

SCIENCE-6

ESSENTIAL UNIT 5 (E05)

(Magnets- Physical Science)

(June 2011)

Unit Statement: The magnet unit introduces the student to the properties of magnets and allows them to explore the pushing and pulling forces exerted by magnets.

Essential Outcomes: (assessed for mastery)

1. **The Student Will** define and apply **Key Terms and Concepts**.
2. **TSW** describe how magnets can be used based on their push and pull forces.
3. **TSW** investigate how magnets work through air and other objects.
4. **TSW** classify objects as to their magnetic and non-magnetic properties.
5. **TSW** create a way to test the pulling strength of different types of magnets.
6. **TSW** observe that magnets can attract or repel other magnets.
7. **TSW** design an investigation to answer an “I wonder question.”
8. **TSW** discuss current science news events.

Key Terms and Concepts:

force

magnet

magnetic

non-magnetic

repel

attract

Suggested Materials:

Science Companion
Solids, Liquids, and Gases (TE)

Technology Resources:

www.scilinks.org/harcourt
www.sciencecompanion.com/links to find out more relevant sites
Destiny Quest and Webpath Express (available through the library web site)

Suggested Activities:

- All units should be managed with the 5 E's in mind. The students should be engaged, explore, explain, extend and evaluate. (See course outcomes.)
- This unit may best be started with Skill Building Activity "Observing and Describing" from the Science Companion Skill Builders manual if the students are not yet familiar with careful observation.
- This unit also requires special instruction on the careful use of magnets and other unit materials to preserve the integrity of the magnets.
- The first unit could also be an KWL chart which will then be the basis of TSW 11.
- The unit is also broken into 7 suggested lessons, all of which can be expanded with further experimenting. For example: The students could create a maze of boxes and tubes in teams, then race a paperclip through the maze. (TSW4)..

Suggested Assessment Tools and Strategies:

- Teachers will observe and students will self-evaluate for cooperative work.
- The students will give responses and records in a running journal.
- Vocabulary assessment could be in the form of a written assessment, or evaluated by the use of the vocabulary in both discussion and record keeping in the journals.
- The final experiment is also an evaluation of what the student has learned in the unit.
- As students plan and conduct investigations teachers should listen to their ideas to get a sense of their understanding of what it means to do science.
- Use the provided rubric or create your own.

RUBRIC FOUND ON FOLLOWING PAGE.....

6-Year-Old Rubric: What I need to do.....E05 Magnets

Task TSW	‘A’ level	‘B’ level	‘P’ Level Teacher Comments
Explore how magnets cause a push or pull.		I can give examples of how magnets push or pull.	
Use unit vocabulary including: force, magnet, magnetic, non-magnetic, repel, and attract		I know the meanings of these words and use them in my science journaling everyday.	
Demonstrate appropriate and safe use of lab materials.		I am careful with all lab equipment and I remember all lab rules.	
Observe that magnets work through air and other objects.		I can describe at least one way I have seen magnets work through other objects.	
Classify and compare objects as to their magnetic and non-magnetic properties.	I can predict objects that may be magnetic or non-magnetic by their properties.	I can classify magnetic and non-magnetic objects.	
Gather information about the strength of different types of magnets.	I can show what I know about the strength of magnets.	I can restate what I have learned about the strength of magnets.	
Create a way to test the pulling strength of different types of magnets.		I can show a way to test for the pulling strength of different types of magnets.	
Observe that magnets can attract or repel other magnets.	I can make a game using what I know about attracting and repelling.	I can show what is meant by attract and repel.	
Infer why magnets are used for a variety of purposes in everyday life.		I can infer why magnets are used for a given purpose.	
Design an experiment to answer an “I wonder question.”	I can design, gather information, make predictions, and give a reasonable explanation for my results.	I can create an experiment that answers an “I wonder” question.	
Discuss current science events.		I talk about current science news events.	

Magnets Rubric

A student can receive an A level grade all B boxes are marked and 3 A boxes are marked.