

CCPS Science Unit Plan

Grade	1st	Subject	Science	Unit #	5
Unit Name	Unit 5: Magnets		Timeline	6 weeks February 24th - April 4th	
How to use the Framework	<p style="color: red;">This Framework should be used to implement daily science instruction. The resources and instructional strategies reflected in the Framework will provide a foundation for effective implementation and student mastery of standards.</p> <p style="color: red;">Please see the hyperlinked abbreviation document to ensure understanding of all abbreviations used with this framework.</p> <p style="color: red;">CCPS Department of Science Website for access to all unit frameworks.</p>				
Unit Overview	<p>Background Information: Magnets attract and repel certain materials and can be used to accomplish everyday tasks.</p> <p>Prerequisites: <u>Kindergarten</u>: Unit 4 : Earth Materials (Standard(s) - SKP1 a)</p> <p>By the end of this unit the student will be able to: Classify and demonstrate how certain materials attract and repel magnets and how they can be used in daily tasks.</p> <p>By the end of this unit, the student should:</p> <ul style="list-style-type: none"> ● Encounter vocabulary terms to build core understanding ● Classify magnets and determine if they attract or repel ● Explain everyday uses for magnets ● Plan and carry out investigations to demonstrate the effects of magnets on common objects <p>■ Science-1st-Teacher-Notes.pdf</p>				
Lesson Plan guidance document and template	<p>Link the following : https://drive.google.com/file/d/1dDFitw1NesctodMZ9XAr7zc0-S5GZKPB/view?usp=drive_link</p> <p>■ Copy of Department of Science CCPS Lesson Plan Guidance Document .pdf</p>				
Standards	<u>GSE</u>	<u>Science and Engineering Practices</u>	<u>Crosscutting Concepts</u>		
	S1P2 : Obtain, evaluate, and communicate information to demonstrate the effects of magnets on other magnets and other objects.	Asking Questions and Defining Problems in K - 2 builds on prior experiences and progresses to simple descriptive questions.	Structure and Function – The shape and stability of natural and designed objects are related to their functions.		

	<p>a. Construct an explanation of how magnets are used in everyday life. (Everyday life could include : refrigerator magnets, toys, magnetic latches and name tags.)</p> <p>b. Plan and carry out an investigation to demonstrate how magnets attract and repel each other and the effect of magnets on common objects.</p>	<p>Planning and Carrying Out Investigations to answer questions to test solutions to problems in K - 2 builds on prior experiences and progresses to simple investigations based on fair tests, which provide data to support explanations or design solutions.</p> <p>Obtaining, Evaluating, and Communicating Information in K - 2 builds on prior experiences and uses observations and texts to communicate new information.</p> <p>Constructing Explanations and Designing Solutions in K-12 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomenon and designing solutions.</p> <p>Developing and Using Models in K - 2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.</p>	
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NGSS Alignment	NGSS Alignment to Disciplinary Core Ideas
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The Phenomenon Protocol

Anchoring Phenomena	Learning Targets
S1P2a - How do we use magnets everyday?	The students will explain how magnets are used in everyday life.
S1P2b - Why do magnets attract each other?	Students will plan and carry out investigations to demonstrate how magnets attract and repel each other and the effects of magnets on common objects.

Weekly Lesson Tasks

Whole Group: SAVVAS
Small Group: Discovery Education: Mystery Science, Explore Learning, GaDOE Inspire Tasks, SAVVAS Leveled Readers

Week 1

GSE: S1P2. a/b

Focused Concept: Magnets attract and repel each other and certain kinds of other materials.

Learning Targets:

I can explain how magnets are made.

Lab Safety and Materials

[W General Safety Practices for the Elementary Science Classroom- TOC.docx](#)

Never allow magnets near electronics including computers. (magnets, feathers, spoons, metal objects, cups, plastic items, paper, markers and chart paper)

Phenomenon: [How are magnets made?](#)

DQ: How are magnets made?

Day 1: Opening

Day 2 : Guided Practice/ Transition

Day 3: Independent Practice

Day 4: Independent Practice

Day 5: Assessment / Summary

Anchoring Phenomenon:
(5-7 minutes)

[How are magnets made?](#)

Use the [see, think wonder strategy](#) to guide student thinking.

****TEACHER NOTE****

provide students with opportunities to share observations and develop questions. The teacher should record students' observations on chart paper and refer back to initial student ideas throughout the week.

Inquiry Activity

SEP Teacher Tip:

To support students with the science and engineering practices for this week, follow the guidance in this protocol:

[Developing model construction questions](#)

Introduce the Driving Question:
(7-10 minutes)

How are magnets made?

Have students review the driving questions:

How are magnets made?

Use the strategy to support students with making connections and understanding the driving question (DQ).

[Visualizing the Driving Question](#)

Click here to access [question words reference chart](#)

The process can be recorded on chart paper with the students or the teacher can complete the graphic organizer.

Be sure to create a reference for students to have throughout the week.

****TEACHER NOTE****

Students should not answer the driving question at this time. Students will need to collect

Review the Driving Question:
(2-3 minutes)

How are magnets made?

Investigation Facilitation
(35-40 minutes)

SEP Teacher Tip:

To support students with the science and engineering practices for this week, follow the guidance in this protocol:

[Developing model construction questions](#)

[Provide constructive feedback for building a model](#)

[Student back pocket questions Attract or Not Attract -GaDoe \(Teacher Instructions\)](#)

Objective : Students will make predictions and investigate objects that attract or that do not attract to magnets.

Graphic Organizer
[Attract or Not Attract](#)

Text Annotation Strategy
(30-45 minutes)

Have students read and annotate the following text:

[Everyday Magnets - GaDoe](#)

****TEACHER NOTE****

[Everyday use of magnets - \(Instructions\)](#)

The teacher should facilitate the following process. Have the students follow the text protocol facilitation directions provided in the following strategy:

[K-2 Text Annotation Prot...](#)

Students should complete the following student handout as they work through the text annotation protocol:

[K-2 Text Annotation Student Document \(editable\)](#)

[K-2 Text Annotation Stu...](#)

During the teacher-led discussion, the teacher should ask the following questions:

Claim-Evidence-Reasoning
(15-25 minutes)

Students will write a response to the following driving question in the CER format.

How are magnets made?

Review the [claim-evidence-reasoning poster](#) with the students

****TEACHER NOTE****

Provide students with sentence starters by sharing on the board:
[K-2 Claim-Evidence-Rea...](#)

Have students write their claim-evidence-reasoning

Writing a claim

Have students develop a claim which is their answer to the driving question. Students should use all their knowledge from the phenomenon, inquiry activity, investigation, and information analysis protocol to develop an answer to the question.

[Provide constructive feedback for building a model](#)

[Student back pocket questions](#)

What can magnets do? - (Exploration) 1 minute

****TEACHER NOTE****

Exploration can be located in **Mystery Science** (3rd Grade)

Magnets are Weird (Hands-On Activity) 25 minutes

Magnets are Weird (Students Handout)

What can magnets do? (Wrap-Up) 14 minutes

****TEACHER NOTE****

What can magnets do? (Instructions)

information, data and understanding from the phenomenon strategy, inquiry activity, investigation, text or video protocol and vocabulary strategy to develop a response in the claim-evidence-reasoning format.

Claim-Evidence-Reasoning (CER) (10-12 minutes)

Objective: Expose students to claim-evidence-reasoning (CER) student samples below to review and understand their peers' thoughts on the topic, initiating the process of developing skills for effective argumentation.

The teacher should state the following to students:

“Claim-Evidence-Reasoning or CER is a way of writing that helps students understand and explain what they learn in science investigations and science ideas.”

Review the [claim-evidence-reasoning poster](#) with students.

As a class or in student groups, provide students with this week's claim- evidence-reasoning sample.

SAMPLE

The teacher or students should read over student sample(s) to analyze claim-evidence-reasoning protocol. Ask students to use the CER observations chart to complete the following analysis protocol:

[Claim-Evidence-Reasoning Record Observations Document](#) (google

Materials

magnets
(various objects)
feathers
spoons
metal objects
cups
plastic items
paper
markers
chart paper

****TEACHER NOTE****

Teacher will explain to students that magnets can also attract and repel one another. Magnets are attracted to objects that have iron in them.

What do metals stick onto?

Why do you think the magnets are hidden in machines?

Magnets help speakers make sound, do magnets help computers make sound? What else do magnets help computers do?

****TEACHER NOTE****

Read and review the annotation protocol prior to providing this lesson to students. Students will need to be placed in groups or have an understanding of how the groups will change to limit time used for transitioning.

After reading, reviewing and answering questions students will complete [Other Magnetic Objects](#) student handout.

****TEACHER NOTE****

Teachers could facilitate this activity with students independently or in groups.

Vocabulary Strategy (10-15 minutes)

Vocabulary Words:

magnet
attract
repel
metal

ONLY PICK ONE OF THE STRATEGIES BELOW

Vocabulary Strategy: Four Square

Provide students with the

Writing evidence

Students should provide observational or numerical data as their evidence from their investigation and write a short caption or brief description of the data they provide to support their claim.

Writing the reasoning


Students will use textual evidence from the “text annotation graphic organizer” to generate the reasoning or justification in the CER format.

****TEACHER NOTE****

Have students review the student sample(s) of claim-evidence-reasoning on Day 2. Have students compare their writing to those students' samples. Ask the following questions:

How are your thoughts or understanding similar to another writer on the topic?
How are your thoughts or understanding different to another writer on the topic?
What would you like to learn more about? Why?

doc)


 Claim-Evidence-Reasoning ... (PDF)

1. Identify the student's claim in the sample and have the teacher or students write their observations or questions.

2. Identify the student's evidence in the sample and have the teacher or students write their observations or questions.

3. Identify the student's reasoning in the sample and have the teacher or students write their observations or questions.

Ask the following questions to students as they analyze the student samples:

 Claim-Evidence-Reasoning ...

****TEACHER NOTE****

As students review the student samples, they will begin to see or read vocabulary. Begin or continue a reference chart of questions or observations about vocabulary. Students will explicitly learn vocabulary on Day 4.

[graphic organizer \(editable\)](#) or [pdf handout](#), explaining its four sections: word, meaning, picture, and sentence.

Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words.

Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term.

Have students collaborate to complete the four square strategy for the other vocabulary terms.

Monitor student progress, sharing new ideas for class discussion, and help students distinguish essential from non-essential characteristics.

Allow groups to share their thinking through academic dialogue and compare their completed task with members of other groups.

Vocabulary Terms Chart

Provide students with the [graphic organizer \(editable\)](#) or [pdf handout](#), explaining its sections: word, *What did it look like in the investigation?*, meaning, image/drawing, connection

Use a Think Aloud to demonstrate how to use the graphic organizer with one of

			<p>the provided vocabulary words. The teacher should provide the meaning of the word to the students and ask students to provide examples of how the word was represented during the investigation, phenomenon and/or inquiry activity. In the connection column, students should write how the word connects to concepts or observations they gathered during their classroom tasks. Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term.</p>	
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Week 2

GSE: S1P2. a

Focused Concept: The ability of magnets to attract and repel each other in certain materials can be used to accomplish everyday tasks.

Learning Targets:

I can explain how magnets are used in everyday life.

Lab Safety and Materials:

[W General Safety Practices for the Elementary Science Classroom- TOC.docx](#)

Do not put magnets on electronics, handle iron nuts/bolts carefully (bar magnet, iron nuts/bolts, sand, clear tub)

Phenomenon: [S1P2a.projectable.PNG](#)

DQ: How do we use magnets everyday?

Day 1: Opening	Day 2 : Guided Practice/ Transition	Day 3: Independent Practice	Day 4: Independent Practice	Day 5: Assessment / Summary
Anchoring Phenomenon: (5-7 minutes)	Introduce the Driving Question:	Review the Driving Question: (2-3 minutes)	Text Annotation Strategy (30-45 minutes)	Claim-Evidence-Reasoning (15-25 minutes)

■ S1P2a.projectable.PNG

Use the [see, think wonder strategy](#) to guide student thinking.

TEACHER NOTE

provide students with opportunities to share observations and develop questions. The teacher should record students' observations on chart paper and refer back to initial student ideas throughout the week.

Inquiry Activity (10 - 15 minutes)

SEP Teacher Tip:

To support students with the science and engineering practices for this week, follow the guidance in this protocol:

[Developing model construction questions](#)

[Provide constructive feedback for building a model](#)

[Student back pocket questions](#)
Will It Attract - GaDoe

Teachers will distribute one sticky note to students and have them go around the classroom and place the sticky notes on items they think magnets will attract too. Students will test their theories using magnets.

TEACHER NOTE

Probe students with the following questions :

(before testing magnets)

(7-10 minutes)

How do we use magnets everyday?

Have students review the driving questions:
How do we use magnets everyday?

Use the strategy to support students with making connections and understanding the driving question (DQ).

[Visualizing the Driving Question](#)

Click here to access [question words reference chart](#)

The process can be recorded on chart paper with the students or the teacher can complete the graphic organizer.

Be sure to create a reference for students to have throughout the week.

TEACHER NOTE

Students should not answer the driving question at this time. Students will need to collect information, data and understanding from the phenomenon strategy, inquiry activity, investigation, text or video protocol and vocabulary strategy to develop a response in the claim-evidence-reasoning format.

Claim-Evidence-Reasoning (CER)

(10-12 minutes)

Objective: Expose students to

How do we use magnets everyday?

Investigation Facilitation
(35-40 minutes)

SEP Teacher Tip:

To support students with the science and engineering practices for this week, follow the guidance in this protocol:

[Developing model construction questions](#)

[Provide constructive feedback for building a model](#)

[Student back pocket questions](#)
Cleaning the Beach
(Instructions)

TEACHER NOTE

Read prompt for students.

Objective: Students will investigate magnetism by searching for buried bolts and/or iron nuts.

TEACHER NOTE

Teachers should have enough plastic tubs for each group. Tubs should have 15 - 20 bolts and/or iron nuts. Teacher will cover iron nuts/bolts with sand inside of the tub and distribute them to each group.

After the investigation, teacher will lead discussion asking the following questions:

Have students read and annotate the following text:
Magnets Everyday

The teacher should facilitate the following process. Have the students follow the text protocol facilitation directions provided in the following strategy:

■ K-2 Text Annotation Prot...

Students should complete the following student handout as they work through the text annotation protocol:

[K-2 Text Annotation Student Document \(editable\)](#)

■ K-2 Text Annotation Stu...

During the teacher-led discussion, the teacher should ask the following questions:

What makes some things stick to magnets and others not?

Can you name something else made of iron that a magnet might stick to?

What are some things magnets do not stick to?

How do windmills make electricity?

What are some other ways we could use magnets to make electricity?

TEACHER NOTE

Read and review the annotation protocol prior to providing this lesson to students. Students will

Students will write a response to the following driving question in the CER format.

How do we use magnets everyday?

Review the [claim-evidence-reasoning poster](#) with the students

TEACHER NOTE

Provide students with sentence starters by sharing on the board:
■ K-2 Claim-Evidence-Rea...

Have students write their claim-evidence-reasoning

Writing a claim

Have students develop a claim which is their answer to the driving question. Students should use all their knowledge from the phenomenon, inquiry activity, investigation, and information analysis protocol to develop an answer to the question.

Writing evidence

Students should provide observational or numerical data as their evidence from their investigation and write a short caption or brief description of the data they provide to support their claim.

Writing the reasoning

Students will use textual evidence from the "text annotation graphic organizer" to generate the reasoning or justification in the CER format.

TEACHER NOTE

Why did you choose this item?

Why would a magnet attract this item?

(after testing magnets)

Did we find any items that magnets did not attach too? Why or why not?

Are all metals attracted to magnets? How could you find out?

claim-evidence-reasoning (CER) student samples below to review and understand their peers' thoughts on the topic, initiating the process of developing skills for effective argumentation.

The teacher should state the following to students:

“Claim-Evidence-Reasoning or CER is a way of writing that helps students understand and explain what they learn in science investigations and science ideas.”

Review the [claim-evidence-reasoning poster](#) with students.

As a class or in student groups, provide students with this week's claim-evidence-reasoning sample.

SAMPLE

The teacher or students should read over student sample(s) to analyze claim-evidence-reasoning protocol. Ask students to use the CER observations chart to complete the following analysis protocol:

[Claim-Evidence-Reasoning Record Observations Document](#) (google doc)

📄 Claim-Evidence-Reason... (PDF)

1. Identify the student's claim in the sample and have the teacher or students write their

How did you remove the nuts and bolts from the sand?

How did the magnet make it easier for you?

Can you think of another way to remove the nuts and bolts?

Why might this way not be the BEST method to use at a real beach?

Materials

bar magnet (per student)
15 - 20 iron nuts / bolts (per group)
clear tub (about shoe box size)
sand

need to be placed in groups or have an understanding of how the groups will change to limit time used for transitioning.

Vocabulary Strategy (10-15 minutes)

Vocabulary Words:

magnetism
attract
repel
magnet

ONLY PICK ONE OF THE STRATEGIES BELOW

Vocabulary Strategy: Four Square

Provide students with the [graphic organizer \(editable\)](#) or [pdf handout](#), explaining its four sections: word, meaning, picture, and sentence.

Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words.

Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term.

Have students collaborate to complete the four square strategy for the other vocabulary terms.

Monitor student progress, sharing new ideas for class discussion, and help students

Have students review the student sample(s) of claim-evidence-reasoning on Day 2. Have students compare their writing to those students' samples. Ask the following questions:

How are your thoughts or understanding similar to another writer on the topic?
How are your thoughts or understanding different to another writer on the topic?
What would you like to learn more about? Why?

observations or questions.

2. Identify the student's evidence in the sample and have the teacher or students write their observations or questions.

3. Identify the student's reasoning in the sample and have the teacher or students write their observations or questions.

Ask the following questions to students as they analyze the student samples:

■ Claim-Evidence-Reason...

****TEACHER NOTE****

As students review the student samples, they will begin to see or read vocabulary. Begin or continue a reference chart of questions or observations about vocabulary. Students will explicitly learn vocabulary on Day 4.

distinguish essential from non-essential characteristics.

Allow groups to share their thinking through academic dialogue and compare their completed task with members of other groups.

Vocabulary Terms Chart

Provide students with the [graphic organizer \(editable\)](#) or [pdf handout](#), explaining its sections: word, *What did it look like in the investigation?*, meaning, image/drawing, connection.

Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words. The teacher should provide the meaning of the word to the students and ask students to provide examples of how the word was represented during the investigation, phenomenon and/or inquiry activity. In the connection column, students should write how the word connects to concepts or observations they gathered during their classroom tasks. Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term.

Week 3

GSE: S1P2. a

Focused Concept: The ability of magnets to attract and repel each other in certain materials can be used to accomplish everyday tasks.

Learning Target:

I can explain how magnets are used in everyday life.

Lab Safety and Materials:

[W](#) General Safety Practices for the Elementary Science Classroom- TOC.docx

Phenomenon: [S1P2a.projectable.PNG](#)

DQ: How are magnets used everyday?

Day 1: Opening	Day 2 : Guided Practice/ Transition	Day 3: Independent Practice	Day 4: Independent Practice	Day 5: Assessment / Summary
<p>Anchoring Phenomenon: (5-7 minutes)</p> <p>S1P2a.projectable.PNG Use the see, think wonder strategy to guide student thinking.</p> <p>**TEACHER NOTE** provide students with opportunities to share observations and develop questions. Have students observe their recordings from the previous week. The teacher should record students' observations on chart paper and refer back to initial student ideas throughout the week.</p> <p>Inquiry Activity (10 - 15 minutes)</p> <p>SEP Teacher Tip: To support students with the science and engineering practices for this week, follow the guidance in this protocol: Developing model construction</p>	<p>Introduce the Driving Question: (7-10 minutes)</p> <p><i>How are magnets used everyday?</i></p> <p>Have students review the driving questions: How are magnets used everyday?</p> <p>Use the strategy to support students with making connections and understanding the driving question (DQ). Visualizing the Driving Question</p> <p>Click here to access question words reference chart</p> <p>The process can be recorded on chart paper with the students or the teacher can complete the graphic organizer.</p> <p>Be sure to create a reference for students to have throughout the week.</p>	<p>Review the Driving Question: (2-3 minutes)</p> <p><i>How are magnets used everyday?</i></p> <p>Investigation Facilitation (35-40 minutes)</p> <p>SEP Teacher Tip: To support students with the science and engineering practices for this week, follow the guidance in this protocol: Developing model construction questions Provide constructive feedback for building a model Student back pocket questions Designing a Toy (Instructions)</p> <p>Objective : Students will design a toy that uses magnets.</p> <p>Graphic Organizer Design a Toy (Student Handout)</p>	<p>Text Annotation Strategy (30-45 minutes)</p> <p>Have students read and annotate the following text: Magnets, Magnets Everywhere</p> <p>The teacher should facilitate the following process. Have the students follow the text protocol facilitation directions provided in the following strategy: K-2 Text Annotation Prot...</p> <p>Students should complete the following student handout as they work through the text annotation protocol: K-2 Text Annotation Student Document (editable) K-2 Text Annotation Stu...</p> <p>During the teacher-led discussion, the teacher should ask the following questions: <i>Why do you think magnets are useful in these different places?</i></p>	<p>Claim-Evidence-Reasoning (15-25 minutes)</p> <p>Students will write a response to the following driving question in the CER format.</p> <p><i>How are magnets used everyday?</i></p> <p>Review the claim-evidence-reasoning poster with the students</p> <p>**TEACHER NOTE** Provide students with sentence starters by sharing on the board: K-2 Claim-Evidence-Rea...</p> <p>Have students write their claim-evidence-reasoning</p> <p>Writing a claim Have students develop a claim which is their answer to the driving question. Students should use all their knowledge from the phenomenon, inquiry activity, investigation, and information analysis protocol to</p>

[questions](#)

[Provide constructive feedback for building a model](#)

[Student back pocket questions Exploring with Magnets](#)
(Instructions)

****TEACHER NOTE****

Teacher will set up five stations for students to determine how magnets are used.

Materials

dry erase board
toy
magnetic clip
wallet
necklace

Graphic Organizer
[Exploring Magnets](#)

****TEACHER NOTE****

Students should not answer the driving question at this time. Students will need to collect information, data and understanding from the phenomenon strategy, inquiry activity, investigation, text or video protocol and vocabulary strategy to develop a response in the claim-evidence-reasoning format.

Claim-Evidence-Reasoning (CER)

(10-12 minutes)

Objective: Expose students to claim-evidence-reasoning (CER) student samples below to review and understand their peers' thoughts on the topic, initiating the process of developing skills for effective argumentation.

The teacher should state the following to students:

“Claim-Evidence-Reasoning or CER is a way of writing that helps students understand and explain what they learn in science investigations and science ideas.”

Review the [claim-evidence-reasoning poster](#) with students.

As a class or in student groups, provide students with this week's claim-evidence-reasoning sample.

[SAMPLE](#)

The teacher or students should

Materials

computer
student handout

Can you think of any other everyday objects that might use magnets?

What do motors use to help roller coasters?

How do magnets help roller coasters?

Where else at theme parks do rides use magnets?

How do magnets help us when we are lost?

What is inside a compass that helps us find the right direction?

****TEACHER NOTE****

Read and review the annotation protocol prior to providing this lesson to students. Students will need to be placed in groups or have an understanding of how the groups will change to limit time used for transitioning.

Vocabulary Strategy
(10-15 minutes)

Vocabulary Words:

magnetism
attract
repel
force

ONLY PICK ONE OF THE STRATEGIES BELOW

Vocabulary Strategy:

develop an answer to the question.

