

## Solar Lesson Plan Format

**Age Level:** 4<sup>th</sup> Grade

**Subject(s) Area:** Math

**Materials Needed:** Computer, SmartBoard, FlipChart, White boards or iPads, Markers,

### Standards:

**Code and description:**

4.OA.5: Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.

### Objectives:

**What will the students know or be able to do?:**

I can identify patterns based on a particular number.

**Cognitive Level of Lesson (Bloom's Taxonomy):**

Knowledge

### Learning Activities:

**Opening Element/Questions/Learning Activities:**

- "I need to volunteer to draw us a pattern. Draw us a pattern using stars and circles."
  - This question is to get students thinking about what a pattern looks like.
  
- "Now, can someone write me a pattern using A, B, and C?"
- Following the FlipChart slides provided:
  - **Slide 3** "Daryl is making a pattern for a quilt. The pattern shows 40 squares. Every fourth square is blue. How many blue squares are in the pattern? Who would like to color in every fourth square?"
    - A student will come up and use the highlighter tool to color in every fourth square.
    - Answer the questions at the bottom of slide: What squares are blue? How many squares are blue?
  
  - **Slide 4** Find and describe a pattern: "The rule on this pattern is to add 5. What would the next number be?" "Every pattern needs a starting number and a rule to follow."
    - "What do you notice about the number in the ones place?"
    - "What does the pattern look like if we use the words odd and even?"
  
  - **Slide 5** "Let's practice following a rule to create a pattern. This rule is 'subtract 10.' If we start with 100, what is the next number?"
  
  - **Slide 6** "I want you to practice following a rule and writing a pattern on your white board. Write the first 6 numbers of this pattern. The rule is 'add 7' and you need to start on 3."
    - Click "Try Another" two times. "This pattern is going to be a little more difficult. Let's write the first 5 numbers in the pattern together as a class. We are going to start on 6, and the rule says to 'subtract 2, add 3.' Students will help fill in the pattern.

- **Slide 7** “The odd- and even-numbered hotel rooms are on different sides of the hall. Room 231 is between which two rooms?”

- **Slide 9** “I would like everyone to write the answer to this question on your white board. When I say ‘reveal’ I want you to show me your answer. Which pattern follows the rule add 3, subtract 1?” After students reveal, click ‘answer.’

- **Slide 10** “How can you make and describe patterns? What information do you need to make a pattern?” Select students who would like to answer the question.

- “Alright we are going to move into our rotations. If you are with Mrs. Levi, you need you math book and pencil.”

-Following the whole group lesson the students will move into small group rotations. The teacher has these planned.

**Technology:** FlipChart on the SmartBoard

**Required Vocabulary:** pattern

**Instructional Methods:** Whole group

**Differentiation:**

- My lower students will only have to come up with 3 numbers in their sequence. Students may use a hundreds chart to help count.

- For the high students I will ask them to come up with 12 numbers in the sequence, or as many as they can in the time we have to write our sequence.

## Assessment:

**Formative:** I will check their pattern that they write on their white boards and their answer to the question on slide 9.

## Reflection: