**BIG IDEAS**
Today’s students do not harbor the skills that it takes to cope in our workforces and higher institutional settings. There is a critical need for problem solvers, innovative thinkers and the ability to collaborate with others. Our overall goal is for the students to become skilled, talented contributors whether it is in the workforce or whether they continue on to a higher institution.

**GOALS AND OBJECTIVES**
- Create problem solvers
- Integration of Science, Technology, Engineering, and Math
- Provide students with situations that help develop the necessary critical thinking skills
- Allow students the opportunity to work cooperatively
- Collaborate with STEM-related careers to determine the skills necessary

**Timeline**
- Fall 2014: “Fall for STEM” night
  - Follow narrative curriculum
  - Students will create an Engineering Design
- Spring 2015: “Come Grow with Us” STEM night
  - Station Rotation
    - Different STEM-related careers with brief presentations/activities

**Assessment**
**FALL:**
- Students will follow a posted checklist when designing their airplane/glider
- Students will fill in a MODIFIED Engineering Design Loop WITH a reflection portion for a follow-up of the experiment
  (upper grades writing/lower grades drawing pictures)
- Testing their design

**SPRING:**
- Exit slip/Fill-in sheet following the brief presentations

**Resources**
- Teachers to facilitate
- Necessary materials/consumables for airplanes (i.e. paper, cardboard, paper clips, tissue paper, glue, tape, etc.)
- Necessary space
- Book: Thud! Wile E. Coyote experiments with Forces and Motion
- Skilled workers from STEM-related career fields
- Necessary technology

**Classroom Preparation**
No special arrangements will need to be made for the Fall STEM night, due to the activities being held after school hours.

During the Spring STEM night arrangements will be made according to the needs of the guest speakers involved.
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<thead>
<tr>
<th><strong>Learning Experiences</strong></th>
<th><strong>Example</strong></th>
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<tbody>
<tr>
<td><strong>Fall STEM night:</strong></td>
<td><strong>Spring STEM night:</strong></td>
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<tr>
<td>• Students will learn the importance of lift and air resistance.</td>
<td>Guest Speaker: Firetruck Engineer</td>
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<td>• Who can design an airplane that can carry Wile E. Coyote the farthest distance?</td>
<td>• Students will complete a prototype drawing of a scale drawing fire engine including specific qualifications given by the engineer.</td>
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<td>• Students will use available materials to build their design of choice.</td>
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<td>• Two challenges for 3-5:</td>
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<td>• -Hit roadrunner target</td>
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<td>• -Which plane can carry most passengers (weight)?</td>
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<td>• (*Challenges for K-2 will be implemented as needed)</td>
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<td><strong>Spring STEM night:</strong></td>
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<td>• Students will rotate to different stations to learn from different STEM-related careers and participate in related activities provided by each guest speaker (i.e. SDPC AITS, Medical Field, Automotive, TCTC Rep, Manufacturing, etc.)</td>
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