Integrated STEM Lesson: Soldier for a Day

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Engaging Context

I will take the students "behind the scenes" as they become "A Soldier for a Day" and send them on a mission - to patrol the mountains of Afghanistan. The students/soldiers will need to work together and decide which clothing and equipment items they will need to successfully complete their mission and safely return to base camp.
This lesson capitalizes on the natural curiosity and interest of students in soldiers.

Goals/Objectives for the Lesson

Primary Goal: To engage students in the decision making processes and trade offs associated with designing and selecting clothing and equipment items for soldiers while learning the science behind the soldier.

Secondary Goals
- To bring structure and meaning to the tours conducted at NSRDEC (Natick Soldier Research, Development and Engineering Center)
- For every student to leave with an understanding of NSRDEC's mission
- For students to gain a deeper appreciation for our soldiers.

STEM Integration - Crosscutting concepts will be incorporated

Science: The impact of environmental effects such as climate, weather, and terrain will be discussed as it relates to clothing and equipment decisions as well as logistic considerations such as resupply, shelter etc.

Technology: Different design features will be examined and changes made to items based on technological advances and soldier feedback will be discussed.

Engineering: A backward engineering approach will be utilized. As we step through the engineering design process the soldier will be the platform and his "system" will be built based on mission requirements.

Math: Data will be collected. Cause and effect relationships will be established between weight, protection and performance.