



Subject Area: Mathematics
Unit Title: Patterns and Sequences
Grade Level: 3
Lesson Number: 1 of 10

Duration: 60 minutes
Date: March 10, 2024
Teacher: Ms. Johnson
Room: 101

Curriculum Standards Alignment

Content Standards:

- Recognize and identify simple patterns
- Extend simple patterns using objects, colors, and shapes
- Create original patterns using various materials

Skills Standards:

- Critical thinking
- Problem-solving
- Creativity

Cross-Curricular Links:

- Art
- Music
- Science

Essential Questions & Big Ideas

Essential Questions:

- What is a pattern?
- How can we create and extend patterns?
- Why are patterns important in real-life situations?

Enduring Understandings:

- Patterns are sequences of objects, colors, or shapes that repeat in a specific order
- Patterns can be extended and created using various materials
- Patterns are essential in real-life situations, such as art, music, and science

Student Context Analysis

Class Profile:

- Total Students: 25
- ELL Students: 5
- IEP/504 Plans: 3
- Gifted: 2

Learning Styles Distribution:

- Visual: 40%
- Auditory: 30%
- Kinesthetic: 30%



Pre-Lesson Preparation

Room Setup:

- Arrange desks in a U-shape to facilitate group work and discussion
- Prepare materials, such as pattern blocks, colored pencils, and paper

Technology Needs:

- None required

Materials Preparation:

- Pattern blocks
- Colored pencils
- Paper

Safety Considerations:

- None required

Detailed Lesson Flow

Introduction (Minutes 1-2)

- Introduce the concept of patterns using a simple, visual example
- Ask students to share examples of patterns they see in their everyday lives

Pattern Recognition (Minutes 3-8)

- Show students a series of patterns using everyday objects, such as colored blocks or beads
- Ask students to identify the next item in the sequence

Creating Patterns (Minutes 9-12)

- Provide students with everyday objects, such as blocks, beads, or colored pencils
- Ask students to create their own simple patterns

Engagement Strategies:

- Use real-life examples to illustrate the concept
- Incorporate hands-on activities to engage students
- Use visual aids to illustrate different types of patterns

Group Discussion (Minutes 13-18)

- Have students share their patterns with the class
- Ask students to explain the logic behind their creations

Independent Practice (Minutes 19-24)

- Provide students with a worksheet containing simple sequences
- Ask students to extend the patterns

Conclusion (Minutes 25-30)

- Review the key points learned during the lesson
- Provide feedback to students



Differentiation & Support Strategies

For Struggling Learners:

- Provide additional support and guidance during independent practice
- Offer visual aids and examples to illustrate the concept

For Advanced Learners:

- Provide more complex patterns and sequences for independent practice
- Encourage students to create their own patterns and sequences

ELL Support Strategies:

- Use visual aids and examples to illustrate the concept
- Provide additional support and guidance during independent practice

Social-Emotional Learning Integration:

- Encourage students to share their patterns and sequences with the class
- Promote teamwork and collaboration during group work

Assessment & Feedback Plan

Formative Assessment Strategies:

- Observe students during activities and note their ability to identify and create patterns
- Review student worksheets and provide feedback

Success Criteria:

- Students can recognize and identify simple patterns
- Students can extend simple patterns using objects, colors, and shapes
- Students can create original patterns using various materials

Feedback Methods:

- Verbal feedback during activities
- Written feedback on worksheets

Homework & Extension Activities

Homework Assignment:

Create a simple pattern using everyday objects, such as blocks or beads, and bring it to class for discussion

Extension Activities:

- Create a pattern using different shapes and colors
- Make a pattern using natural materials, such as leaves or rocks

Parent/Guardian Connection:

Ask parents/guardians to encourage students to find and create patterns at home and share their findings with the class

Teacher Reflection Space

Pre-Lesson Reflection:

- What challenges do I anticipate?
- Which students might need extra support?
- What backup plans should I have ready?

Post-Lesson Reflection:

- What went well?
- What would I change?
- Next steps for instruction?

What is a Pattern?

A pattern is a sequence of objects, colors, or shapes that repeat in a specific order. Patterns can be found in nature, art, music, and even in our daily lives.

Types of Patterns

- ABAB pattern: alternating between two different objects or colors
- AABB pattern: repeating two objects or colors together
- ABC pattern: repeating three objects or colors in a specific order

Real-Life Examples of Patterns

- The arrangement of leaves on a stem
- The pattern of days in a week
- The design on a rug or a piece of fabric

Materials Needed

- Pattern blocks
- Colored pencils
- Paper

Step-by-Step Instructions

1. Choose a material to create a pattern with, such as pattern blocks or colored pencils
2. Decide on a type of pattern to create, such as an ABAB or AABB pattern
3. Start creating the pattern by repeating the objects or colors in the specific order
4. Continue the pattern until you reach the desired length

Tips and Variations

- Use different shapes and colors to create a more complex pattern
- Try creating a pattern with a different material, such as beads or straws
- Challenge yourself to create a longer or more intricate pattern

Activity 1: Pattern Blocks

Provide students with pattern blocks and ask them to create a simple pattern, such as an ABAB or AABB pattern.

Activity 2: Number Sequences

Write a simple number sequence on the board, such as 2, 4, 6, 8, and ask students to identify the next number in the sequence.

Activity 3: Shape Patterns

Create a simple shape pattern using different shapes, such as squares, circles, and triangles, and ask students to identify the next shape in the sequence.

Beginner Activity: Pattern Completion

Provide students with a worksheet containing simple patterns that are missing the next shape or color, and ask them to complete the pattern by drawing the next shape or color.

Intermediate Activity: Pattern Creation

Provide students with a set of shapes and colors, and ask them to create their own pattern using the shapes and colors.

Advanced Activity: Pattern Analysis

Provide students with a complex pattern, and ask them to analyze the pattern and explain its characteristics.

Formative Assessment

Observe students during activities and note their ability to identify and create patterns. Review student worksheets and provide feedback.

Summative Assessment

Administer a quiz to assess student understanding of the concept. Review student projects and provide feedback.

Success Criteria

- Students can recognize and identify simple patterns
- Students can extend simple patterns using objects, colors, and shapes
- Students can create original patterns using various materials

Summary

In conclusion, the lesson on identifying and creating patterns with simple sequences is a foundational and engaging introduction to mathematical concepts for 8-year-old students. Through interactive and hands-on activities, students learn to recognize, extend, and create their own patterns, developing critical thinking, problem-solving skills, and creativity.

Teaching Tips

- Use real-life examples to illustrate the concept
- Incorporate hands-on activities to engage students
- Use visual aids to illustrate different types of patterns

Reflection Questions

- How effectively did the lesson engage students and promote their understanding of patterns and sequences?
- Were the activities and materials used in the lesson suitable for the age group and skill level of the students?
- How can the lesson be adapted or extended to challenge more advanced students or provide additional support for struggling students?

Follow-Up Lessons

- Exploring More Complex Patterns
- Patterns in Nature and Art
- Patterns in Music and Movement

Additional Resources

- Pattern blocks
- Colored pencils
- Paper

Conclusion

In conclusion, the lesson on identifying and creating patterns with simple sequences is a foundational and engaging introduction to mathematical concepts for 8-year-old students. By following up with more complex patterns and sequences, students will continue to develop their critical thinking, problem-solving skills, and creativity.