Jay Curriculum: Unit Cover Page

Unit title: Magnets **Grade Level:** 1

Content Area(s): Science **Date Created:**

Designed By: Jay First Grade Teachers

Year 1
Map & Template Development

- ☐ Map/Matrix Completed
- ☐ Material & Resources Listed
- ☐ Draft Design Template Completed
- ☐ Initial Draft Template Document

Year 2
Piloting

Develop:

- Performance Tasks
- Other Assessments
- Scoring Rubrics

☐ Piloted

Year 3
Review & Complete Assessment

- ☐ Performance Tasks Development
- ☐ Other Assessments Completed
- ☐ Scoring Rubrics Completed
- ☐ Reviewed/Revised Templates

Year 4

- ☐ Full Implementation
- ☐ Benchmarks Established

Standard(s)/Performance Indicators:

Structure of Matter
E2 Describe some physical properties of objects
E3 Group objects based on observable characteristics (e.g. color, size, texture)
Inquiry and Problem Solving
J1 Make accurate observations using appropriate tools and units of measure
Scientific Reasoning
K3 Make observations
K4 Participate in brainstorming activities
Communication
L1 Describe and compare things in terms of number, shape, texture, size, weight, color and behavior
L5 Make and read simple graphs
L6 Use objects and pictures to represent scientific and technological ideas

Unit: Magnets

Brief Summary of Unit/Topic

Summary:
This unit provides hands-on inquiry centered experiences that help students develop an understanding of magnetism and how magnets work. Students will enjoy discovering which objects are attracted to magnets and which objects repel magnets. In this unit, students will be introduced to magnetic terms. Students will explore a series of challenges which force them to discover magnetic attractions and discover that magnets can work through a variety of materials. Hands-on experiences are presented throughout the teaching lesson with magnets. It is important to reinforce the concepts learned in the hands-on lessons daily throughout the unit of study.

Stage #1: Identify Desired Results

Essential Question/s:

General understanding/s (What is worth being familiar with?)
In this unit, students explore magnets and their properties. Students will develop an understanding of magnets and how they work. They will have a respect for the care and use of magnets.

Students will know:
1. Magnets attract and repel each other
2. Every magnet has two poles
3. Like poles repel, opposite poles attract
4. Objects which are attracted to magnets are either metallic or contain some metal
5. Magnets can work through a variety of materials and continue to attract magnetic substances by penetrating a variety of barriers.

Students will be able to:
1. Observe, describe and record the results of experiments
2. Predict and test how changing variables affect the outcome of an experiment
3. Learn to plan and conduct experiments in which variables are controlled
4. Interpret the results of experiments to draw conclusions
5. Learn to work effectively with a partner.

Enduring Understanding/s:
- Objects which are attracted to a magnet are either metallic or contain some metal.
- Magnets attract and repel each other.

Stage #2: Evidence

What evidence will students have to provide in order to demonstrate that they have developed the skills, knowledge and understanding to successfully complete this unit?

Performance Tasks/Products/other assessments Performance tasks should have a scoring guide.	*Performance Indicators* for this task.* Example: **ELA: C- 1,2,3** **Science: B- 3,5,7** **SS His: H- 2**	Modalities **K**=Kinesthetic **O**=oral **V**=visual **W**=written	Are examples available to students ? **Y, N, or N/A**	Component of Local Assessment System? **Y or N** **(See aligned scoring guide.)**
Students will identify which materials are attracted to magnets	E3, E3, J1, K3, K4, L1, L6			
Students will recognize that opposite poles attract and like poles repel	E2, J1, K3			
Students will recognize that magnets can attract through various materials	J1, K3, L5, L6			
QUIZZES, TESTS, PROMPTS				
Use a checklist to identify which materials are attracted to magnets with 85% accuracy				
Teacher observation of each child's experiments				
A whole group class graph showing the results of conduction experiments				
OTHER				
Observations, discussion, illustrations, and charts				
STUDENT SELF ASSESSMENT				
Student Journal Writing				

*Abbreviate: English Language Arts= ELA, Career Preparation=CP, Modern and Classical Languages=MCL, Social Studies=SS, Visual and Performing Arts=VPA

Stage #3: Plan learning experiences & instruction

What teaching & learning experiences may equip students to develop & demonstrate the targeted understanding(s)? (activities/plans):

1. Brainstorm known information of magnets. Make a class web.
2. Introduce key vocabulary terms.
3. Free exploration using magnets. Discuss observations
4. List kinds of magnets. Sizes, shapes, and strengths.
5. Predict and verify, "what does a magnet attract?"
6. Journal writing on their information and observations with magnets around the room.
7. Using a variety of items, observe and check to see what kinds of items magnets attract. Make and write a statement together with the class.
8. Read appropriate literature and discuss. Example: Mickey's Magnet
9. Observe that the poles of 2 magnets will attract or repel each other. Make the statement that unlike poles attract and like poles repel.
10. Research magnets using the computer.

REFERENCES: