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Differentiated Lesson Plan

Setting

Third grade is ability grouped at my school, and I teach the highest class, comprised of the highest-achieving students in that grade level. However, I typically have students in my class who are far below the rest in terms of academic performance. This year, I have a group of 4-5 students who are consistently outperformed by their peers in my class. This situation is frustrating, and I have had to adapt my class format to accommodate this extreme differences in performance.

These differences are most prevalent in math; the students are much more equally-matched in reading. At the beginning of each concept unit, I give a pretest that covers that unit so that I can examine the students' prior knowledge, and assess previous grade level gaps. Additionally, I give students a pretest on each Common Core State Standard associated with the major concept; this is done on a weekly basis. After I look at the pretest, or "mini-assessment," for each week, I split the class into groups. Typically, the class naturally splits into two or three groups, with one or two low groups, and one high group. The low groups will receive in-depth instruction on grade-level concepts, while the high group will receive more detailed instruction that extends a grade-level concept, or, when appropriate, relates to a fourth grade-level concept. I employ a split-class model in which I do direct instruction with one group while the other does independent practice, and then I switch and do the same procedure with the other group.

I keep data throughout the week in a binder, where I record students' scores on exit slips and independent practice. This way, I can move students between groups if they demonstrate that they are ready for more enrichment, or if they demonstrate that they need more help.

Classroom Data

We are working on a unit on multiplication and division. We have worked at length on fact fluency, but there are still students struggling to apply what they have learned to real-world situations. After administering the pretest for MAFS.3.OA.1.3: Solve and check one-step word problems using the four operations within 100, I found that roughly half of the students (10/21) were successful at achieving mastery, defined as a score of 80% or above. The other

half (11/21) of the students achieved less than an 80%, indicating that they had not yet mastered the material. Here are those results:

N.A.	80
S.B.	90
C.B.	70
A.C.	70
B.D.	40
D.F.	50
E.F.	70
J.F.	90
K.H.	40
K.J.	70
R.L.	90
A.L.	50
E.L.	80
M.M.	40
A.M.	90
B.M.	80
S.R.	70
L.S.	60
J.V.	90
F.W.	80
B.W.	80

Analysis and Lesson Design

For the students achieving an 80% or above, I plan to implement curriculum compacting, tiered lessons, and choice menus. For the students achieving less than 80%, I will do remedial work. For the purposes of this assignment, I will focus on my lesson plan for my high group. Since these students demonstrate a high level of comfort with one-step problems involving multiplication and division, I plan to compact the curriculum by forgoing additional practice on OA.1.3., and instead work with them on two-step problems, involving all four operations. This skill relates to the standard MAFS.3.OA.4.8, which is a standard of higher complexity.

Lesson Plan

Subject: Math

Grade: Third

Standard: MAFS.3.OA.4.8 Solve two-step word problems using the four operations.

Time: To be done in 50-minute sessions over a 5-day period.

Objective: Student will be able to solve a two-step world problem, where the first step will be to add or subtract, and the second step will be to multiply or divide. Student will determine the appropriate operation to use, and will check his or her answer for reasonableness.

Environment: As previously described, students will be working within a small group of 10 students, all similarly leveled in this skill based on preassessment data. Students will be encouraged to draw their own conclusions about solving two step word problems after the tiered lesson.

Tier I (visual/written learners): Pairs of students will be given whiteboards, markers, and erasers. Problems will be displayed on the SmartBoard, and students will solve problems in pairs.

Tier II (hands-on, kinesthetic learners): Pairs of students will be given two different colors of counters. Problems will be displayed on the SmartBoard, and students will solve problems in pairs.

Sample problem: Mary bought 4 boxes of jellybeans and 2 boxes of chocolates. If each box Mary bought has 3 candies each, how many candies did Mary buy in all?

Discussion: After the students have worked through the problems in pairs, the teacher will lead a discussion about how the students solved the problems. The teacher will model a strategy for solving the problems, and then have the students reflect on the teacher's strategy using think-pair-share.

Assessment: After the tiered lesson, the teacher will allow the students to go back to their seats to work on their choice menu assignments.

