Animal Adventure Math: A Hands-On Journey with Addition and Subtraction

Materials Needed

- 10-15 small animal counters or toys (e.g., plastic dinosaurs, farm animals, LEGO figures)
- A blue piece of construction paper or a small blue towel to act as a "pond"
- A green piece of construction paper or a small green towel to act as a "meadow"
- One or two dice
- Paper and crayons or markers

Lesson Plan

Part 1: The Warm-Up Story (5 minutes)

Goal: To introduce the concepts of "joining" and "leaving" in a relatable context.

1. Sit with the student and the animal counters. Start a simple story.
2. **Story Prompt:** "Once upon a time, two little frogs were sitting on a lily pad in a quiet pond. *(Place 2 frog counters on the blue 'pond').* They were feeling a little lonely. Suddenly, one more frog friend jumped in to join them! SPLASH!" *(Add 1 more frog counter to the pond).*
3. **Ask:** "How many frogs are in the pond now? Let's count them together!" Count to three. "Yes! Two frogs and one more frog makes three frogs. We **added** one more!"
4. **Continue the story:** "Oh no! A big, noisy bird flew overhead! One of the frogs got scared and hopped away." *(Remove 1 frog counter from the pond).*
5. **Ask:** "How many frogs are left in the pond now?" Count to two. "That's right! There were three, but we **took away** one, and now there are two. This is called **subtraction**."

Part 2: Guided Practice - Pond & Meadow Math (10 minutes)

Goal: To practice solving simple addition and subtraction problems using manipulatives.

1. Place the "pond" (blue paper) and "meadow" (green paper) side-by-side.
2. **Addition Practice:**
    - Say, "Let's tell some math stories. Put 3 ducks in the meadow." (Guide the student to do this).
    - "Now, 2 more ducks came to join them. Add 2 more ducks to the meadow."
    - Ask, "How many ducks are in the meadow altogether?" Count together to find the sum (5). Repeat with different numbers (e.g., 4+1, 2+2). Emphasize the word **add** and "putting together."
3. **Subtraction Practice:**
    - Say, "Let's start with 5 sheep in the meadow." (Student places 5 counters).
    - "The farmer called 2 sheep to go back to the barn. Take away 2 sheep from the meadow."
    - Ask, "How many sheep are left?" Count together to find the difference (3). Repeat with different numbers (e.g., 4-1, 5-3). Emphasize the words **subtract**, **take away**, and "how many are left?"
4. **Formative Assessment:** Observe if the student can correctly add or remove the counters based on your verbal instructions. Do they understand the concept of "more" versus "less"?

Part 3: Independent Practice - Animal Dice Game (10 minutes)

Goal: To allow the student to generate and solve their own math problems in a fun, game-like

format.

1. **Addition Game ("Add to the Meadow"):**
    - The student rolls one die. Let's say they roll a 4. They place 4 animals in the meadow.
    - They roll the die again. Let's say they roll a 2. They add 2 more animals to the meadow.
    - Ask, "How many animals do you have in total?" The student counts to find the answer. Celebrate their success!
2. **Subtraction Game ("Escape from the Pond"):**
    - Start with a set number of animals in the pond, like 6.
    - The student rolls one die. Let's say they roll a 3. They "help" 3 animals escape (take them away).
    - Ask, "How many animals are left in the pond?" The student counts to find the answer.

Part 4: Application & Assessment - Draw a Math Story (5-10 minutes)

Goal: To assess understanding by having the student create and explain their own math problem.

1. Give the student paper and crayons.
2. Say, "Now it's your turn to be the storyteller! Can you draw a math story for me? It can be an addition story or a subtraction story."
3. **Example prompts:** "You could draw some birds on a branch and then draw more birds flying in to join them. Or you could draw some fish in the sea and then draw one swimming away."
4. After they are done drawing, ask them to tell you the story. For example, "First there were 3 apples on the tree. Then 1 apple fell off. Now there are 2 apples left."
5. This serves as a creative, summative assessment. You can see if they can represent the concept of "joining" or "separating" and explain their thinking.

Differentiation and Extension

- **For Extra Support:**
    - Work only with numbers 1-5.
    - Focus on just one operation (addition) until it is mastered before introducing subtraction.
    - Use physical guidance (hand-over-hand) to help move the counters.
- **For an Extra Challenge:**
    - Use two dice to work with numbers up to 12.
    - Introduce writing the number sentences (e.g., 3 + 2 = 5). You can write the numbers and symbols, and they can trace them or write them on their own.
    - Create two-step problems: "There are 5 frogs in the pond. 2 hop out, but then 1 hops back in. How many are there now?"