

School:DepEdClub.comGrade Level:VTeacher:File created by Ma'am EDNALYN D. MACARAIGLearning Area:SCIENCETeaching Dates and Time:APRIL 10 - 14, 2023 (WEEK 9)Quarter:3RD QUARTER

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY		
I.OBJECTIVES	-						
A.Content Standards	"The Learners demonstrate understanding of a simple DC circuit and the relationship between electricity and magnetism in electromagnets."						
B.Performance Standards	The learners should be able tell the main	n parts of an electromagnet.					
C.Learning Competencies/Objectives	The learners should be able to identify the parts of an electromagnet.S5FE-IIIi-j9	Construct an electromagnet.S5FE-IIIi-j9	Design an experiment to determine the factors that affect the strengthof the electromagnet.S5FE-IIIi-j9	Determine the factors that affect the strength of the electromagnet.S5FE-IIIi-j9	Explain the importance of electromagnet in daily life.S5FE-IIIi-j9		
II.CONTENT	Electricity and Magnetism	Electricity and Magnetism	Electricity and Magnetism	Electricity and Magnetism	Electricity and Magnetism		
III.LEARNING RESOURCES							
A.References							
1.Teacher's Guide pages	Science Exemplar pages 606-609	Science Exemplar pages 606-609	Science Exemplar pages 606-609	Science Exemplar pages 606-609	Science Exemplar pages 606-609		
2.Learners's Materials pages							
3.Textbook pages	Cyber Science 5; Nicetas C. Valencia et al, pp. 229-233	h. Cyber Science 5, Nicetas G. Valencia et. al., pp. 279 – 284 i. Science and Health 5, Natividad Alegre, p. 190	Cyber Science Worktext in Science and Technology 5, Nicetas G. Valencia et. al., pp.279- 284		Cyber Science 5, Nicetas G. Valencia et. al., pp. 282-283		
4.Additional materials from learning resource (LR) portal			https://www.youtube.com/watch?v= XKUs7Dc9pKI	http://www.ehow.com/how_446 1184_increase-strength-electrom agnet.html	https://www.youtube.com/wat ch?v=P1H4b25BCo4)		
B.Other Learning Resource	pictures, activity sheet, powerpoint presentation	activity sheet, 1.5V battery, electric wires, an iron bar or a big nail, paper clips, thumbtacks and other small metallic objects, PowerPoint presentation, laptop	ball, strip of papers, Video presentation, activity sheet, constructed electromagnet, powerpoint presentation, laptop	strips of cartolina, picture, Activity sheet, PowerPoint presentation, laptop, 2 dry cells, 50 cm copper wire, large iron nail, 50 staple wire, 6' 10mm iron rod, paper clips	videoclip, powerpoint presentation, chart, laptop		
IV.PROCEDURES					-		
A.Reviewing previous lesson or presenting the new lesson	FACT or BLUFF 1. Magnets usually have two poles. 2. A magnet has energy, and can attract some objects like nails, pins and other objects that are made of contain iron. 3. In magnetism, unlike poles repel. 4. A magnet can attract most at its magnetic poles.	Inside the mystery box the pupil will guess the correct answer written in a strip of paper about the important or ideal material in producing a good electromagnet. 8. It is the core around which the wire is coiled (nail) 9. It supplies electric current (dry cell)	Play the music then pass the ball, when the music stops whoever holds the ball will answer the question written on a strip of paper. Questions: What materials are used in constructing an electromagnet? What does electromagnet usually consist of?	LET'S PLAY Make two groups consisting of five members. Give them strips of cartolina where steps on how to construct electromagnet are written. Simultaneously, let them arrange the strips of cartolina by pasting them on the board in correct sequence. The first group	Let each pupil check whether there is a strip of paper with question written under his/ her chair. Whoever gets it will answer the question written on it. 1. What makes the electromagnet stronger? 2. What happens when you		
	5. Like poles attract.	10. It is the conductor where the current flow (wire)	What serves as the conductor of	to finish correctly will be the winner.	increase the number of batteries of an electromagnet?		

			electricity? When do magnetic fields disappear?		3. How is the number of coil of wire affect the strength of an electromagnet?
B.Establishing a purpose for the lesson	Presentation of a picture of boy using a doorbell What is the boy in the picture doing? If you will get inside a building or a house with a gate closed, you need to look for a doorbell to have somebody open the gate for you. What happens when the button of a doorbell is pressed?	Do you have toy car at home? Have you experienced to play Tamiya toy car? What makes it move? (The teacher may also show a Tamiya toy car and let pupils see the motor that makes Tamiya move)	Watch the video clip https://www.youtube.com/watch?v= XKUs7Dc9pKI What does the video imply? Can electromagnet be made stronger?	Study the picture of a constructed electromagnet. Look how is the wire coiled. How is the picture different from the electromagnet that you had constructed in our previous activity?	Have you ever stopped to think how you are able to hear music and other sounds from stereo speakers? You may have an iPod, iPhone or cell phone which you carry anywhere you go? How do these help you? The speakers in these devices
C.Presenting Examples/ instances of the new lesson	Approach: Integrative Strategy: Scaffold- Knowledge Integration Activity: 4 A's Group Activity: "Tell My Parts" L. Problem: What are the parts of an electromagnet? XVI. Materials: illustration of a constructed electromagnet. XVII. Procedure 10. Study the given illustration. 11. Answer the given guide questions. Guide Questions: 1. What is the source of electricity in the illustration? 2. What is wound around the long iron nail? 3. Which is the conductor of electricity? 4. Which material becomes a magnet? Why? 5. What happened to the pins? Why? 6. What does the illustration show? XVIII. Conclusion:	Group Activity: "Constructing an Electromagnet" Approach: Inquiry-based Strategy: Knowledge-Building community model Activity: EIBU XVI. Problem: How will you construct an electromagnet? XVII. Materials: 1.5V battery, electric wires, an iron bar or a big nail, paper clips, thumbtacks and other small metallic objects XVIII. Procedures: 8. Wind the electric wire 10-15 times around the iron bar or nail. Attach one end of the wire to the positive terminal of the battery and the other end to the negative terminal to complete the circuit. 9. See how your electromagnet works! Put it near some paper clips, thumbstacks and other metallic objects. Observe what happens.	Group Activity: "Making Me Stronger" Approach: Inquiry – based Strategy; Cyclic-Inquiry Model and Practical Inquiry Model Activity: AICDR (Ask, Investigate, Create, Discuss, Reflect) XVI. Problem: Can you design an experiment to determine the factors that affect the strength of an electromagnet? XVII. Materials: constructed electromagnet used in previous activity XVIII. Procedure: 12. Group yourself into three. 13. Brainstorm on how can you make electromagnet stronger. 14. Design your own experiment to determine the factors that affect the strength of the electromagnet. Group I- Type of Core Group III- Number of Batteries	Group Activity: "Am I Stronger?" Approach: Inquiry-based Strategy: Experiment Activity: EIBU XI. Problem: What factors affect the strength of an electromagnet? XII. Materials: 2 dry cells 50 cm copper wire 1 large iron nail 50 staple wire 6' 10mm iron rod paper clips III. Procedures: 7. Get the iron nail and touch it to the paper clips and pins.Observe what happens. 8. Get the wire and wrap it tightly around the nail once. Then connect the wire ends to one of the batteries. Then touch the staples with it. 9. Experiment with different number with coil turns (10, 20, and 30) and observe what happens. See how many staples it can pick up.	Group Activity: "Know My Usefulness" Approach: Constructivism Strategy: Activity Based Activity: 3'A's I. Problem: What are the importance of electromagnet in our daily lives? II. Materials: video clip of the importance of the electromagnet in our daily life (https://www.youtube.com/wat ch?v=P1H4b25BCo4) III. Procedures 1. Watch the video clip. 2. Jot down the 4 situations that show how life is possible with and without electromagnet. 3. Fill in the table below.

		10. Disconnect the wire at one end. Observe again the metallic objects. Guide Questions: 1. What are needed in constructing an electromagnet? 2. Where does the strength of an electromagnet come from? 3. What happened if you put the electromagnet near the paper clips, thumbstacks and other metallic objects? 4. What happened after you disconnect the wire? 5. What did you construct? XIX. Conclusion:		10. Do the same process (numbers 2 and 3 above) using two batteries and the rod. 11. Record your observation in the table below.	
