Teacher Preparation Lesson Plan

Subject Area: Mathematics
Unit Title: Understanding Place Value
Grade Level: 4-5
Lesson Number: 1 of 10

Duration: 60 minutes
Date: March 12, 2023
Teacher: Ms. Johnson
Room: 204

Curriculum Standards Alignment

Content Standards:

- Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.
- Understand the relationship between digits in a multi-digit whole number.
- Apply knowledge of place value to real-life scenarios.

Skills Standards:

- Analyze and interpret data.
- Use mathematical models to solve problems.
- Communicate mathematical thinking and solutions.

Cross-Curricular Links:

- Science: measurement and data analysis.
- Language Arts: reading and writing in mathematical contexts.

Essential Questions & Big Ideas

Essential Questions:

- What is the concept of place value, and how is it used in real-life scenarios?
- How do digits in a multi-digit whole number relate to each other?
- How can we apply knowledge of place value to solve problems?

Enduring Understandings:

- Place value is a fundamental concept in mathematics that helps us understand the relationship between digits in a multi-digit whole number.
- The value of each digit in a multi-digit whole number depends on its position.
- Understanding place value is essential for performing arithmetic operations with multi-digit numbers.

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%

Teacher Preparation Lesson Plan

Pre-Lesson Preparation

Room Setup:

- Arrange desks in pairs.
- Prepare base-ten blocks and hundreds charts.
- Set up technology for presentation.

Technology Needs:

- Computer and projector.
- Internet access.

Materials Preparation:

- Base-ten blocks.
- Hundreds charts.
- Whiteboard markers.

Safety Considerations:

- Ensure students handle materials safely.
- Supervise students during activities.

Detailed Lesson Flow

Introduction to Place Value (10 minutes)

- Introduce the concept of place value using a hundreds chart.
- Explain that each digit in a multi-digit whole number has a place value.
- Use base-ten blocks to demonstrate how the value of each digit changes depending on its position.

Understanding the Relationship Between Digits (15 minutes)

- Explain that each digit represents ten times the value of the digit to its right.
- Use base-ten blocks to demonstrate how the value of each digit changes depending on its position.
- Provide opportunities for students to practice identifying the place value of digits in different numbers.

Hands-On Practice (20 minutes)

- Provide students with base-ten blocks to build multi-digit whole numbers.
- Ask students to identify the place value of each digit in the numbers they build.
- Circulate around the room to provide support and feedback.

Real-Life Applications (20 minutes)

- Provide students with real-life scenarios that require them to apply their knowledge of place value.
- Ask students to calculate the total cost of items or measure the length of a room.
- Provide opportunities for students to share their own examples of how they use place value in their daily lives.

Review and Assessment (15 minutes)

- Review the key concepts learned during the lesson.
- Assess students' understanding of place value using a quiz or class discussion.
- Provide feedback and encouragement to students.

Conclusion (10 minutes)

- Summarize the key concepts learned during the lesson.
- Ask students to reflect on what they have learned.
- Provide opportunities for students to ask questions and seek clarification.

Differentiation & Support Strategies

For Struggling Learners:

- Provide additional support and scaffolding during hands-on activities.
- Offer one-on-one instruction and feedback.
- Use visual aids and manipulatives to help students understand complex concepts.

For Advanced Learners:

- Provide additional challenges and extensions, such as more complex problems or projects.
- Encourage students to create their own real-life scenarios that require the application of place value.
- Allow students to work independently and provide feedback and guidance as needed.

ELL Support Strategies:

- Provide visual aids and graphic organizers to help students understand complex concepts.
- Use simple language and definitions to explain key terms and concepts.
- Encourage students to use visual aids and manipulatives to help them understand and communicate mathematical ideas.

Social-Emotional Learning Integration:

- Encourage students to work in pairs and small groups to promote collaboration and communication.
- Provide opportunities for students to reflect on their learning and set goals for themselves.
- Use restorative circles and class discussions to promote empathy and self-awareness.

Assessment & Feedback Plan

Formative Assessment Strategies:

- Observations of student participation and engagement during hands-on activities.
- Review of student work and projects.
- Class discussions and quizzes to assess understanding.

Success Criteria:

- Students can identify and explain the concept of place value.
- Students can apply knowledge of place value to real-life scenarios.
- Students can demonstrate an understanding of the relationship between digits in a multi-digit whole number.

Feedback Methods:

- Verbal feedback during hands-on activities and class discussions.
- Written feedback on student work and projects.
- Self-assessment and reflection opportunities for students.

Homework & Extension Activities

Homework Assignment:

Ask students to create their own real-life scenario that requires the application of place value, such as calculating the total cost of items or measuring the length of a room.

