# Math Investigation Centers

2nd Grade ~ Unit 1 – Number Concepts

## Math and Sports

**Basketball Game:**
Knowing the score in a basketball game is very important.  Look at the scores of two different teams and see what you discover.

## Math and Patterns

**Hop To It:**
Frogs love jumping on lily pads. Help Frederick and Freda jump to the opposite side of the bank.

# Student Choice

## Math and Games

**Numbers Every Which Way:**
Numbers can be represented in many different ways.  Make your own memory game to find different forms of numbers.

## Math and Literature

**Odd Todd and Even Steven:**
Even Steven likes even numbers.  His cousin, Odd Todd, likes everything to be in odd numbers.  Play the Even Steven and Odd Todd game.

# Math Investigation Center
# Basketball Game
**Unit of Study 1**

**Core Correlation:** 2.OA.3, 2.NBT.2, 2.NBT.3

**DOK:** 3; **Proficiency Level:** 4

**Type of Activity:** Math and Sports

**Materials:** pencil, Basketball Recording Sheet

**Introduction:** Knowing the score in a basketball game is very important. Look at the scores of two different teams and see what you discover.

**Instructions:**

It is Basketball Day at the gym. First, the Roadrunners and the Bobcats play a game. The Roadrunners score an even number of points. The Bobcats score an odd number of points. Each team's score is a 3-digit number less than 200.

Use the Basketball Recording Sheet on the following page to answer questions about your 3-digit numbers.

**Assessment:**

Grade will be determined by completion of the following:

- Completion of Basketball Recording Sheet

# Basketball Game
## Recording Sheet

Name _____

It is Basketball Day at the gym. First, the Roadrunners and the Bobcats play a game. The Roadrunners score an even number of points. The Bobcats score an odd number of points. Each team's score is a 3-digit number less than 200.

1. Write a number of points that each team could score.

   Roadrunners _____          Bobcats _____

2. Look at the Roadrunners' score. What is the value of the ones digit? _____

3. Look at the Bobcats' score. What is the value of the hundreds digit? Explain how you know.



4. Write each number as a sum of 100's, 10's, and 1's.

   Roadrunners _____

   Bobcats _____
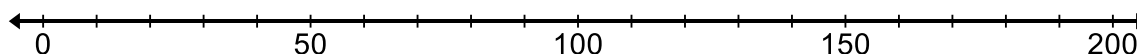
5. Write each number in words.

   Roadrunners _____

   Bobcats _____

6. Draw a picture to represent each number.

   | **Roadrunners** | **Bobcats** |
   |---|---|
   |  |  |

7. Locate each number on the number line.

   0          50          100          150          200

# Math Investigation Center
# Hop To It!
**Unit of Study 1**

**Core Correlation:** 2.NBT.2

**DOK:** 3; **Proficiency Level:** 4

**Type of Activity**: Math and Patterns

**Materials:** Hop To It! Recording Sheet, pencil, (optional: counters, colored pencils)

**Introduction:** Frogs love jumping on lily pads. Help Frederick and Freda jump to the opposite side of the bank.

**Instructions:**

Use the Hop To It! Recording Sheet on the following pages to answer questions about skip counting patterns.

**Assessment:**

Grade will be determined by completion of the following:

Completion of Hop to it! Recording Sheet

**Note to teacher:**
Question #3. The numbers the students get are determined by the side of the pond on which each frog begins. If Frederick starts on the side closest to the number one lily pad, both frogs will land on the 4th, 10th, 16th, and 22nd lily pads. If Frederick starts on the side closest to the number 24 lily pad, both frogs will land on the 3rd, 9th, 15th, and 21st lily pads. Frederick jumped on 12 pads and needed one more jump to get to the pond's bank for a total of 13 jumps. Freda jumps on eight lily pads and needed one more jump to get to the pond's bank for a total of 9 jumps.
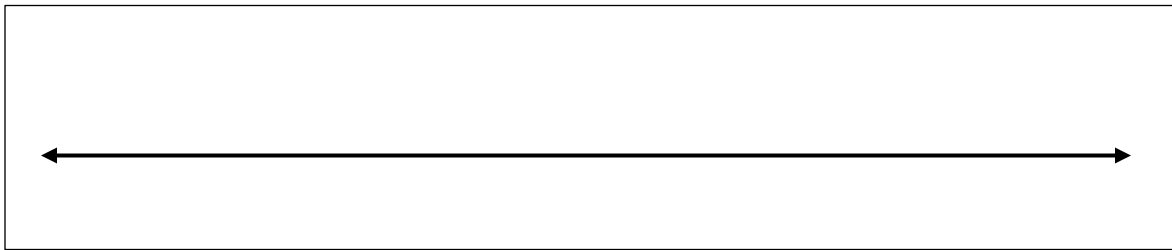
# Hop To It