Writing evidence

Students should provide observational or numerical data as their evidence from their investigation and write a short caption or brief description of the data they provide to support their claim.

Writing the reasoning

Students will use textual evidence from the “text annotation graphic organizer” to generate the reasoning or justification in the CER format.

****TEACHER NOTE****

Have students review the student sample(s) of claim-evidence-reasoning on Day 2. Have students compare their writing to those students' samples. Ask the following questions:

How are your thoughts or understanding similar to another writer on the topic?
How are your thoughts or understanding different to another writer on the topic?
What would you like to learn more about? Why?

read over student sample(s) to analyze claim-evidence-reasoning protocol. Ask students to use the CER observations chart to complete the following analysis protocol:

[Claim-Evidence-Reasoning Record Observations Document](#) (google doc)

■ Claim-Evidence-Reasoni... (PDF)

1. Identify the student's claim in the sample and have the teacher or students write their observations or questions.

2. Identify the student's evidence in the sample and have the teacher or students write their observations or questions.

3. Identify the student's reasoning in the sample and have the teacher or students write their observations or questions.

Ask the following questions to students as they analyze the student samples:

■ Claim-Evidence-Reasoni...

****TEACHER NOTE****

As students review the student samples, they will begin to see or read vocabulary. Begin or continue a reference chart of questions or observations about vocabulary. Students will explicitly learn vocabulary on Day 4.

Four Square

Provide students with the [graphic organizer \(editable\)](#) or [pdf handout](#), explaining its four sections: word, meaning, picture, and sentence.

Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words.

Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term.

Have students collaborate to complete the four square strategy for the other vocabulary terms.

Monitor student progress, sharing new ideas for class discussion, and help students distinguish essential from non-essential characteristics.

Allow groups to share their thinking through academic dialogue and compare their completed task with members of other groups.

Vocabulary Terms Chart

Provide students with the [graphic organizer \(editable\)](#) or [pdf handout](#), explaining its sections: word, *What did it look like in the investigation?*, meaning, image/drawing, connection.

Use a Think Aloud to demonstrate how to use the

			<p>graphic organizer with one of the provided vocabulary words. The teacher should provide the meaning of the word to the students and ask students to provide examples of how the word was represented during the investigation, phenomenon and/or inquiry activity. In the connection column, students should write how the word connects to concepts or observations they gathered during their classroom tasks. Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term.</p>	
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Week 4

GSE: S1P2. b

Focused Concept: Magnets attract and repel each other and certain kinds of other materials. When magnets attract an object, it pulls towards the magnet causing the object to move to stick to the magnet. When magnets repel each other, they push away.

Learning Targets:

I can plan and carry out investigations to demonstrate how magnets attract and repel each other.

Lab Safety and Materials:

[W General Safety Practices for the Elementary Science Classroom- TOC.docx](#)

Phenomenon: [S1P2b.projectable.PNG](#)

DQ: Why do magnets attract each other?

Day 1: Opening	Day 2 : Guided Practice/ Transition	Day 3: Independent Practice	Day 4: Independent Practice	Day 5: Assessment / Summary
<p>Anchoring Phenomenon: (5-7 minutes)</p> <p>S1P2b.projectable.PNG</p>	<p>Introduce the Driving Question: (7-10 minutes)</p>	<p>Review the Driving Question: (2-3 minutes)</p> <p><i>Why do magnets attract each</i></p>	<p>Text Annotation Strategy (30-45 minutes)</p> <p>Have students read and</p>	<p>Claim-Evidence-Reasoning (15-25 minutes)</p> <p>Students will write a response to</p>

Use the [see, think wonder strategy](#) to guide student thinking.

****TEACHER NOTE****

provide students with opportunities to share observations and develop questions. The teacher should record students' observations on chart paper and refer back to initial student ideas throughout the week.

Inquiry Activity
(10 - 20 minutes)

SEP Teacher Tip:

To support students with the science and engineering practices for this week, follow the guidance in this protocol:

[Developing model construction questions](#)

[Provide constructive feedback for building a model](#)

[Student back pocket questions How can you unlock a door using a magnet? \(Exploration\)](#)

Graphic Organizer
[How can you unlock a door using a magnet?](#)
(Lesson Assessment)

Why do magnets attract each other?

Have students review the driving questions:
Why do magnets attract each other?

Use the strategy to support students with making connections and understanding the driving question (DQ).

[Visualizing the Driving Question](#)

Click here to access [question words reference chart](#)

The process can be recorded on chart paper with the students or the teacher can complete the graphic organizer.

Be sure to create a reference for students to have throughout the week.

****TEACHER NOTE****

Students should not answer the driving question at this time. Students will need to collect information, data and understanding from the phenomenon strategy, inquiry activity, investigation, text or video protocol and vocabulary strategy to develop a response in the claim-evidence-reasoning format.

Claim-Evidence-Reasoning (CER)
(10-12 minutes)

Objective: Expose students to claim-evidence-reasoning

other?

Investigation Facilitation
(35-40 minutes)

SEP Teacher Tip:

To support students with the science and engineering practices for this week, follow the guidance in this protocol:

[Developing model construction questions](#)

[Provide constructive feedback for building a model](#)

[Student back pocket questions How can you unlock a door using a magnet?](#)
(Hands On Activity)

[How can you unlock a door using a magnet?](#) (Wrap Up)

****TEACHER NOTE****

Teacher Instructions - How can you unlock a door using a magnet?

Materials

computer
student handout

annotate the following text:
[Characteristics of Magnets](#)

The teacher should facilitate the following process. Have the students follow the text protocol facilitation directions provided in the following strategy:

■ K-2 Text Annotation Prot...

Students should complete the following student handout as they work through the text annotation protocol:

[K-2 Text Annotation Student Document \(editable\)](#)

■ K-2 Text Annotation Stu...

During the teacher-led discussion, the teacher should ask the following questions:

What are some things that magnets stick to?

Why do you think some things are magnetic while others are not?

What are some things that magnets do NOT stick to?

****TEACHER NOTE****

Read and review the annotation protocol prior to providing this lesson to students. Students will need to be placed in groups or have an understanding of how the groups will change to limit time used for transitioning.