Extension Activities:

- Provide additional challenges and extensions, such as more complex problems or projects.
- Encourage students to create their own games or activities that require the application of place value.
- Allow students to work independently and provide feedback and guidance as needed.

Parent/Guardian Connection:

Ask parents/guardians to support their child's learning by providing opportunities for them to apply their knowledge of place value in real-life scenarios, such as measuring the length of a room or calculating the total cost of items.

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?

Introduction to Place Value

Introduction:

Welcome to this lesson on understanding place value, a fundamental concept in mathematics that is essential for performing arithmetic operations with multi-digit numbers.

Objectives:

- Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.
- Understand the relationship between digits in a multi-digit whole number.
- Apply knowledge of place value to real-life scenarios.

Using Hundreds Charts to Introduce Place Value

Introduction:

Use a hundreds chart to introduce the concept of place value and help students understand how digits in a multi-digit whole number relate to each other.

Procedure:

- Show students a hundreds chart and ask them to identify the different digits and their corresponding place values.
- Explain that each digit in a multi-digit whole number has a place value and that the value of each digit depends on its position.
- Use the hundreds chart to demonstrate how the value of each digit changes depending on its position.

Understanding the Relationship Between Digits

Introduction:

Explain that each digit in a multi-digit whole number represents ten times the value of the digit to its right.

Procedure:

- Use base-ten blocks to demonstrate how the value of each digit changes depending on its position.
- Provide opportunities for students to practice identifying the place value of digits in different numbers.
- Use real-life scenarios to help students understand the relationship between digits in a multi-digit whole number.

Using Base-Ten Blocks to Demonstrate Place Value

Introduction:

Use base-ten blocks to demonstrate how the value of each digit changes depending on its position and to help students understand the relationship between digits in a multi-digit whole number.

Procedure:

- Show students how to use base-ten blocks to represent different digits and their corresponding place values.
- Explain that each block represents a unit, ten, hundred, or thousand, depending on its position.
- Use the base-ten blocks to demonstrate how the value of each digit changes depending on its position.

Hands-On Practice

Introduction:

Provide students with base-ten blocks to build multi-digit whole numbers and to practice identifying the place value of digits.

Procedure:

- Distribute the base-ten blocks to students and ask them to build different multi-digit whole numbers.
- Ask students to identify the place value of each digit in the numbers they build.
- Circulate around the room to provide support and feedback.

Real-Life Applications

Introduction:

Provide students with real-life scenarios that require them to apply their knowledge of place value, such as calculating the total cost of items or measuring the length of a room.

Procedure:

- Provide students with different real-life scenarios and ask them to calculate the total cost or measure the length.
- Ask students to explain their reasoning and provide feedback and guidance as needed.
- Encourage students to share their own examples of how they use place value in their daily lives.

Review and Assessment

Introduction:

Review the key concepts learned during the lesson and assess students' understanding of place value using a quiz or class discussion.

Procedure:

- Review the key concepts learned during the lesson, including the concept of place value and the relationship between digits in a multi-digit whole number.
- Assess students' understanding of place value using a quiz or class discussion.
- Provide feedback and encouragement to students.

Conclusion

Introduction:

Summarize the key concepts learned during the lesson and ask students to reflect on what they have learned.

Procedure:

- Summarize the key concepts learned during the lesson, including the concept of place value and the relationship between digits in a multi-digit whole number.
- Ask students to reflect on what they have learned and what they would like to learn more about.
- Provide opportunities for students to ask questions and seek clarification.

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?

Assessment and Evaluation

Introduction:

Use a variety of assessment strategies, including quizzes, class discussions, and observations, to evaluate students' understanding of place value.

Procedure:

- Use quizzes to assess students' understanding of place value and the relationship between digits in a multi-digit whole number.
- Use class discussions to assess students' ability to apply knowledge of place value to real-life scenarios.
- Use observations to assess students' ability to identify and explain the concept of place value.

Conclusion

Introduction:

In conclusion, understanding place value is a fundamental concept in mathematics that is essential for performing arithmetic operations with multi-digit numbers.

Procedure:

- Summarize the key concepts learned during the lesson, including the concept of place value and the relationship between digits in a multi-digit whole number.
- Ask students to reflect on what they have learned and what they would like to learn more about.
- Provide opportunities for students to ask questions and seek clarification.

Extension Activities

Introduction:

Provide students with additional challenges and extensions, such as more complex problems or projects, to apply their knowledge of place value.

Procedure:

- Provide students with additional challenges and extensions, such as more complex problems or projects.
- Ask students to create their own games or activities that require the application of place value.
- Allow students to work independently and provide feedback and guidance as needed.