"Magical Magnets"

For further information contact…

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2008 - 2009 IDEA CATALOG OF EXCELLENCE

■ *PROGRAM OVERVIEW*

"Magical Magnets" was developed to help students understand that magnetic force can be observed, measured, predicted and applied to everyday life. This program allows students to explore the magical world of magnets through many hands on activities. They will take on the role of investigative scientists to make predications and record their observations in a class Science Journal. Sunshine State Standards for Science strands C, H and Math strand B are addressed in this program.

The hands-on learning activities magically provide answers for essential questions: Does the shape and size of a magnet change its strength? How are magnets used in our world? What does a magnet attract? What are the forces of a magnet? By providing magnets of different shapes and sizes for the children to use with activities, the students enjoy learning about magnetic force and motion. While students record their findings in the Class Science Journal, the teacher can check for comprehension. Each lesson has two sessions and each session takes approximately 25 to 30 minutes to complete and supplements the Kindergarten Harcourt Science series.

This program provides an opportunity for students to become scientists and use scientific inquiry methods. The students are intrigued by magic and excited to explore materials and answer their own questions. Evidence of creativity and higher thinking skills are apparent throughout the lessons as seen in the students' completed projects.

■ *OVERALL VALUE*

The students love to discover what magnets are, how they are used, and to explore their strength. By using the Magic theme, the program builds on the curiosity of the students and provides a way for them to answer their questions as well as providing the students with the knowledge the science curriculum requires. It is our belief that students remember far better the things they discover on their own, even if their discovery is directed.

■ *LESSON PLAN TITLES*

- Invisible Force
- What's the Attraction?
- Magical Powers

■ *MATERIALS*

Materials for each lesson are listed with each lesson plan. Overall materials budget including pricing and vendors follows the lesson plans..

■ *ABOUT THE DEVELOPER*

Tonya Gill has a B.A. in Elementary Education from Florida A&M University. The 2007-2008 school year was her first year teaching. She has been a paraprofessional for the past six years and is presently teaching kindergarten at Walter Caldwell Elementary in Auburndale.

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"Magical Magnets" Tonya Gill

Lesson Plan No 1: Invisible Force

■ SUBJECTS COVERED

Physical Science

■ GRADES

Kindergarten

■ OBJECTIVE

✔ To explore the force of magnets.

■ SUNSHINE STATE STANDARDS

SC.H.1.1.4.1

Poses questions, seeks answers, draws pictures of observations, and makes decisions using information.

■ MATERIALS

- Bar and Wand magnets
- Jack Hartman's "Magnetize"
- Paper clips, rubber bands, pom poms, feathers, nuts and bolts, pencils, needles
- Book: *"All Aboard Science Reader-magnets"* by Anne Schreibler pg. 1-15
- Book: *"What Makes a Magnet"* by Franklyn M. Branley
- Chart paper
- Markers

■ DIRECTIONS

TIME: 2 part session

Session 1

- Prior to first lesson provide materials for student exploration during free centers time in the Science area.
- Create a class Science Journal. Start by recording students' observations, then lead them into asking questions about what they observed (why, what if…). Record these as well in the Journal.
- Read *"All Aboard Science Reader – Magnets"* by Anne Schreiber pgs. 1-15.
- Demonstrate using bar magnets / wands how magnets push and pull (repel and attract).
- Have kids act as magnets as they sing Jack Hartman's "Magnetize".

Session 2

- Class discussion about the push/pull of magnets. Introduce the north and south poles of the magnet using a pair of magnets that are marked "N" "S".
- Read *"What Makes a Magnet"* by Franklyn M. Branley.
- Recreate the compass experiment found on page 16-17.
- Provide materials for the kids to make their own magnets in the Science Center as directed on page 13.
- After making their own needle magnet, students will test to see how many paperclips they can pick up. They will then draw and record the results.
- Revisit Class Science Journal and see what questions we can answer based on what we have learned.
- Close with Jack Hartman "Magnatize".