Vocabulary Strategy
(10-15 minutes)

Vocabulary Words:

the following driving question in the CER format.

Why do magnets attract each other?

Review the [claim-evidence-reasoning poster](#) with the students

****TEACHER NOTE****

Provide students with sentence starters by sharing on the board:

■ K-2 Claim-Evidence-Rea...

Have students write their claim-evidence-reasoning

Writing a claim

Have students develop a claim which is their answer to the driving question. Students should use all their knowledge from the phenomenon, inquiry activity, investigation, and information analysis protocol to develop an answer to the question.

Writing evidence

Students should provide observational or numerical data as their evidence from their investigation and write a short caption or brief description of the data they provide to support their claim.

Writing the reasoning

Students will use textual evidence from the "text annotation graphic organizer" to generate the reasoning or justification in the CER format.

****TEACHER NOTE****

(CER) student samples below to review and understand their peers' thoughts on the topic, initiating the process of developing skills for effective argumentation.

The teacher should state the following to students:

“Claim-Evidence-Reasoning or CER is a way of writing that helps students understand and explain what they learn in science investigations and science ideas.”

Review the [claim-evidence-reasoning poster](#) with students.

As a class or in student groups, provide students with this week's claim-evidence-reasoning sample.

SAMPLE

The teacher or students should read over student sample(s) to analyze claim-evidence-reasoning protocol. Ask students to use the CER observations chart to complete the following analysis protocol:

[Claim-Evidence-Reasoning Record Observations Document](#)

(google doc)

Claim-Evidence-Reasoni...

(PDF)

1. Identify the student's claim in the sample and have the teacher or students write their observations or questions.

2. Identify the student's evidence

magnetism
attract
repel
magnet
metal
identify

ONLY PICK ONE OF THE STRATEGIES BELOW

Vocabulary Strategy:

Four Square

Provide students with the [graphic organizer \(editable\)](#) or [pdf handout](#), explaining its four sections: word, meaning, picture, and sentence.

Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words.

Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term.

Have students collaborate to complete the four square strategy for the other vocabulary terms.

Monitor student progress, sharing new ideas for class discussion, and help students distinguish essential from non-essential characteristics.

Allow groups to share their thinking through academic dialogue and compare their completed task with members of

Have students review the student sample(s) of claim-evidence-reasoning on Day 2. Have students compare their writing to those students' samples. Ask the following questions:

How are your thoughts or understanding similar to another writer on the topic?
How are your thoughts or understanding different to another writer on the topic?
What would you like to learn more about? Why?

in the sample and have the teacher or students write their observations or questions.

3. Identify the student's reasoning in the sample and have the teacher or students write their observations or questions.

Ask the following questions to students as they analyze the student samples:

■ Claim-Evidence-Reasoni...

****TEACHER NOTE****

As students review the student samples, they will begin to see or read vocabulary. Begin or continue a reference chart of questions or observations about vocabulary. Students will explicitly learn vocabulary on Day 4.

other groups.

Vocabulary Terms Chart

Provide students with the [graphic organizer \(editable\)](#) or [pdf handout](#), explaining its sections: word, *What did it look like in the investigation?*, meaning, image/drawing, connection.

Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words. The teacher should provide the meaning of the word to the students and ask students to provide examples of how the word was represented during the investigation, phenomenon and/or inquiry activity. In the connection column, students should write how the word connects to concepts or observations they gathered during their classroom tasks. Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term.

Week 5

GSE: S1P2. b




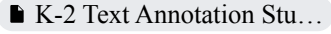

Focused Concept: Magnets attract and repel each other and certain kinds of other materials. When magnets attract an object, it pulls towards the magnet causing the object to move to stick to the magnet. When magnets repel each other, they push away.

Learning Target:

I can plan and carry out investigations to demonstrate the effects of magnets on common objects.

Lab Safety:

W General Safety Practices for the Elementary Science Classroom- TOC.docx

Phenomenon: 				DQ: why do magnets attract/repel each other?
Day 1: Opening	Day 2 : Guided Practice/ Transition	Day 3: Independent Practice	Day 4: Independent Practice	Day 5: Assessment / Summary
<p>Anchoring Phenomenon: (5-7 minutes)</p> <p> Use the see, think wonder strategy to guide student thinking.</p> <p>**TEACHER NOTE** provide students with opportunities to share observations and develop questions. Have students observe their recordings from the previous week. The teacher should record students' observations on chart paper and refer back to initial student ideas throughout the week.</p> <p>Inquiry Activity (10 - 20 minutes)</p> <p>SEP Teacher Tip: To support students with the science and engineering practices for this week, follow the guidance in this protocol: Developing model construction questions Provide constructive feedback for building a model Student back pocket questions Science4Us - Magnetic and Non - Magnetic Objects - (Instructions)</p>	<p>Introduce the Driving Question: (7-10 minutes)</p> <p><i>Why do magnets attract/repel each other?</i></p> <p>Have students review the driving questions: <i>Why do magnets attract/repel each other?</i></p> <p>Use the strategy to support students with making connections and understanding the driving question (DQ). Visualizing the Driving Question</p> <p>Click here to access question words reference chart</p> <p>The process can be recorded on chart paper with the students or the teacher can complete the graphic organizer.</p> <p>Be sure to create a reference for students to have throughout the week.</p> <p>**TEACHER NOTE** Students should not answer the driving question at this time. Students will need to collect information, data and understanding from the phenomenon strategy, inquiry activity, investigation, text or video protocol and vocabulary</p>	<p>Review the Driving Question: (2-3 minutes)</p> <p><i>Why do magnets attract/repel each other?</i></p> <p>Investigation Facilitation (35-40 minutes)</p> <p>SEP Teacher Tip: To support students with the science and engineering practices for this week, follow the guidance in this protocol: Developing model construction questions Provide constructive feedback for building a model Student back pocket questions Science4Us - Magnets Make it Move (Instructions)</p> <p>Graphic Organizer Science4Us - Magnets Make it Move (Student Handout)</p> <p>Materials</p>	<p>Text Annotation Strategy (30-45 minutes)</p> <p>Have students read and annotate the following text : Marvelous Magnets</p> <p>The teacher should facilitate the following process. Have the students follow the text protocol facilitation directions provided in the following strategy: </p> <p>Students should complete the following student handout as they work through the text annotation protocol: K-2 Text Annotation Student Document (editable) </p> <p>During the teacher-led discussion, the teacher should ask the following questions: <i>How many poles does a magnet have?</i> <i>When magnets repel one another they are doing what?</i> <i>Do ALL metals stick to magnets? If not, can you name one that doesn't?</i></p> <p>**TEACHER NOTE** Read and review the annotation protocol prior to providing this</p>	<p>Claim-Evidence-Reasoning (15-25 minutes)</p> <p>Students will write a response to the following driving question in the CER format. <i>Why do magnets attract/repel each other?</i></p> <p>Review the claim-evidence-reasoning poster with the students **TEACHER NOTE** Provide students with sentence starters by sharing on the board: </p> <p>Have students write their claim-evidence-reasoning Writing a claim Have students develop a claim which is their answer to the driving question. Students should use all their knowledge from the phenomenon, inquiry activity, investigation, and information analysis protocol to develop an answer to the question. Writing evidence Students should provide observational or numerical data as their evidence from their investigation and write a short caption or brief description of the data they provide to support their claim.</p>

