**Name of Lesson:** Discovering Attributes

**Topic:** Exploring Attributes and Patterns

**Gifted Standard and element(s):**
G1 Critical Thinking-Students will utilize higher order reasoning and reflect upon their thinking.
G2 Convergent Thinking-Students will reason logically using induction and deduction.
G3a Algebraic Thinking-Search for patterns, order, and regularity in mathematical situations

**1st Grade Standards: Science-Habits of Mind**
Compares Physical Attributes

**Unit Essential Question(s):**
What is an attribute?
How can attributes be used for classification and determining patterns?

**Lesson Questions:**
What is an attribute?
How can attributes be used to classify objects?
How can attributes be analyzed to find and continue patterns?

**Lesson Summary:**
In this lesson, 1st graders will be introduced to attributes. Students will then use attributes to classify and sort objects, to determine and continue a pattern train, and to find a matrix pattern and correctly place the attribute block in the matrices.

**Assessment Description/Performance Task:**
- Constructed response
- Informal assessment
- Performance task
- Selected response

**Brief Description of Assessment:**
Students will be observed as they work together to complete Powerpoint attribute puzzles. Students will complete one of the attribute puzzles independently. Puzzle completed will depend on which lessons were completed within the class.

**Instructional Methods:**
- **Hook/Activator:**
  Video: Song: “I Can Sort”
  https://www.youtube.com/watch?v=c5KBoDRm5J0
  Following the video, the teacher will tell the students that by the end of the lesson they should be able to sing that song and mean it. Today we will be working at using attributes to sort and continue patterns in trains and matrices.

- **Teaching Strategy:** Following the video, the teacher will lead the class in the following discussion. Hold up an item found in the classroom and ask students to describe the item without naming it. Students should name the color, size, and general shape of the object at minimum, but may give other adjectives as well. Explain to students that all the words given to describe that object are its attributes. Write the word attribute on the board.

- **Lessons are differentiated.** Teachers may choose to do all three lessons—beginning with lesson 1 and finishing with lesson 3. Or, teachers may choose the lesson they feel is most appropriate for their class.

  **Lesson 1-Ring Challenges-Level: easy;** Students will move blocks into rings or VENNS based on attributes given. Explain to students that this lesson will help them learn to identify attributes and sort by those attributes.

  **Lesson 2-Attribute Trains-Level: medium;** Students will analyze an attribute train to determine the
Lesson 3 - Attribute Matrices - Level: difficult; Students will analyze the attributes of blocks placed in a matrix to determine the missing blocks in the matrix.

- **Summary by the Learner:** Ticket out the Door: Ask each student to choose something they are wearing at that moment and think of the attributes that describe that item of clothing. As they walk out the door to specials or lunch, each child will tell you the item they chose and at least 1 attribute that describes that item. Encourage them to use a complete sentence. For example, “An attribute that describe my shirt is striped.” OR “An attribute that describes my necklace is shiny.”

**Differentiation:**

- More capable: Students who attain the attribute concepts quickly may create their own pattern trains or matrices to be solved by a friend.

- Less capable: Students who struggle with attributes may continue to classify with ring challenges by using a hula hoop to place attribute blocks inside the hoop using only 1 attribute.

**Materials for this Lesson:**

- “I Can Sort” Song - You Tube video
- Powerpoint Attribute Puzzle - Ring Challenges
- Powerpoint Attribute Puzzle - Attribute Trains
- Powerpoint Attribute Puzzle - Matrices
- Assessment: Ring Challenges
- Assessment: Attribute Trains
- Assessment: Matrices

**Vocabulary for this Lesson:**

- **Attribute:** a property of an object or person; something you can say it has-such as a size or color.
- **Pattern:** a repeated design or recurring sequence in color, shape, size, or number.

Name: ____________________________________________
Ring Challenge Assessment

1. Analyze the following Ring Challenge:

What is the name of the attribute card for the label of this ring?

___________________________

2. Analyze the following Ring Challenge:

What is the name of the attribute card for the label of this ring?

___________________________

3. Analyze the following Ring Challenge:

What is the name of the attribute card for the label of this ring?

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