Where's Up?

Summary
Students will use a needle and a magnet to create a compass

Main Core Tie
Science - 5th Grade
Standard 3 Objective 1

Additional Core Ties
Science - 5th Grade
Standard 3 Objective 2

Group Size
Individual

Materials
Needles
Magnets: bars, rings horseshoes, etc.
Styrofoam plates
Water pitcher
Water

Additional Resources
Books
- Usborn Science Activities--Vol. 1
- Usborn Science Activities--Science With Magnets
- World Book, Young Scientist--Light & Electricity--Magnetic Power
- The World Book Student Discovery Encyclopedia--Vol. M

Video
- The Magic of Magnetism
  , (100% Educational Videos; 4921 Robert J. Matthews Pkwy, El Dorado Hills, California 95762, http://www.schoolvideos.com/index.cfm); VHS Product #1010S, DVD Product #S1401

Background for Teachers
You can make a compass by creating a magnet.
Earth is a magnet.
By rubbing a magnet in the same direction over a needle, a magnet is created.
Intended Learning Outcomes
1. Use Science Process and Thinking Skills
2. Manifest Scientific Attitudes and Interests

Instructional Procedures
Invitation to Learn
Ask “Why does a compass point north?”

Instructional Procedures
  - Pass out needles and magnets.
  - Have half of the class stroke needles on the north end of the magnet and the other half stroke needles on the south end.
  - Place needles on floating Styrofoam disks in water-filled plates.
  - Have students journal results.
  - Rearrange students in different groups and compare results.

Extensions
  - Measure the distance, in centimeters or inches, that a compass is affected by different magnets.
  - Allow students with special needs to think and respond to journaling activities as a homework assignment with parents. Also allow them to share their results with class members as part of the Language Arts Core Curriculum.

Family Connections
  - Students check out five marked and magnetized needles and classify according to polarity.
  - Create a compass course for students and parents to complete after school.
  - Have teams create a compass course to be exchanged with another team.
  - Share journal results with parents.
  - Allow students with special needs to think and respond to journaling activities as a homework assignment with parents.

Assessment Plan
Have students design an experiment to test compared results.

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