****TEACHER NOTE****

Graphic Organizer

[Magnetic and Non - Magnetic Objects](#) (Student Handout)

strategy to develop a response in the claim-evidence-reasoning format.

Claim-Evidence-Reasoning (CER) (10-12 minutes)

Objective: Expose students to claim-evidence-reasoning (CER) student samples below to review and understand their peers' thoughts on the topic, initiating the process of developing skills for effective argumentation.

The teacher should state the following to students:

“Claim-Evidence-Reasoning or CER is a way of writing that helps students understand and explain what they learn in science investigations and science ideas.”

Review the [claim-evidence-reasoning poster](#) with students.

As a class or in student groups, provide students with this week's claim-evidence-reasoning sample.

SAMPLE

The teacher or students should read over student sample(s) to analyze claim-evidence-reasoning protocol. Ask students to use the CER observations chart to complete the following analysis protocol:
[Claim-Evidence-Reasoning](#)

lesson to students. Students will need to be placed in groups or have an understanding of how the groups will change to limit time used for transitioning.

Vocabulary Strategy (10-15 minutes)

Vocabulary Words:

magnetism
attract
repel
magnet
metal
identify

ONLY PICK ONE OF THE STRATEGIES BELOW

Vocabulary Strategy: Four Square

Provide students with the [graphic organizer \(editable\)](#) or [pdf handout](#), explaining its four sections: word, meaning, picture, and sentence.

Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words.

Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term.

Have students collaborate to complete the four square strategy for the other vocabulary terms.

Writing the reasoning

Students will use textual evidence from the “text annotation graphic organizer” to generate the reasoning or justification in the CER format.

****TEACHER NOTE****

Have students review the student sample(s) of claim-evidence-reasoning on Day 2. Have students compare their writing to those students' samples. Ask the following questions:

How are your thoughts or understanding similar to another writer on the topic?

How are your thoughts or understanding different to another writer on the topic?

What would you like to learn more about? Why?

[Record Observations Document](#)

(google doc)

Claim-Evidence-Reasoni...

(PDF)

1. *Identify the student's claim in the sample and have the teacher or students write their observations or questions.*

2. *Identify the student's evidence in the sample and have the teacher or students write their observations or questions.*

3. *Identify the student's reasoning in the sample and have the teacher or students write their observations or questions.*

Ask the following questions to students as they analyze the student samples:

Claim-Evidence-Reasoni...

****TEACHER NOTE****

As students review the student samples, they will begin to see or read vocabulary. Begin or continue a reference chart of questions or observations about vocabulary. Students will explicitly learn vocabulary on Day 4.

Monitor student progress, sharing new ideas for class discussion, and help students distinguish essential from non-essential characteristics.

Allow groups to share their thinking through academic dialogue and compare their completed task with members of other groups.

Vocabulary Terms Chart

Provide students with the [graphic organizer \(editable\)](#) or [pdf handout](#), explaining its sections: word, *What did it look like in the investigation?*, meaning, image/drawing, connection.

Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words. The teacher should provide the meaning of the word to the students and ask students to provide examples of how the word was represented during the investigation, phenomenon and/or inquiry activity. In the connection column, students should write how the word connects to concepts or observations they gathered during their classroom tasks. Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term.

Week 6

GSE: S1P2. a/b

Focused Concept: Magnets attract and repel each other and certain kinds of other materials.

Learning Target:

I can obtain, evaluate, and communicate information to demonstrate the effects of magnets on other magnets and other objects.

Lab Safety:

[W](#) General Safety Practices for the Elementary Science Classroom- TOC.docx

Phenomenon: [3 Amazing Experiments with Magnets | Magnetic Games](#)

DQ: How do we use magnets everyday and why do magnets attract and repel objects?

Day 1: Opening

Day 2 : Guided Practice/
Transition

Day 3: Independent Practice

Day 4: Independent Practice

Day 5: Assessment / Summary

Anchoring Phenomenon:
(5-7 minutes)

[3 Amazing Experiments ...](#)
Use the [see, think wonder strategy](#) to guide student thinking.

****TEACHER NOTE****

provide students with opportunities to share observations and develop questions. The teacher should record students' observations on chart paper and refer back to initial student ideas throughout the week.

Inquiry Activity
(10 - 20 minutes)
Science4Us - [Sentence Unscramble](#) (Instructions)

Graphic Organizer
[Sentence Unscramble](#)
(Student Handout)

Introduce the Driving Question:
(7-10 minutes)

How do we use magnets everyday and why do magnets attract and repel objects?

Have students review the driving questions:
How do we use magnets everyday and why do magnets attract and repel objects?

Use the strategy to support students with making connections and understanding the driving question (DQ).

