson. This will be the lesson you ultimately submit as your Final Arts Integrated Lesson Plan. You should be working to modify/improve this lesson as the course progresses so take your time in choosing your lesson.

Last year I was fortunate to be allowed to teach an elective of my own creation. As there is no MD state curriculum and with the trust of my Resource Teacher and Principal I was given full reign to develop this program. I presented the class as a STEAM based class that would be based in a Maker Space, with tools, recyclable materials, wood etc. This class has been a wonderful outlet for my own creativity as well as guiding students on how to solve problems using their own innovative thoughts and their knowledge of subject matter. Each lesson has had a build product as the cornerstone yet it has been difficult to create the lessons so that they are encompassing all subjects and compete the STEM processes.

The corner stone of this lesson will be the creation of a Calder like product. We will use historical resources from the artists as well as discuss the social impact and time of the original works. We will learn about center of gravity and balance and the variable involved. We will learn to use new methods and materials to create the projects Cr2.1.8a. We will keep a log of our thinking and changes we make in our initial concept VA:Cr1.1.8a, Cr1.1.6a. We will create a project that represents ourselves or a specific topic va: cr1.2.6a (obviously or in a symbolic way). We will analyze our projects with regards to the scoring tool Cr3.1.8a. We will analyze other student works as well Re8.1.8a. We will display and express our ideas of the works Pr5.1.8a

VA:cr1.2.8a

## NOTES

- MS-PS2-2.** Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object. *[Clarification Statement: Emphasis is on balanced (Newton's First Law) and unbalanced forces in a system, qualitative comparisons of forces, mass and changes in motion (Newton's Second Law), frame of reference, and specification of units.] [Assessment Boundary: Assessment is limited to forces and changes in motion in one-dimension in an inertial reference frame and to change in one variable at a time. Assessment does not include the use of trigonometry.]*
- MS-PS2-** Construct and present arguments using evidence to support the claim

4. **that gravitational interactions are attractive and depend on the masses of interacting objects.** [Clarification Statement: Examples of evidence for arguments could include data generated from simulations or digital tools; and charts displaying mass, strength of interaction, distance from the Sun, and orbital periods of objects within the solar system.] [Assessment Boundary: Assessment does not include Newton's Law of Gravitation or Kepler's Laws.]

MS-PS2-5. **Conduct an investigation and evaluate the experimental design to provide evidence that**

- MS-PS3-2. **Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.** [Clarification Statement: Emphasis is on relative amounts of potential energy, not on calculations of potential energy. Examples of objects within systems interacting at varying distances could include: the Earth and either a roller coaster cart at varying positions on a hill or objects at varying heights on shelves, changing the direction/orientation of a magnet, and a balloon with static electrical charge being brought closer to a classmate's hair. Examples of models could include representations, diagrams, pictures, and written descriptions of systems.] [Assessment Boundary: Assessment is limited to two objects and electric, magnetic, and gravitational interactions.]

## Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in 6–8 builds on K–5 experiences and progresses to include investigations that use multiple variables and provide evidence to support explanations or design solutions.

- Conduct an investigation and evaluate the experimental design to produce data to serve as the basis for evidence that can meet the goals of the investigation.

**fields exist between objects exerting forces on each other even though the objects are not in contact.** [Clarification Statement: Examples of this phenomenon could include the interactions of magnets, electrically-charged strips of tape, and electrically-charged pith balls. Examples of investigations could include first-hand experiences or simulations.] [Assessment Boundary: Assessment is limited to electric and magnetic fields, and limited to qualitative evidence for the existence of fields.]

### Cross cutting Stability and Change

- Explanations of stability and change in natural or designed systems can be constructed by examining the changes over time and forces at different scales. (MS-PS2-2)
- PS2.A: Forces and Motion
- For any pair of interacting objects, the force exerted by the first object on the second object is equal in strength to the force that the second object exerts on the first, but in the opposite direction (Newton's third law). (MS-PS2-1)

Science and Engineering practices

Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in 6–8 builds on K–5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.

- Apply scientific ideas or principles to design an object, tool, process or system. (MS-PS2-1)
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- Apply scientific ideas or principles to design, construct, and test a design of an object, tool, process or system. (MS-PS3-3)
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- Develop and use a model to describe phenomena. (MS-ESS1-1),(MS-ESS1-2)

ELA

**RST.6-8.3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. (MS-PS2-1),(MS-PS2-2),(MS-PS2-5)