Cloud Formation Demonstration Activity

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Introduction:

- We plan on talking about the different cloud types and how they are formed.
- We plan on doing a demonstration on how to make a cloud.
Project Overview:

- To teach the students certain types of clouds.
- To show the students how to create their own cloud.
- To also teach the students at what altitude each cloud is formed at.
Project Goals:

- To ensure that students are able to differentiate the different cloud types, and where they are located in the atmosphere.

- To show the students how to form a cloud in a lab using dry ice and warm water.
Community:

- Spreading knowledge of clouds and how certain ones have a particular meaning related to weather.

- Our lesson plan could be adapted to any grade for a school to use.
Curriculum (K-12):

- We had to create a lesson plan.
  - Physical Science Frameworks for 2nd, 3rd and 7th grade were used.
    - ESS.8.2.7: Describe characteristics of cumulus, stratus, and cirrus clouds
    - ESS.8.2.8: Predict weather based on cloud type
      Second and third grade.
    - Grade 7 - ESS.8.7.18: Investigate cloud formation
Curriculum (College):

- We had to adapt the lesson plan for the college (adult learner).
  - The same basic concepts as 7th grade with expanded vocabulary
    - Eg.
      - The hydrologic cycle
      - Process of cloud formation – condensation
      - Weather patterns
      - Atmosphere
Technology:

- The internet to research our demonstration.
- Power point to create our final presentation.
- Camera’s to take pictures and video.
Skills:

The skills that we have developed are:

- Working as a group - teamwork
  - Cooperation
  - Communication
  - Planning
  - Organizing
  - Responsibility

- Leadership

- Initiative – self direction

- Networking – developing community contacts
Methodology:

- We researched physical science concepts for college and k-12 learners.

- We determined which 7th grade content would best correlate with the college curriculum.

- We researched Arkansas State Educational Frameworks for k-8 learners.

- We created our lesson plan based on the seventh grade frameworks.

- We developed a demonstration using an existing model for college students.
Division of Labor:

- We all worked together and separated the work equally.
Project Results:

- Instructional Power Point introducing the process of cloud formation and identification.

- Final Presentation presenting our project to the class – posted on website.

- Lesson Plan and Activity to be included in a lab manual for future pre-service teachers and Introduction to Physical Science students.

- Videos of demonstration

- Website of project.
Project Demonstration – the making of a cloud and tornadic vortex

Cloud Chamber + Beaker with hot water + Small amount of dry ice + box fan = TORNADO
Future Project Ideas:

A future group could develop an expanded activity to accompany the demonstration and/or adapt the lesson plan for any grade level.
Acknowledgements:

- http://www.stormtrack.org/jensen/a-10.jpg
- http://www.uvm.edu/~inquiryb/webquest/fa07/efilipek/cumulus.jpg