Title: Apple patterns

Subject Matter Emphasis and Level: Algebra - Kindergarten

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Brief Description of the Lesson/Unit: Students will identify and create two-part patterns using a variety of manipulatives and apple-shaped cutouts.

SD Content Standards:

Standard
K.A.4.1. Students are able to identify and extend two-part repeating patterns using concrete objects.

Unpacked Standard
I can make a pattern with two shapes or colors.

Stage 1: Identify Desired Results

1. What enduring understandings are desired?
   For students to create patterns independently with different objects and to be able to identify patterns around them.

2. What essential questions will guide this unit and focus teaching/learning?
   Can the student create a pattern using two different shapes or colors?
3. What key knowledge and skills will students acquire as a result of this unit?
   Patterns can be found in various places and can be extended.

4. What prior learning, interests, misconceptions, and conceptual difficulties might be brought to this unit?
   Difficulty in discriminating between objects’ size, shape, color, etc. due to visual or conceptual disabilities.

**Stage 2: Determine Acceptable Evidence**

1. What evidence will show that students understand?

   **Performance Tasks:**
   Students will identify the pattern made by the teacher and then extend it. Once students are able to identify and extend patterns, they will create a pattern on their own using different colored apple cutouts.

   **Other Evidence:**
   *Quizzes, Tests, Prompts, Work Samples (summarized):*
   Center Activities
   Worksheets

   *Unprompted Evidence: (observations, dialogues, etc.)*
   Observation of students extending patterns.
   Student talking about pattern being made.

   **Student Self-Assessment**
   Students will compare patterns they have made to the pattern created by the teacher.

**Stage 3: Plan Learning Experiences and Instruction**

1. What sequence of teaching and learning experiences will equip students to develop and demonstrate the desired understandings?
**Major Learning Activities:**
In a whole group, the students will observe as the teacher creates patterns, and then extend the pattern. In small groups, the students will use their own apple cutouts to create a pattern. Individually, the students will extend patterns on a worksheet and create their own patterns using unifix cubes.

**Materials & Resources (technology & print):**
Unifix cubes
Worksheet
Apple cutouts

**Management:**
Whole group and small group center activities
Individual assessment on worksheet

**Support Services and Special Teacher Notes:**
Students who need help with identifying and making AB patterns may need extra support services. Many times the classmates will be the extra support.

**Extensions and Adaptation:**
Students who have shown they have mastered AB patterns will be encouraged to try more difficult pattern combinations (i.e. AAB, ABB, ABC). Students who are struggling with identifying or making AB patterns may need a visual example of a pattern that has been created by the teacher to replicate using their own manipulatives.

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**Stage 4: Plan Differentiation**

2. **What differentiated instruction strategies are being used in this lesson/unit?**

**Differentiated Process:**
Students who have shown they have mastered AB patterns will be encouraged to try more difficult pattern combinations (i.e. AAB, ABB, ABC). Students who are struggling with identifying or making AB patterns may need a visual example of a pattern that has been created by the teacher to replicate using their own manipulatives.

**Differentiated Content:**

Students will create an AB pattern following a pattern if necessary, or create a more difficult pattern combination if able.

**Differentiated Product:**

Teacher will observe the students as they work on patterns. Students’ completed apple patterns.