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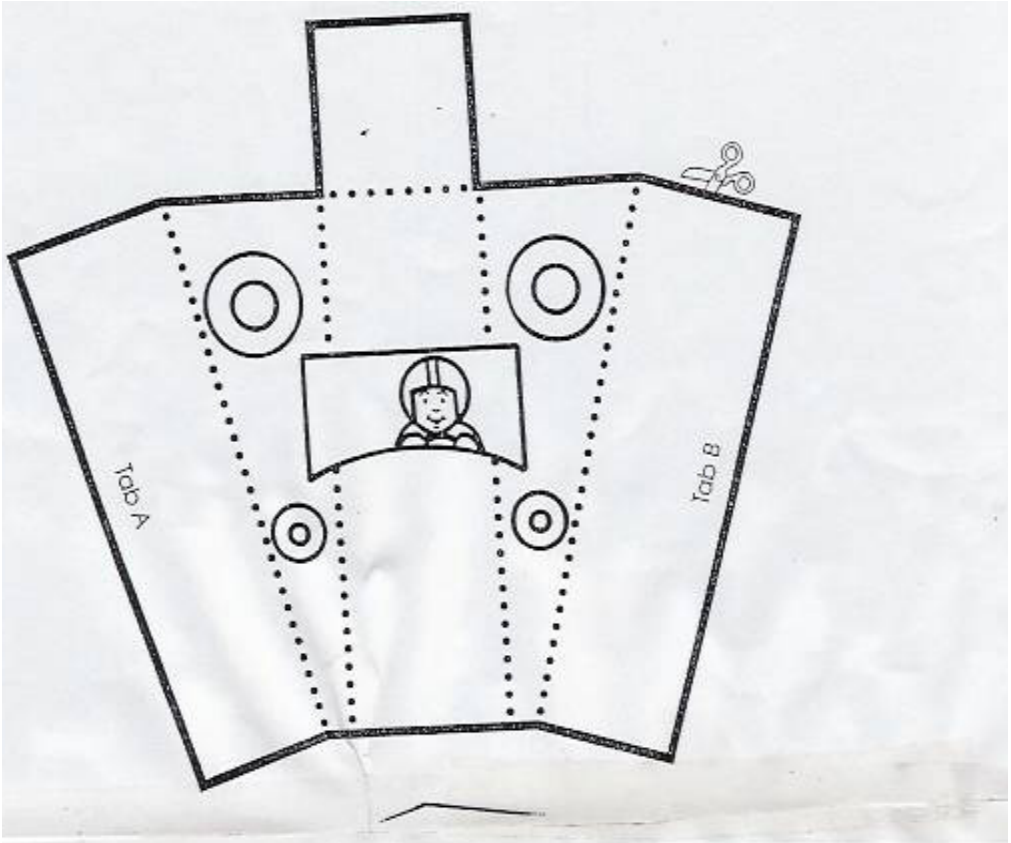
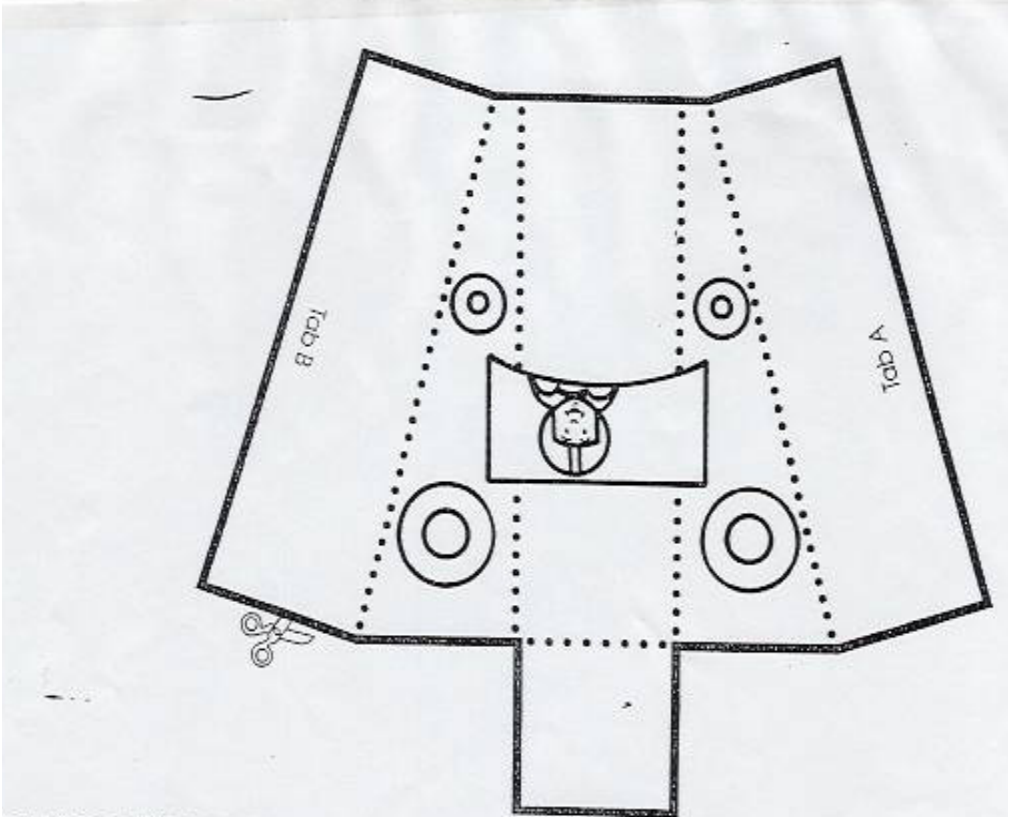