D.Discussing new concepts and practicing new skills #1 E.Discussing new concepts and practicing new skills #2	Group Reporting / Presentation of the Output Sharing of results Let each group make their own illustration of an electromagnet. Ask them to label the parts	Group Reporting / Presentation of the Output Sharing of results Answer these questions: e. When does an electromagnet behave like a magnet? f. Why does an electromagnet can attract pins if there is an electricity?	Group Reporting / Presentation of the Output Sharing of results 3. Answer these questions: c. What does each group presented? d. What materials will be added/manipulated in your designed experiment to determine the strength of an electromagnet?	Group Reporting / Presentation of the Output Sharing of results Answer these questions: If you add coils to an electromagnet, does the magnet get stronger or weaker? Why? What happens if the current increases? Does the type of core affect the strength of electromagnet? Why? Why not?	Group Reporting / Presentation of the Output Sharing of results Electromagnets are used to a great extent in communication or in sending signals as in telephone, telegraph, radio and television. How do these help us?
F.Developing Mastery	Direction: Clap your hands once if the statement is correct and twice if it is incorrect. 16. An electromagnet works only when there is a flow of electricity. 17. Without core or magnetic material, electromagnet cannot be produced. 18. Coil of wire serves as the conductor of electricity. 19. Even without source of the electricity from the battery, electromagnet can still be produced. 20. When the current is broken the nail is no longer a magnet.	Direction: Identify whether the statement is TRUE or FALSE. If false, identify the word that makes it false. 11. An electromagnet is a magnet mode formed when an electric current is passed thru wire coiled around it. 12. The ability to attract metallic objects can be switched on and off because of nail. 13. Electricity flows through the wire with an iron bar (nail) inside it when connected to the battery. 14. The iron bar turns into a magnet and picks any object. 15. When the wires are disconnected, the iron bar loses its magnetic ability.	 Draw a ☼ if the statement is correct and × if not. Magnet is not used in making an electromagnet. An electromagnet behaves like magnet only when the wire is wrapped around an iron core. Number of batteries may affect the strength of an electromagnet. Number of coils may not affect the strength of an electromagnet. 	Factors Affecting the Strength of an Electromagnet	The the number of batteries is, the stronger the electromagnet is. The the number of tums the coil has, the stronger the electromagnet is. Crectromagnet. 3. Even without electromagnetic devices, communication is easier and faster. 4. All of the things we used in school, home and work depend on electromagnet.

G.Finding Parctical application of	Are you aware that many of the many	c. Why are electromagnets very	Francis, the operator of a machine	You are playing with your Tamiya	As a student, can you cite a
concepts and skills in daily living	of the modern electrical	important?	has to increase the strength of the	toy car, you noticed that it runs	specific example that shows
	appliances that we use today whether in school or home would not work	d. How are electromagnets used in communication?	electromagnet of his machine, what should he do?	so slowly. You have found out that it	the importance of electromagnet
	without the electromagnet? Can you	Communications	Silodid He do:	is running out of battery. What	in your life?
	name them?			should	in your me.
	Tidine them.			you do to increase the strength	
				of the rechargeable battery?	
H.Making generalization and abstraction	What are the main parts of an	d. What is an electromagnet?	What factors can affect the strength	What factors affect the strength	What are the importance of
about the lesson	electromagnet?	e. How can you construct an	of an electromagnet?	of an electromagnet?	electromagnet in our daily
		electromagnet?			lives?
I.Evaluating learning	Direction: Read the situation below.	Direction: The following are the steps in	Direction: Read the statement then	Direction: Read the situation	Direction: Select the sentences
	Answer the question. Choose the	constructing an electromagnet. Arrange	write True if the statement is correct	below. Answer the question.	that show the importance of
	letter of the best answer	them in correct order by numbering	and False if it is wrong.	Choose the letter of the correct	electromagnet in our daily lives
	1. You are going to construct an	1-5.	1. Electromagnet is made up of an	answer.	A. Electromagnets are used in
	electromagnet, which of the following materials will you need.	A. Bring the electromagnet near the pins. Count the number of	iron core, copper wire and source of electricity.	1. Which is an example of a temporary magnet?	generators, electric motors and transformers.
