**Lesson Plan**

**Subject/Grade level: 6th grade math**

**Standards:**

TEKS 111.26.b.3D:  The student is expected to add, subtract, multiply, and divide integers fluently

CCRS X.B.1: Use multiple representations to demonstrate links between mathematical and real world situations.

ELPS 3.E: Share information in cooperative learning interactions

ELPS 3.G: Express opinions, ideas, and feelings ranging from communicating single words and short phrases to participating in extended discussions on a variety of social and grade-appropriate academic topics

**Objective:**

Students will complete a worksheet of 10 mixed integer problems scoring a 70 or above.

**Focus:**

“Jot Thoughts” (Kagan 6.40): This activity reviews students on prior knowledge and requires them to use learning strategies such as retrieving information, categorizing, collaboration, and visualization to get their brain stimulated before the lesson progresses. The teacher will post a topic such as: “Write down the definition of an integer and as many examples as you can think of” and will provide a “Jot Thoughts” handout to students. Students will be given 30 seconds to write as many ideas as they can think of and may work with their shoulder partner. Once time is up, the teacher will call on a few students to share their ideas with the class.

**Instructional Delivery:**

“Fill in the blank” notes: Students will actively be taking notes on their handout as the teacher moves through the information, using a PowerPoint as a visual aid. The educator will teach students the rules of integers and show them how to add, subtract, multiply, and divide integers by teacher modeling. As the teacher moves through each rule, he/she will ask students to stand up and repeat after them. As students repeat, they may add whatever movements they want to personalize the rules for themselves. As well, the educator will relate the material to students’ personal lives to allow for a deeper understanding.

Real life application examples:

1. Withdrawing money vs depositing money (Multiplying integers)

Melanie has withdrawn $5 **three times**. How much money has she withdrawn total?

2. Owing money vs earning money (Adding integers)

BJ has $-10 in his bank account and **owes** Kimberly $4. What is BJ’s account balance now?

Examples to work through with students:

**6 + (-4)**

**-7 – (-3)**

**-20 ÷ 4**

**-5 · -4**

**-9 ÷ -3**

Differentiation strategy 1: Provide tactile (+) and (-) signs so students can touch and visualize when adding and subtracting integers

**Check for understanding:**

* **Thumbs up or down checkpoints**
* **What is the result of adding two negatives? Two positives?**
* **What is the result of subtracting two negatives?**
* **What is the result of adding a positive and negative if the negative is larger?**
* **What is the result of adding a positive and negative if the positive is larger?**
* **What is the result of multiplying/dividing numbers with the same sign?**
* **What is the result of multiplying/dividing a negative and a positive?**

**Guided Practice:**

White boards: This activity is hands-on which allows students to practice what they have just learned. Students may work with a partner to add student collaboration and peer review to their learning. The teacher will hand each student a white board and expo marker. He/she will then present a problem to the students and give them time to solve. Once time is up, the teacher will ask every student to raise their white board to see their answers. The teacher will then have the students take him/her through the problem while teacher modeling and providing full class feedback. The teacher will go through 10 problems this way, mixing in addition, subtraction, multiplication, and division.

Differentiation strategy 2: Allow students to sit anywhere with their white board as long as they can see the board and teacher

**Check for understanding:**

* **Thumbs up or down checkpoints**
* **The teacher will ask students to raise their white board to check answers**
* **The teacher will assess addition, subtraction, multiplication, and division**
* **The teacher will walk around as students are solving to catch mistakes**
* **The teacher will call on different students each problem**
* **The teacher will walk around and ask students to state certain rules**
* **The teacher will have students take him/her through problems**

**Independent Practice:**

Students will complete their “Mixed Integers” worksheet independently. Students will then turn in the worksheet to the teacher when completed.

Differentiation strategy 3: Give students the option to work individually or with a partner

**Check for understanding**

* **The teacher will walk around as students are working independently**
* **The teacher will refresh students on integer rules if reoccurring problems arise**

**Closure:**

“Jot Thoughts” (Kagan 6.40): The teacher will provide a topic such as “What are the integer rules? For each operation (ex: addition, subtraction, multiplication, and division), write out a problem” and give students 30 seconds to write as many new ideas as they can think of on their handout. The topic will be regarding the information they have just learned to see how much they have retained. The teacher will then call on students to share ideas with the class before leaving.

**Modifications/Accommodations/Enrichment/Reteach:**

**Modifications (Dyscalculia, Diabetes, Anxiety):**

1) Provide filled out notes for the student instead of “fill in the blank” notes that the rest of the class will get

2) Allow the student to use a calculator the whole class

3) Allow the student to follow along for 5 problems during the guided practice

4) Allow access to notes during the assignment

5) Allow the student to learn just addition and subtraction during the lesson instead of adding multiplication and division as well. Then provide enough time for the student to catch up to his or her peers by providing review days

6) Assess the student with 5 problems instead of 10

**Accommodations (Dyscalculia, Diabetes, Anxiety):**

1) Allow the student to rewrite the assignment on graphing paper to keep numbers lined up

2) Provide extra time on the assignment/allow them to take it home to finish

3) Allow the student to use a dry erase board during the assignment

4) Allow make-up work for medical absences/no later penalties

5) Allow the student to get up and get water without asking/allow the student to eat whenever needed

6) Allow the student to do blood glucose/sugar checks at their desk or current location as needed

7) Provide class notes via email or school portal for the student to preview before class

8) Exempt the student from reading aloud of demonstrating work in front of the class

9) Give advanced notice of planned substitute teachers or other changes to the normal routine

**Enrichment**:

“Integer Match-up Game”: Students will be split up into groups of 4 based on their achievement level on their worksheet. There will be a pile of cards upside down in the middle with problems and answers, different ones for each group ranging in difficulty. Once the teacher says “go” the group may flip over all cards and begin solving. The first group to match up all of their cards wins.

**Reteach**:

1) The teacher will incorporate “chunking” into the lesson by introducing addition and subtraction rules first followed by practicing some problems to allow the students to understand the material. Next, the teacher will introduce the rules of multiplication and division and practice problems. Chunking this lesson allows learners to learn the lesson in small increments and be actively assessed by the teacher to check for understanding.

2) Another reteach can be to review previously taught content. This should occur after the focus activity which tells the educator how much students know from the previous lesson. This may require ignoring the lesson of teaching how to add, subtract, multiply, and divide integers and instead focusing on re-teaching what an integer is, examples of an integer, and placing integers on a number line. This can be retaught by brief review led by the teacher and then by pairing up students who have showed mastery in the previous lesson with struggling students, to work on some problems. This reteach is beneficial for both students. Students must then complete a worksheet with 10 problems and choose between working individually or with a partner to show their mastery of at least 70%. This re-teach is cooperative and allows the teacher to walk around and assist students while everyone is working.

Jot Thoughts

What you know!

Jot Thoughts

What you learned!