Enrichment: Can select from more difficult "challenge worksheets" attached to end

Reteach: Model strategies, or have struggling students work on one-step problems

Choice Menu: Students must complete a full row.

Practice Reflex Math (multiplication and division fluency) on the computer or iPad until you get a green light	Write three two-step word problems, and draw pictures that show how to solve each problem.	Create a worksheet with 5 two-step problems to give to a friend
Complete a classmate's two-step problem worksheet	Challenge worksheet 1: Two-step problems	Challenge worksheet 2: Three-step problems
Two-step problem BUMP! game	Design a poster or anchor chart that describes how to solve a two-step problem	Write a song that describes the steps of solving two-step word problems.

Materials required:

- Two-step problems for display on the SmartBoard during tiered lesson practice
- Counters (two colors)
- Whiteboards, markers, and erasers
- Challenge worksheet: two-step problems
- Challenge worksheet: three-step problems
- Two-step problem BUMP! game
- iPads or computers for Reflex Math
- Paper, markers, crayons, etc. for poster/anchor chart

SmartBoard Practice: Multistep Problems Day 1

April's discount flowers was having a sale where each flower was eight dollars. If Vanessa bought three roses and three daisies, how much did she spend?

A toy store had nineteen giant stuffed bears in stock when they got another shipment with seventeen bears in it. The put the bears onto shelves with six on each shelf. How many shelves did they use?

A new building needed 11 windows. The builder had already installed 4 of them. If it takes 8 hours to install each window, how long will it take him to install the rest?

A store had fifty coloring books in stock. They ended up putting them on sale and getting rid of twenty-nine of them. The put the ones they still had onto shelves with three on each shelf. How many shelves did they use?

SmartBoard Practice: Multistep Problems Day 2

Will was working as a sacker at a grocery store where he made eight dollars an hour. On Monday he worked eight hours, and on Tuesday he worked two hours. How much money did Will make in those two days?

Kaleb made three dollars mowing lawns and fifteen dollars weed eating. If he only spent three dollars a week, how long would the money last him?

Tom bought 12 boxes of chocolate candy and gave 7 to his little brother. If each box has 6 pieces inside it, how many pieces did Tom still have?

Paige uploaded thirty-five pictures to Facebook. She put fourteen pictures into one album and put the rest into three different albums. How many pictures were in each of the three albums?

SmartBoard Practice: Multistep Problems Day 3

Rachel bought seven new chairs and three new tables for her house. If she spent four minutes on each piece furniture putting it together, how many minutes did it take her to finish?

Sarah's class is going on a field trip to the zoo. If each van can hold seven people and there are nine students and nineteen adults going, how many vans will they need?

John had 6 action figures, but needed 11 total for a complete collection. If each one costs $6, how much money would he need to finish his collection?

Will had eighteen pieces of clothing to wash. He put four of them in one load, but decided to split the rest into seven equal loads. How many pieces of clothing could go in each of the small loads?

SmartBoard Practice: Multistep Problems Day 4

While playing a trivia game, Adam answered eight questions correct in the first half and two questions correct in the second half. If each question was worth eight points, what was his final score?

For Halloween Isabel received sixteen pieces of candy from neighbors and five pieces from her older sister. If she only ate three pieces a day, how long would the candy last her?

At a restaurant each adult meal costs $8 and kids eat free. If a group of 11 people came in and 2 were kids, how much would it cost for the group to eat?

Edward is at the library helping put away books. There are thirty-six book to put away total but a librarian takes twenty-six of them and leaves Edward with the rest. If he can fit five books on a shelf, how many shelves will he need?

SmartBoard Practice: Multistep Problems Day 5

Kaleb was collecting cans for recycling. On Saturday he filled five bags up and on Sunday he filled five more bags. If each bag had four cans in it, how many cans did he pick up total?

The school's debate team had sixteen boys and four girls on it. If they were split into groups of five how many groups could they make?

At the fair Kaleb bought 6 tickets. After riding the Ferris wheel he had 3 tickets left. If each ticket cost 9 dollars, how much money did Kaleb spend riding the Ferris wheel?

For Halloween Sarah received seventy-one pieces of candy. She ate thirty-six pieces then placed the rest into piles with five in each pile. How many piles could she make?