Recording Sheet

Name _____

1. Lilly the Frog only hops by 10s. If she is on the number 20, how many hops will it take to land on the number 100?
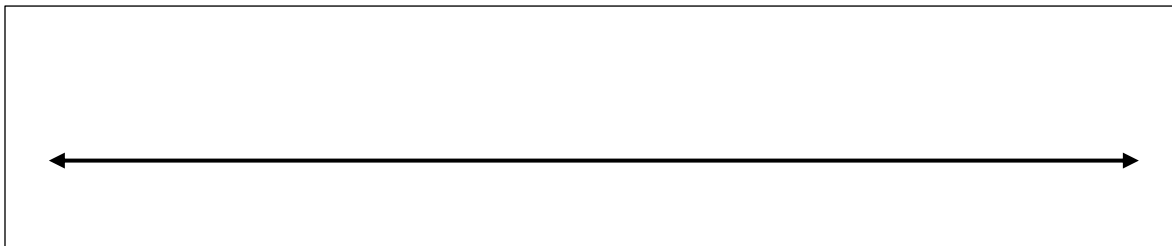
   Draw a picture to explain your answer.

   

   Explain your answer:

2. If Lilly the Frog hops by 5s, how many hops will it take to get to 75 if she starts on the number 40?

   Draw a picture to explain your answer.

   

   Explain your answer:

3. Fredrick and Freda were on opposite sides of the pond.  Both wanted to switch sides.  They decided to hop on the 24 lily pads that were on the pond.

Fredrick can hop over one pad and land on the second pad. You could say he leaps by twos.  Freda, who is older, can hop over two pads and land on the third.  She leaps by threes.

If Fredrick starts on one side and Freda starts on the other, on which lily pads will both frogs land?

Show how you can solve this problem.

How many jumps did each frog have to make to get to the opposite bank?  Are the number of jumps the same or different?  Explain.

# Math Investigation Center
# Numbers Every Which Way!
**Unit of Study 1**

**Core Correlation:**  2.NBT.3

**DOK:**  2; **Proficiency Level:** 4

**Type of Activity**: Math and Games

**Materials:**  Twenty 3 × 5 cards, pencil, 3 dice (optional: different colored dice)

**Introduction:**  Numbers can be represented in many different ways.  Make your own memory game to find different forms of numbers.

**Instructions:**

- Roll all three dice.
- Using the numbers rolled, make a 3-digit number.
- Record the 3-digit number four different ways on four different cards.
    - Card 1:  base-ten numerals (standard form)
    - Card 2:  number names (word form)
    - Card 3:  expanded form
    - Card 4:  quick picture representation
- Repeat the above steps 4 more times so there are a total of 20 cards.
- Shuffle the cards.  Lay the cards face down. Turn over 2 cards to find a match. Remove the cards if they match.  If there is no match, turn the cards back face down and try again.
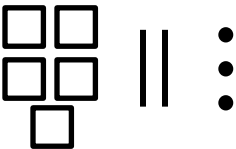
**Assessment:**

Grade will be determined by the following:
- Completion of cards with their matches.

# Math Investigation Center
# Even Steven and Odd Todd
**Unit of Study 1**

**Core Correlation:** 2.OA.3

**DOK:** 2; **Proficiency Level**: 4

**Type of Activity**: Math and Literature

**Materials:** Even Steven and Odd Todd by Kathryn Cristaldi, 2 dice, Even Steven and Odd Todd Recording Sheet.

**Introduction:** Even Steven likes even numbers. His cousin, Odd Todd, likes everything to be in odd numbers. Play the Even Steven and Odd Todd game.

**Instructions:**

- Read or listen to the story, Even Steven and Odd Todd by Kathryn Cristaldi.
  https://www.youtube.com/watch?v=EdvpZYNmLqc
  https://vimeo.com/221767102
- Play the following game with a partner.
  - Decide who will be Even Steven and who will be Odd Todd.
  - Take turns to roll two dice and find the sum of the numbers rolled.
  - If you are Even Steven, and the sum of our dice roll is an even number, you get one point.
  - If you are Odd Todd, and sum of your dice roll is an odd number, you get one point.
  - Record your equations.
  - Continue playing until one player has 10 points.
  - Answer the following questions about patterns that you notice.
    - ❖ I noticed that an odd addend plus an odd addend equals an _____ sum.
    - ❖ I noticed that an even addend plus an even addend equals an _____ sum.
    - ❖ I noticed that an even addend plus an odd addend equals an _____ sum.
    - ❖ I noticed that an odd addend plus an odd addend equals an _____.

**Assessment:**

Grade will be determined by the following:
- Completion of the recording sheet.

# Even Steven and Odd Todd
Recording Sheet

Name _____

| Even Steven Equations | Odd Todd Equations |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

**Questions:**

1.  I notice that an odd addend plus an odd addend equals an _____ sum.

2.  I notice that an even addend plus an even addend equals an _____ sum.

3.  I notice that an even addend plus an odd addend equals an _____ sum.

4.  I notice that an odd addend plus an even addend equals an _____ sum.