	A. dry cell C. wire	pins attracted to it.	2. Electromagnet is a permanent	A. bar magnet C. horseshoe	B. These are also used in lifting
	B. iron nail D. all of these	B. Using a cutter, uncoat the	magnet.	magnet c. norseshoe	and dropping heavy objects
	2. The following are all needed in	electrical wires and get the copper	3. Large number of closely spaced	B. electromagnet D. magnetite	like
	constructing a simple electromagnet,	inside it.	turns of wire creates the magnetic	2. Which can increase the	cars in junkyards, and lifting
	which is NOT?	C. Make ten turns of the	field.	strength of an electromagnet?	magnets levitation trains to
	A. thread C. wire	copper wire around the nail.	4. The number of batteries may	A. increasing the number of	enable
	B. nail D. battery	D. Disconnect one end of the	affect the strength of electromagnet.	batteries and coils around the	them to move extremely fast
	3. In an electromagnet, which of the	copper wire to the source of electricity.	5. Electromagnet can be made	nail	and energy efficient.
	following serves as the conductor of	Then bring the magnet near the pins.	stronger.	B. Increasing the number of	C. We should always conserve
	electricity?	E. Connect both ends of the		batteries or coils around the nail	electricity.
	A. battery B. coil of wire C. core D.	copper wire to the negative and		C. decreasing the number of	D. MRI or magnetic resonance
	both A and B	positive terminals of the dry cell.		batteries or coils around the nail	imaging uses magnetic fields to
	4. Which one of the following is NOT a			D. Decreasing the number of	create an image inside the
	part of an electromagnet?			batteries or coils around the nail	body.
	A. the wire coil			3. The following statements are	E. Wire is used in making an
	B. the nail as the core			not true about electromagnet,	electromagnet.
	C. the dry cell cell as the source of			EXCEPTone.	
	electricity			A. The smaller the size of the	
	D. pins, clips, and needles attracted by			battery, the stronger is the	
	an electromagnet			electromagnet is.	
	5. What happens when a part of an			B. The bigger the size of the	
	electromagnet is disconnected?			soft-iron core is, the weaker the	
	A. It loses its magnetism.			electromagnet is.	
	B. Electricity continues to flow			C. The greater the number of	
	through it.			batteries, the weaker the	
	C. The electromagnet becomes a			electromagnet is.	
	permanent magnet. D. There is an increase in the number			D. The greater the number of batteries, the stronger the	
	of materials attracted.			electromagnet is.	
	or materials attracted.			4. Which is TRUE about	
				electromagnets?	
		Į.	l .	ciccioniagnets:	

J.additional activities for application or remediation	Compose a short poem about the parts of an electromagnet.	Draw a diagram of an electromagnet. Below,write the steps on how to construct it.	Design your own experiment to determine the factors that affect the strength of an electromagnet. Write this on a piece of short coupon bond.	A. They are permanent. B. They don't need a battery. C. Increasing the battery makes the electromagnet weaker. D. Increasing the number of coils makes the electromagnet stronger. Compose a simple jingle focusing on the factors that affect the strength of an electromagnet.	Research on the other importance of electromagnet in our daily lives. List down specific examples.