Tab A
Tab B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Lesson Plan No 2: What's the Attraction?

■ SUBJECTS COVERED

Physical Science

■ GRADES

Kindergarten

■ OBJECTIVE

✔ To discover what magnets attract.

■ SUNSHINE STATE STANDARDS

SC.H.1.1.4.1

Poses questions, seeks answers, draws pictures of observations, and makes decisions using information.

SC.C.2.1.1.1

Knows that the motion of an object (for example: toy truck, toy car, ball, marble) can be changed by a push or a pull of a magnet.

■ MATERIALS

- Bar and Wand magnets
- Objects to test on worksheet
- Book: "Mickey's Magnet"
- Follow up worksheet
- Chart paper
- Markers

■ DIRECTIONS

TIME: 2 part session

(approx. 30 min. each)

Session 1

- Review recorded observations in Class Science Journal.
- Read *"Mickey's Magnet"* by Ruth Sawyer.
- As a class complete *"Mickey's Magnet"* follow-up worksheet showing what objects Mickey was able to pick up with a magnet. (Use Elmo)
- In Kagan pairs, students will make predictions about whether objects can be picked up by a magnet and record them on a worksheet.
- Pairs will take a magnet and basket of objects. They will test their predictions and record the results. They can then compare their findings with their predictions.
- As a class assess what the objects that were picked up have in common. Record findings in class Science Journal.

Session 2

- Review the objects that we were able to pick up with a magnet and using those same objects, have students predict whether or not the magnet could pick them up in water. Place objects in water table or bowl and cover with water. Using magnet wands test their hypothesis.
- Repeat the above the process using paper, cardboard, wood, and skin (hand or ear), finishing with the bottom of the water table.
- Distribute race car pictures for the kids to color and construct. Give each child a piece of cardboard to draw a racetrack. Attach a paper clip to each car and using a magnet under the cardboard, students will manipulate their cars around the track.
- As a class, revisit the Science Journal and summarize our findings.

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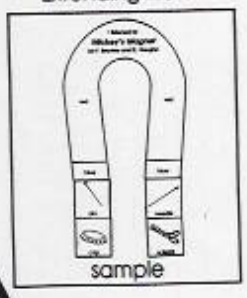
Color, cut, and paste.

Extending literature



I listened to

Mickey's Magnet

by F. Branley and E. Vaughn

red

red

blue

blue

paste	paste	paste	paste
pin	scissors	needle	cap

Teacher: See page 1 for directions and activity suggestions.

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Lesson Plan No 3: Magical Powers

SUBJECTS COVERED

Physical Science, Math

GRADES

Kindergarten

OBJECTIVES

- ✔ To compare the size and shape of a magnet to its strength.
- ✔ Explore how magnets are used in the real world.

SUNSHINE STATE STANDARDS

SC.H.1.1.4.1
Poses questions, seeks answers, draws pictures of observations, and makes decisions using information.

MA.B.1.1.1.3
Weighs objects to explore concepts of heavier and lighter.

MATERIALS

- Magnet Lab Kit (Bar, wands, ball, horseshoe magnets)
- Bucket Balance
- Book: *"What Magnets Can Do"* Rookie Reader
- Craft foam
- Magnetic tape
- Pictures of students
- Worksheet
- Chart paper
- Markers

DIRECTIONS

TIME: 2 part session
(approx. 30 min. each)

Session 1

- Read *"What Magnets Can Do"* Rookie Reader to review about magnets. An electromagnet is shown in the book. Brainstorm with students how that magnet is able to lift a car. Show responses on a circle map.
- Use experiment to ascertain if size or shape of the magnet affects the strength. Demonstrate to students how they will test and record the strength of each type of magnet using worksheet.
- Students will weigh each magnet used to determine if the biggest/ heaviest magnet attracted more objects.
- Complete Science Journal by adding today's findings.

Session 2

- To summarize the magnet unit, view United Streaming Video "Magic of Magnetism".
- To reiterate the everyday use of magnets, make refrigerator magnets for parents (Christmas gift) using photo, craft foam frame, and strip magnets.

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Name: _____

How many?	Horseshoe magnet 	Bar magnet 	Round magnet 	Disc magnet 
				
				
				
				
				

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Rubric

				Score
Participation	Did not participate	Partial Participation	Full Participation	
Follows Directions	Did not follow directions	Partially followed directions	Followed Directions	
Percentage Correct	Less than 50%	Less than 70%	More than 70%	
			TOTAL:	

Name: _____

Activity: _____

Date: _____

Materials Budget

SUPPLIER	ITEM DESCRIPTION		COST	QUANTITY	TOTAL COST
Learning Curve	Level 1 Magnet Kit	DO-CK100	49.99	1	49.99
	Class Magnet Lab Kit	LER2064	29.95	1	29.95
	Magnet Tube	DO-SS30	12.99	1	12.99
	Magnet Rings	DO-SS10	4.99	1	4.99
	Bucket Balance	LER1524	17.95	1	17.95
Barnes & Noble	Magnets	ISBN 0448431491	3.99	1	3.99
	What Makes a Magnet:	ISBN 978006445148-2	5.99	1	5.99
Scholastic	What Magnets Can Do?	Item # NTS387441	4.95	1	4.95
Lowes	Misc. washers, bolts, screwdriver		15.00	1	15.00
	Magnetic Paint (qrt)		20.99	1	20.99
Wal Mart	Craft foam, paper clips, magnet tape, buttons,				
	feathers, pom poms, rubber bands		25.00	1	25.00
Amazon	*Mickey's Magnets* by Franklyn M. Branley		11.65	1	11.65

	Subtotal	$203.44
	Tax if applicable	
	Shipping if applicable	
	TOTAL BUDGET AMOUNT	**$203.44**

Teacher's Name *Tonya Gill*

School: *Walter Caldwell Elem.*