Learning Plan

Name: Renee Pierre	**Age of Children**: Preschool (3-5)	**Date**: 5/30/2021
Title: Magnetic or Non-magnetic		

Learning Standards and Outcomes

Learning Standard:

Teaching Strategy Gold

Science & Technology
24. Uses scientific inquiry skills
26. Demonstrates knowledge of the physical properties of objects and materials
27. Demonstrates knowledge of Earth's environment
28. Uses tools and other technology to perform tasks

Cognitive
11. Demonstrates positive approaches to learning
    d. Shows curiosity and motivation
12. Remembers and connects experiences
    b. Makes connections
13. Uses classification skills

Mathematics
20. Uses number concepts and operations
    a. Counts

Child Outcome:

The student will be able to:

- Make discoveries and ask questions
- Understands the differences between magnetic and non-magnetic
- Understands how Earth's metals are magnetic
- Use magnets as tools
- Shows curiosity and motivation in learning
- Makes connections between being magnetic or not
- Classify by characteristics
- Count

Learning Experience

Describe the Learning Activity/Opportunity:

Magnetic or Non-magnetic is an activity that supports children's natural instinct to question and explore curious things. Children use magnets as a scientific tool to investigates different materials, such as iron, to determine if they are attracted to each other. This activity is engaging and hands-on, where children are interested in testing their thinking, making sense of which materials are magnetic or not. The children will classify the objects based on their finding of which materials attract or repel and establish how many in each group by practicing their counting skills.

In this activity, children will use household materials to explore the concept of magnets and how they push and pull. Children will test their theory on whether or not items made of different materials, such as plastic, metal, wood, glass, etc., are attracted to a magnet or if they will repel. For example, if children use a plastic

spoon, they will discover it would repel from a magnet, but a metal spoon could be attracted based on the metal it is made from. This experiment engages children in a thought-provoking study on magnetic forces building scientific knowledge and skills.

During the activity, the children will use their scientific inquiry skills to question and discover how different objects can be magnetic while others are non-magnetic. The children will physically place the magnet on various surfaces of items to test if the magnet will stick to the object to determine if it is magnetic or not. Based on the investigation findings, the children will sort the objects into two categories of magnetic or non-magnetic. When the children have completed the testing of the gathered materials, they will count to see the results of their work.

***Materials Needed**:*

- Random household objects are made of different materials such as metal, wood, plastic, glass, etc.
- Magnets
- Paper
- Writing tool

Procedures:

1. ***ENGAGE:***

I will begin this activity by introducing a magnet to gain children's interest by stating, "I'm curious, what do you think this is?" I will provide the new vocabulary word by asking, "What is a magnet? **Magnets** are objects that have the power to pull items made of iron toward itself."

I will capture the children's attention by asking, "How do you think magnets are used?" and demonstrate how a paper clip moves on a paper plate without a magnet touching it. This will create interest and curiosity that will intrigue the children to want to explore the magnets. I will ask the children, "What do you think magnets will move? Let's go find some objects to test."

2. ***EXPLORE:***

After children gather their materials, I will let them explore with the magnets and ask probing questions to provoke their thinking by saying, "Tell me, what do you observe the magnets doing?" I will introduce new vocabulary words of magnetic and attracts by asking, "How can you tell if an object is magnetic? **Magnetic** means when a magnet **attracts** or pulls together. I will also expand on the term repel by asking, "How do you know if something is not magnetic? It pushes away from the magnet; it **repels** away from the magnet."

3. ***MAKE SENSE:***

To help children make sense of this activity, they will classify the object as magnetic or non-magnetic. The children will sort using a chart to provide them with a visual allowing them to compare which materials are attracted to magnets or not. The chart supports the children's understanding by outlining what objects are made from, determining if they are magnetic or non-magnetic.

4. ***CLOSE:***

To bring this activity to an end, I will review the results by asking the student about their findings, saying, "What are your magnetic results?" I will engage in open dialog about their correct assumptions or if anything surprised them, such as a shiny metal spoon that was non-magnetic compared to a screw that looked the same and was attracted to the magnet. "Tell me, in the end, what did you learn about magnets?"

I will close the conversation with suggestions from the children on how to continue observing other items by asking, "What other items would you like to test next time?" This will encourage the children to be interested in how they can continue the activity on their own.

5. *FOLLOW UP:*

I will build on this lesson in the future by having the children look closer at the materials the objects are made from by asking, "Why do you think some things are magnetic and some are not?" I will follow the children's lead by allowing them to explore the materials for as long as they are interested. I will extend the activity by encouraging the children to take the magnets around the room to see if they find larger non movable items, such as household appliances, door hinges, light switches, etc., that are magnetic or non-magnetic. I will also create other activities that use magnets, such as painting with magnets or building with magnetic tiles.