[Visualizing the Driving Question](#)

Click here to access [question words reference chart](#)

The process can be recorded on chart paper with the students or the teacher can complete the graphic organizer.

Review the Driving Question:
(2-3 minutes)

How do we use magnets everyday and why do magnets attract and repel objects?

Investigation Facilitation
(35-40 minutes)

Science4Us - [Holding On](#) (Instructions)

Graphic Organizer
Science4Us - [Holding On](#) (Student Handout)

Materials

Text Annotation Strategy
(30-45 minutes)

Have students read and annotate the following text :
[Magnet Power](#)

The teacher should facilitate the following process. Have the students follow the text protocol facilitation directions provided in the following strategy:

[K-2 Text Annotation Prot...](#)

Students should complete the following student handout as they work through the text annotation protocol:

What are the ends of magnets called?

What is the force around a magnet called?

Would a wooden block be attracted to a magnet?

Do opposite poles attract? Give

Assessment for Learning:
(10-20 minutes)

Have students complete the following assessment.
[Magnet Module](#)

****TEACHER NOTE:**

Assessments may be administered to the whole group or small group. Provide each student with a copy of the assessment. Display the assessment for students to track as the teacher reads each question. The teacher will read each question and the responses. Instruct the student to mark or circle the correct answer.

Be sure to create a reference for students to have throughout the week. ****TEACHER NOTE****
Students should not answer the driving question at this time. Students will need to collect information, data and understanding from the phenomenon strategy, inquiry activity, investigation, text or video protocol and vocabulary strategy to develop a response in the claim-evidence-reasoning format.

Claim-Evidence-Reasoning (CER)
(10-12 minutes)

Objective: Expose students to claim-evidence-reasoning (CER) student samples below to review and understand their peers' thoughts on the topic, initiating the process of developing skills for effective argumentation.

The teacher should state the following to students:

“Claim-Evidence-Reasoning or CER is a way of writing that helps students understand and explain what they learn in science investigations and science ideas.”

Review the [claim-evidence-reasoning poster](#) with students.

As a class or in student groups, provide students with this week's claim-evidence-reasoning sample.

an example.

[K-2 Text Annotation Student Document \(editable\)](#)

■ K-2 Text Annotation Stu...

During the teacher-led discussion, the teacher should ask the following questions:

****TEACHER NOTE****

Read and review the annotation protocol prior to providing this lesson to students. Students will need to be placed in groups or have an understanding of how the groups will change to limit time used for transitioning.

Vocabulary Strategy
(10-15 minutes)

Vocabulary Words:

magnetism
attract
repel
magnet
metal
identify

ONLY PICK ONE OF THE STRATEGIES BELOW

Vocabulary Strategy:

Four Square

Provide students with the [graphic organizer \(editable\)](#) or [pdf handout](#), explaining its four sections: word, meaning, picture, and sentence.

Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words.

SAMPLE

The teacher or students should read over student sample(s) to analyze claim-evidence-reasoning protocol. Ask students to use the CER observations chart to complete the following analysis protocol:

[Claim-Evidence-Reasoning Record Observations Document](#) (google doc)

■ Claim-Evidence-Reasoni... (PDF)

1. *Identify the student's claim in the sample and have the teacher or students write their observations or questions.*

2. *Identify the student's evidence in the sample and have the teacher or students write their observations or questions.*

3. *Identify the student's reasoning in the sample and have the teacher or students write their observations or questions.*

Ask the following questions to students as they analyze the student samples:

■ Claim-Evidence-Reasoni...

****TEACHER NOTE****

As students review the student samples, they will begin to see or read vocabulary. Begin or continue a reference chart of questions or observations about vocabulary. Students will explicitly learn vocabulary on Day 4.

Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term.

Have students collaborate to complete the four square strategy for the other vocabulary terms.

Monitor student progress, sharing new ideas for class discussion, and help students distinguish essential from non-essential characteristics.

Allow groups to share their thinking through academic dialogue and compare their completed task with members of other groups.

Vocabulary Terms Chart

Provide students with the [graphic organizer \(editable\)](#) or [pdf handout](#), explaining its sections: word, *What did it look like in the investigation?*, meaning, image/drawing, connection.

Use a Think Aloud to demonstrate how to use the graphic organizer with one of the provided vocabulary words. The teacher should provide the meaning of the word to the students and ask students to provide examples of how the word was represented during the investigation, phenomenon and/or inquiry activity. In the connection column, students should write how the word

connects to concepts or observations they gathered during their classroom tasks. Allow students to work in collaborative groups. Actively monitor and facilitate small group discussions and review various artifacts (pictures, images, primary sources, charts) to build knowledge of the term.

Assessment Prep

Prepare students for assessment by reviewing the following Assessment Prep Presentation.

Provide the following guidance:

Ask the students to use what they know about the tasks completed to answer the provided assessment prep question.

- What is the question asking you?
- What do you know about the vocabulary or concept in the question?
- Is this question similar to any investigations or tasks we've completed?
- How can what you've done help you answer this question?
- Just view the assessment question: What is the question asking you?

Guide students to think about how their experience connects to the question.

Using the answer choices provided, ask the students the following:

- Identify a wrong answer: How do I know this answer is incorrect?
- Identify the right answer: How do we know this answer is correct?

Allow the students time to discuss in collaborative groups.

TEACHER NOTE: If students struggle with the question, review it the next day. Do not rush to the next question; instructional time is the only time they have to prepare for the end-of-year assessment.

Labs / Investigations

Mandatory Labs	Explore Learning Gizmo	Mystery Science
Attract of Not Attract - GaDOE Cleaning the Beach	Magnets Make it Move Holding On	How can you unlock a door using a magnet?

Designing a Toy			
Additional- Resources/Tasks			
Supplemental Labs	GaDoe - Magnet Car		
Culminating Performance Task	<p>CER <i>How are magnets made?</i></p> <p>CER <i>How do we use magnets everyday?</i></p> <p>CER <i>Why do magnets attract each other?</i></p> <p>CER <i>How do we use magnets everyday and why do they attract and repel one another?</i></p>		
STEM Activities	Exploring Learning : STEM		