V.REMARKS					
VI.REFLECTION					
A.No. of learners who earned 80% in the evaluation	Lesson carried. Move on to the next objectiveLesson not carried% of the pupils got 80% mastery	Lesson carried. Move on to the next objectiveLesson not carried% of the pupils got 80% mastery	Lesson carried. Move on to the next objectiveLesson not carried% of the pupils got 80% mastery	Lesson carried. Move on to the next objectiveLesson not carried% of the pupils got 80% mastery	Lesson carried. Move on to the next objectiveLesson not carried% of the pupils got 80% mastery
B.No.of learners who require additional activities for remediation	Pupils did not find difficulties in answering their lessonPupils found difficulties in answering their lessonPupils did not enjoy the lesson because of lack of knowledge, skills and interest about the lessonPupils were interested on the lesson, despite of some difficulties encountered in answering the questions asked by the teacherPupils mastered the lesson despite of limited resources used by the teacherMajority of the pupils finished their work on timeSome pupils did not finish their work on time due to unnecessary behavior.	Pupils did not find difficulties in answering their lessonPupils found difficulties in answering their lessonPupils did not enjoy the lesson because of lack of knowledge, skills and interest about the lessonPupils were interested on the lesson, despite of some difficulties encountered in answering the questions asked by the teacherPupils mastered the lesson despite of limited resources used by the teacherMajority of the pupils finished their work on timeSome pupils did not finish their work on time due to unnecessary behavior.	Pupils did not find difficulties in answering their lessonPupils found difficulties in answering their lessonPupils did not enjoy the lesson because of lack of knowledge, skills and interest about the lessonPupils were interested on the lesson, despite of some difficulties encountered in answering the questions asked by the teacherPupils mastered the lesson despite of limited resources used by the teacherMajority of the pupils finished their work on timeSome pupils did not finish their work on time due to unnecessary behavior.	Pupils did not find difficulties in answering their lessonPupils found difficulties in answering their lessonPupils did not enjoy the lesson because of lack of knowledge, skills and interest about the lessonPupils were interested on the lesson, despite of some difficulties encountered in answering the questions asked by the teacherPupils mastered the lesson despite of limited resources used by the teacherMajority of the pupils finished their work on timeSome pupils did not finish their work on time due to unnecessary behavior.	Pupils did not find difficulties in answering their lesson. —Pupils found difficulties in answering their lesson. —Pupils did not enjoy the lesson because of lack of knowledge, skills and interest about the lesson. —Pupils were interested on the lesson, despite of some difficulties encountered in answering the questions asked by the teacher. —Pupils mastered the lesson despite of limited resources used by the teacher. —Majority of the pupils finished their work on time. —Some pupils did not finish their work on time due to unnecessary behavior.
C.Did the remedial work? No.of learners who have caught up with the lesson	of Learners who earned 80% above				
D.No. of learners who continue to require remediation	of Learners who require additional activities for remediation	of Learners who require additional activities for remediation	of Learners who require additional activities for remediation	of Learners who require additional activities for remediation	of Learners who require additional activities for remediation

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E.Which of my teaching strategies worked	YesNo	YesNo	YesNo	YesNo	YesNo
well? Why did these work?	of Learners who caught up the	of Learners who caught up the	of Learners who caught up the	of Learners who caught up	of Learners who caught
	lesson	lesson	lesson	the lesson	up the lesson
F.What difficulties did I encounter which	of Learners who continue to	of Learners who continue to	of Learners who continue to	of Learners who continue to	of Learners who continue
my principal or supervisor can helpme solve?	require remediation	require remediation	require remediation	require remediation	to require remediation
G.What innovation or localized materials	Strategies used that work well:	Strategies used that work well:	Strategies used that work well:	Strategies used that work well:	Strategies used that work well:
did used/discover which I wish to share	Metacognitive Development:	Metacognitive Development:	Metacognitive Development:	Metacognitive Development:	Metacognitive
with other teachers?	Examples: Self assessments, note	Examples: Self assessments, note	Examples: Self assessments, note	Examples: Self assessments, note	Development: Examples: Self
	taking and studying techniques, and	taking and studying techniques, and	taking and studying techniques, and	taking and studying techniques,	assessments, note taking and
	vocabulary assignments.	vocabulary assignments.	vocabulary assignments.	and vocabulary assignments.	studying techniques, and
	Bridging: Examples:	Bridging: Examples:	Bridging: Examples:	Bridging: Examples:	vocabulary assignments.
	Think-pair-share, quick-writes, and	Think-pair-share, quick-writes, and	Think-pair-share, quick-writes, and	Think-pair-share, quick-writes,	Bridging: Examples:
	anticipatory charts.	anticipatory charts.	anticipatory charts.	and anticipatory charts.	Think-pair-share, quick-writes,
					and anticipatory charts.
