Lesson Plan: Growing Place Value Understanding Through Explicit Instruction **Teacher:** Chloe Plume **Subject:** Mathematics (Number & Operations in Base Ten) **Grade Level:** 3rd Grade **Date:** 3/3/26 **Duration:** 30 Minutes --- ### **Materials & Resources** * **Student Materials:** Small whiteboard/marker, "Zero Hero" headband or cape, 3 hula hoops (labeled Hundreds, Tens, Ones), Base-ten blocks (or "trading" cards: 100s, 10s, 1s), "Decomposition Dash" task cards. * **Teacher Materials:** Large 1,000-block visual, timer, "The Trading Post" anchor chart. * **Resources Consulted:** Arkansas Academic Content Standards (3.NBT.A.2 & 3.NBT.A.3). --- ### **Learning Objectives** * **I can** explain why we regroup across zero placeholders using place value language. * **I can** solve subtraction problems from 1,000 with 90% accuracy. * **I can** multiply one-digit numbers by multiples of 10 (10–90) using the "Groups of Ten" strategy. --- ### **I. Introduction (3 Minutes)** **The Hook: The "Zero-Locked" Scenario** "Chloe, imagine you're at the Galactic Toy Shop. You want a Legendary Star-Cruiser that costs 167 coins. You reach into your pocket and pull out a 1,000-coin bill! But the cashier says, 'I can't take this. I need change, and I see your tens pocket and ones pocket are empty!' You aren't broke—you're just **Zero-Locked**. Today, we become **Zero Heroes**. We will learn how to break that big 1,000 into smaller pieces so we can buy anything in the galaxy!" **Objective Statement:** "Today, we are going to master the 'Decomposition Challenge' to solve subtraction across zeros and use our place value powers to multiply large numbers fast!" --- ### **II. Body: The "I Do, We Do, You Do" (22 Minutes)** #### **1. Modeling: "I Do" (5 Minutes)** * **The Trading Post:** Display the number 1,000. * **Teacher Talk:** "I can't subtract 7 from 0. I need to go to the Tens place. Empty! The Hundreds place? Empty! I have to go all the way to the Thousands." * **The Action:** Physically "break" the 1,000 block. "I trade 1 Thousand for 10 Hundreds. Now, I trade 1 of those Hundreds for 10 Tens. Finally, I trade 1 Ten for 10 Ones." * **Multiplication Power-Up:** "While I'm at the Trading Post, I notice something. If I have 3 groups of 70, that's just 3 groups of 7 tens. 3×7 is 21, so 3×7 tens is 21 tens... or 210! The zero isn't just 'added' at the end; it represents that we are working with tens." #### **2. Guided Practice: "We Do" (7 Minutes)** * **Routine: Count Around the Circle (Enhanced):** * We will stand up and move in a circle. For every step, we count backward from 1,000 by 10s. * **The Twist:** When we hit a hundred (e.g., 900), we have to do 10 jumping jacks to represent the "10 tens" we are about to break into. * *Teacher:* "1,000... 990... 980..." *Student:* "970... 960... 950..." * *Check for Understanding:* "Stop! We are at 900. To get to 890, what just happened to our 'Hundreds' flat?" (Expect: "We traded one hundred for ten tens.") * **The Quick-Draw:** Together, on the whiteboard, solve $1,000 - 452$ using the "Box the Zeros" method to see the 99 and 10 structure. #### **3. Independent Practice: "You Do" - The Decomposition Dash (10 Minutes)** * **The Movement Activity:** Set up 4 "Stations" around the room or yard. * **Station 1 (The Vault):** Solve $1,000 - 384$. Student must physically "run" to the "Bank" (a central table) to pick up the correct number of regrouped base-ten blocks to prove their answer. * **Station 2 (The Multiplier):** 5 cards face down (e.g., 4×60, 2×90). Student flips one, solves it, and does that many "Invisible Jump Ropes" (e.g., $2 \times 90 = 180$, do 18 reps). * **Station 3 (The Error Detective):** A solved problem is on the wall with an intentional mistake (e.g., forgetting to change the 0 to a 9). Chloe must find it, "X" it out, and fix it. * **Station 4 (The Goal):** Solve $1,000 - 872$. If she gets it right, she earns the "Zero Hero" badge. --- ### **III. Conclusion & Assessment (5 Minutes)** **Recap:** "You successfully broke out of being Zero-Locked! We learned that 1,000 is really just 9 hundreds, 9 tens, and 10 ones when we need to subtract. We also saw that multiplying by 10s is just skip-counting our tens groups." **Summative Assessment:** On a final slip of paper, solve: $1,000 - 529 = ?$ and $6 \times 40 = ?$ **Exit Ticket (Qualitative Data):** "Chloe, on the back of your paper, I want you to give me your 'Field Report.' Answer these two things: 1. Which part of 'breaking' the numbers felt like a 'brain-stretch' (was hard) for you today? 2. On a scale of 1-5 (1 being 'stuck in the mud' and 5 being 'flying fast'), how confident do you feel about trading hundreds for tens?" --- ### **Differentiation Strategies** * **Scaffolding (Struggling):** Use a color-coded place value mat where 1,000 is pre-written as 900, 90, and 10 to assist with the subtraction logic. * **Extension (Advanced):** If Chloe finishes the "Dash" early, challenge her to solve a subtraction problem starting from 10,000 or find the missing factor in $? \times 50 = 350$. * **Kinesthetic:** The "Decomposition Dash" ensures the student is

moving while processing abstract regrouping concepts. --- ### **Success Criteria** * Student can correctly regroup $1,000$ into $900 + 90 + 10$ during the "I Do/We Do" phase. * Student identifies the "value" of the digits rather than just following a "carrying" rule. * Student successfully completes at least 3 of the 4 "Dash" stations accurately.