New vocabulary words that children will develop as part of this learning plan:

1. **Magnet:** an object that has the power to pull items made of iron toward itself
2. **Magnetic**: when a magnet attracts
3. **Attract**: to pull together
4. **Repel**: to push apart

Open-ended questions for each lesson phase that you can ask children as part of this learning plan:

Before the activity:
1. What is a magnet?
2. How do you think magnets are used?
3. What can magnets do?

During the activity:
1. Tell me, what do you observe the magnets doing?
2. How can you tell if an object is magnetic?
3. How do you know if something is not magnetic?

After the activity:
1. Why do you think some things are magnetic and some are not?
2. What are your magnetic results?
3. What other items would you like to test next time?

This activity is developmentally appropriate for preschool-age children:

Age-appropriate:
- The activity is ideal for preschoolers because it provides hands-on exploration, allowing children to engage with real-world objects. Children are active participants in the learning by physically implementing the experiment and comparing the items through trial and error. The children build their knowledge of magnets through questioning and investigating their theories on whether or not the materials are magnetic.

Individually appropriate:

- This activity is individually appropriate because the children can engage with the materials at their own development and needs. The complexity of the activity can be adapted to meet the learner's needs by simplifying the objects or increasing the challenge by incorporating more non-magnetic metals. The children can follow their own lead and interests by exploring the materials that they choose from their environment.

Culturally appropriate:

- This activity is culturally appropriate because it uses materials for the children's environment and reflects their interests and cultures. The children's home language can be incorporated into this activity to support their learning and understanding.

Describe how in this activity you promote the following:

Promoting Analysis and Reasoning:

Why and how questions:

- Ask children open-ended questions to promote higher-order thinking and curiosity of scientific inquiry, "What is happening when you put the magnet on the plastic water bottle?"
- Encourage children to explore different materials to place the magnet. "I wonder, what will happen if you place the magnet on something that is made from wood?"

Problem-solving:

- Pose questions to initiate thoughts on why they are having a problem. "Why do you think all of your items are not magnetic?"
- Talk about the choices that will support problem-solving skills, such as "I see you have a lot of materials to sort, how are you going to decide which one to test first?"

Prediction and experimentation:

- Ask the children their prediction before they place the magnet on the object if it is magnetic or not. "How do you think the item reacts to the magnet?"
- Pose ideas that promote experimentation with the magnets by asking, "I wonder, what would happen if we placed a paper between the magnet and the object."

Classification and comparison:

- Ask the children to tell me about the difference of materials the objects are made from. "Tell me, what do you think this item is made of?"
- Question children's thinking about the outcomes of their testing. "Which pile does that object go in, the magnetic or non-magnetic?"

Promoting Opportunities for Creating:

Brainstorming:

- Create a list with the children of different materials things are made from. "What types of materials are things made from?
- Create a list with the children of the different objects made from other materials. "What objects are made from the materials listed?"

Planning:

- Create opportunities for children to choose two objects from each material category that we can use to test if they are magnetic. "What two items from each category do you plan on using today?"
- Model the order of the activity by describing what they need to do first, second, third, and so on. "What do we need to do first?"

Authentic production:

- Follow the children's lead of their interests of items they want to explore. "What items do you want to test to see if they are magnetic or non-magnetic?"
- Provide enough materials for all children to explore openly. "What else do you want to test?"

Promoting Opportunities for Integration:

Connecting concepts:

- Add print into the environment by incorporating charts using the language yes and no to reflect the labeling of the chart for what is magnetic and non-magnetic. "Did you brush your teeth today?"
- Model expressive language magnetic terms, such as push and pull. "How is the magnet moving?"

Previous knowledge:

- Ask children open-ended questions that provide information on what they already know. "Tell me, how do you think a magnet works?"
- Incorporate new vocabulary of the descriptive language of what materials objects are made of by asking children. "What do you think this is made of?"

Promoting Opportunities for Connections to the Real World:

Real-world application:

- Use common real-world materials that can be found in most homes. "If you were looking around your house, where would you find a magnet?"
- Ask the children to reflect on their magnetic data from their sorting to practice prereading skills. "Tell me about your results."

Relation to children's lives:

- Encourage children to contribute language from their home by asking, "Would you like to tell us how to say this in Spanish, as you do at home?"
- Use household items from the environment to create a deeper, more meaningful connection to the learning and children's comprehension. "What at your house do you think is magnetic?"

I certify that the lesson I am submitting does not utilize a worksheet or rote learning experience. My lesson focuses on promoting concept development through high-quality interactions and everyday materials easily obtained in a family's home or surrounding outdoor environment. The outcome of my lesson is not a "cookie-cutter" product.

✔ Yes

__ No