Name: _____

Mixed Word Problems

1. **a.** For a party, Carl bought 6 regular sodas and 44 diet sodas. If his fridge can hold 5 sodas on each shelf, how many shelves will he fill?	
b. If each soda cost Carl $2, how much money did he spend on soda?	
2. **a.** Robin's class is going on a field trip to the zoo. If each van can hold 8 people, and there are 38 students and 2 adults going on the trip, how many vans will be needed?	
b. If each van costs $80 to rent, how much money will the school spend on the vans?	
3. **a.** Sarah is using a washing machine at the Laundromat that can only wash 9 pieces of clothing at a time. If she had to wash 43 shirts and 47 sweaters, how many loads would she have to do?	
b. If Sarah has to pay $3 per load, how much money will she spend at the Laundromat?	
4. **a.** The debate team has 54 girls and 26 boys. If the coach split the team into groups of 8 students each, how many groups will be formed?	
b. If the coach wants to give each group 5 pencils to use during practice, how many pencils will she have to give?	

Name: _____

Mixed Word Problems

1. George made $60 mowing lawns over the summer. If he spent $32 buying new parts for the lawnmower, how many $7 games can he buy with the money he has left?	
2. For every 8 sales Jeff makes in the shoe department, he earns a free pair of shoes. If Jeff has earned 5 free pairs of shoes this month, how many sales has he made? (What is the least number of sales he could have made?)	
3. A waiter had 66 customers in his section. If 24 of them left, and the rest of his tables had 6 people at each table, how many tables did the waiter have?	
4. The greeting card store is running a sale. For every 4 cards you purchase, you get 1 card for free. Amritha left the store with 6 free cards. How many cards did she pay for?	
5. A pet store had 43 puppies. In one day, they sold 19 of them and put the rest into cages with 6 puppies in each cage. How many cages did they use?	
6. A toy store had 17 giant stuffed bears in stock when they received another shipment with 10 bears in it. They put the bears onto shelves with nine on each shelf. How many shelves were used?	
7. A school needs to rent buses for a trip. Each bus will hold 20 students. A teacher ordered 3 buses for the trip. There are 72 students and 4 adults going on the trip. How many people will be without a bus? What should the teacher do to solve the problem?	

Two-Step Problem Enrichment Page

1. Zoe and her friends were recycling paper for their class. For every eight pounds of recycled paper, they earned 1 point. If Zoe recycled 25 pounds and her friends recycled 23 pounds, how many points did they earn?

2. Luisa earned 20 points in the recycling competition. How many pounds of recycled paper did Luisa turn in?

3. Vivek has earned 16 points in the recycling competition. How many more pounds of paper does he need to recycle in order to earn a total of 32 points?

4. Here is a scoreboard of pounds collected so far:

Student	**Pounds**	**Points**
Demarcus	48	
Kanitra	80	
Poorvi	8	
Usha	24	

Fill in the section with how many points each student has earned.

5. The principal is busy weighing everyone's paper, and she hasn't figured out how many points each person deserves. Fill in the other side of the chart to help the principal.

Student	**Points**	**Pounds Recycled**
Greg		9
Azari		4
Cleo		2
Sven		8

Two-Step Problem Enrichment Page

1. Katie found 6 marbles on the ground at the park, and received two packages of 12 marbles each for her birthday. If she divides the marbles between herself and two friends, how many marbles will each person receive?

2. A group of seven friends was eating at a restaurant. The total bill was $42. How much does each friend need to pay if the friends split the bill evenly?

3. One of the friends had to leave the restaurant early, and didn't pay his part of the bill. Now how much does each friend have to pay? How much MORE does each friend have to pay now that the other friend left the restaurant early?

4. The principal is trying to organize a field trip, and has to decide the best way to rent buses so that the school saves money. Look at the three bus options.

Option	Number of seats	Cost per bus
A	6	$50
B	12	$70
C	8	$60

There are 24 people attending the trip. Which bus option is the best deal? Use this table to help you solve the problem.

Option	How many buses are needed?	What is the total cost to rent these buses?
A		
B		
C		