	Schema-Building: Examples:	Schema-Building: Examples:	Schema-Building: Examples:	Schema-Building:	
	Compare and contrast, jigsaw	Compare and contrast, jigsaw learning,	Compare and contrast, jigsaw	Examples: Compare and contrast,	Schema-Building:
	learning, peer teaching, and projects.	peer teaching, and projects.	learning, peer teaching, and projects.	jigsaw learning, peer teaching,	Examples: Compare and
				and projects.	contrast, jigsaw learning, peer
	Contextualization:	Contextualization:	Contextualization:		teaching, and projects.
	Examples: Demonstrations, media,	Examples: Demonstrations, media,	Examples: Demonstrations, media,	Contextualization:	
	manipulatives, repetition, and local	manipulatives, repetition, and local	manipulatives, repetition, and local	Examples: Demonstrations,	Contextualization:
	opportunities.	opportunities.	opportunities.	media, manipulatives, repetition,	Examples: Demonstrations,
				and local opportunities.	media, manipulatives,
	Text Representation:	Text Representation:	Text Representation:		repetition, and local opportunities.
	Examples: Student created drawings,	Examples: Student created drawings,	Examples: Student created drawings,	Text Representation:	opportunities.
	videos, and games.	videos, and games.	videos, and games.	Examples: Student created	Total Bonnes and Addison
	Modeling: Examples: Speaking	Modeling: Examples: Speaking	Modeling: Examples: Speaking	drawings, videos, and games.	Text Representation:
	slowly and clearly, modeling the	slowly and clearly, modeling the	slowly and clearly, modeling the	Modeling: Examples:	Examples: Student created
	language you want students to use,	language you want students to use, and	language you want students to use,	Speaking slowly and clearly,	drawings, videos, and games.
	and providing samples of student	providing samples of student work.	and providing samples of student	modeling the language you want	Modeling: Examples:
	work.	Other Techniques and Strategies used:	work.	students to use, and providing samples of student work.	Speaking slowly and clearly, modeling the language you
	Other Techniques and Strategies	Explicit Teaching	Other Techniques and Strategies	Jampies of studelit work.	want students to use, and
	used:	Group collaboration	used:	Other Techniques and Strategies	
	Explicit Teaching	Gamification/Learning throuh play	Explicit Teaching	used:	work.
	Group collaboration	Answering preliminary	Group collaboration	Explicit Teaching	
	Gamification/Learning throuh play	activities/exercises	Gamification/Learning throuh	Group collaboration	Other Techniques and
	Answering preliminary	Carousel	play	Gamification/Learning throuh	Strategies used:
	activities/exercises	Diads	Answering preliminary	play	Explicit Teaching
	Carousel	Differentiated Instruction Role Playing/Drama	activities/exercises	Answering preliminary activities/exercises	Group collaboration Gamification/Learning
	Diads Differentiated Instruction	Note Playing/Drama Discovery Method	Carousel Diads	Carousel	throuh play
	Differentiated Histraction	Discovery intention	Diaus	CalOusel	Linoun play

Role Playing/Drama Discovery Method Lecture Method Why? Complete IMs Availability of Materials Pupils' eagerness to learn Group member's collaboration/cooperation in doing their tasks Audio Visual Presentation of the lesson	Lecture Method Why? Complete IMs Availability of Materials Pupils' eagerness to learn Group member's collaboration/cooperation in doing their tasks Audio Visual Presentation of the lesson	Differentiated Instruction Role Playing/Drama Discovery Method Lecture Method Why? Complete IMs Availability of Materials Pupils' eagerness to learn Group member's collaboration/cooperation in doing their tasks Audio Visual Presentation of the lesson	Diads Differentiated Instruction Role Playing/Drama Discovery Method Lecture Method Why? Complete IMs Availability of Materials Pupils' eagerness to learn Group member's collaboration/cooperation in doing their tasks Audio Visual Presentation of the lesson	Answering preliminary activities/exercisesCarouselDiadsDifferentiated InstructionRole Playing/DramaDiscovery MethodLecture Method Why?Complete IMsAvailability of MaterialsPupils' eagerness to learnGroup member's collaboration/cooperation in doing their tasksAudio Visual Presentation
				of the lesson