Multiple Learning Styles in the Middle School Math Classroom

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Wondering how to get your bodily/kinesthetic learners interested in math? Looking for ways to add music to the mix? Incorporating multiple learning styles into your lessons will help students relate to the math and transfer to long term memory. Be prepared to move, sing, dance, and play as we interact with some math.

Disclaimer: I am not an expert on anything. These are just activities that I have used in my classroom that students, colleagues, and/or special education aides in my room have felt made a difference to understanding and/or retention.

Disclaimer 2: If you believe your students should all be sitting and quietly working by themselves most of the time, you may want to find another session. If you are afraid of looking silly in front of your students, you may want to find another session.

1. Activity: Find Your Seat
    Find your seat according to your ordered pair. You cannot sit down until your seat has been verified.
    The hardest part is NOT knowing where the origin of the grid is located. Students must interact and look at all of the numbers to decide where they might sit.

2. Activity: Find Your New Seat 2
    Find your seat according to your ordered pair. You cannot sit down until your seat has been verified.
    This activity is different because negative numbers have been added. Now we also have to determine the location of the x and y axis.

3. Movement: Identifying the parts of a coordinate grid.
    Remembering the difference between the x and y axis.

    Remembering the quadrants.

    Finding a coordinate. The over up dance vs. the elevator.

    Slope with a slide analogy. Rise (climb the ladder) then run (slide out) and using zero slope (for zero fun) and unidentified slope (can't define if it was fun because it was a straight drop down with no survivors).

4. Movement: Are You On The Line?
    Use this to practice graphing an equation. Look at the equation on the board. If you think you are on this line, stand up. Have students "prove" that they are on the line by defending their choice to stand or stay sitting. This can be extended to graph a second equation on the same grid. Keep the first line standing and graph the second to solve the system of equations.

5. Storytelling and acting: The Story of X – A Drama
   What happened to the x? How do you undo the damage? Use with multiple step problems to identify what happened last so you can undo it first.

6. Movement: Have a Ball!
   Sometimes you just need to do a little skill drill but let's do it without a worksheet! Beach balls are very cheap. You can pick them up online or at dollar stores. Write problems in the sections of the ball. Depending on the problems, students look under one thumb or both thumbs to solve. My directions are usually to keep the ball from hitting the floor until I say "stop" then the closest person to the ball grabs it and looks under their thumb(s) and reads the problem to the group. Every person in the group needs to solve the problem and then they need to compare answers and agree before moving on. When their group is done, they start passing the ball again. This one can be modified to fit any unit.

7. Multiple methods for vocabulary development. There are some words that no matter WHAT we do or how many times we "teach" them, students just seem to confuse them. Here are some words that my students, over the years, would continue to confuse and some of my attempts to help them remember. If I share will you give me a fix for factor and multiple?

   Perpendicular and parallel

   Area and perimeter

   Ratio and proportion

   Mean, Median, Mode, and Range

   Acute, Right, Obtuse and Scalene, Isosceles, and Equilateral Triangles

8. Movement: Body Shapes
   Create a set of cards with the names of the geometric shapes you want to review. I usually move to the gym or another large open area for this activity but I have done it in the classroom by moving tables off to the side. Place students in groups and give each group a starting card. They can use as many people from their group as necessary to make the shape. Pair up the groups. One group will make their shape and the other group has to identify that shape based on its properties. If they guess the shape correctly they need to list the properties of that shape and decide if the group represented the shape accurately. Example: Group A has isosceles triangle. Group B has trapezoid. Both groups get a few minutes to create their shape as accurately as possible. When time is called Group A will go to Group B's designated area. Group B creates their shape and Group A has to guess what it is by identifying its properties. When they correctly identify the shape as a trapezoid they have to prove that it is a trapezoid by determining if the bodies do indeed meet the requirements. Does it have four sides? Are two sides parallel? How would they determine they truly are parallel? When they are finished they switch. I usually have some meter sticks and/or cheap tape measures available for students to use but I don't tell them they have to. Students tend to be very critical of each other and the verifying group will want things to be exact to give them credit for the shape.

9. Mnemonic Device: Metric Conversions

We don't know what Aunt Sally did that needed to be excused so why worry about King Hector's chocolate milk problems? King Hector Died (pause) Drinking Chocolate Milk

King	Hector	Died	(pause)	Drinking	Chocolate	Milk
Kilo-	Hecto- (Hecta-)	Deca- (Deka-)	Meter Liter Gram	Deci-	Centi-	Milli-

10. Manipulatives: Operations with Integers

I teach integers with two different manipulatives then allow students to choose which method works for them. I then have number lines and colored counters available for students to use until they decide they can do the problems without them.

Number Line: We have square tiles on our floor so it is easy to make large number lines. I assign a group to the number line and they take turns walking the line. I always have students start at "home" which is the origin. We then walk to the right for positive numbers and left for negative numbers of minus signs. When we run into the minus a negative we get to talk about why we turn left then left again which makes a full circle going back to the right again. When they spin that circle they understand why a minus a negative means positive or go right on the line. We talk about the negative and minus sign meaning "the opposite of" so when we multiply -3 x -4 it means move left three and do that four times in the OPPOSITE direction which means go right.

Colored Counters: Paula Abdul's "Opposites Attract" and Faith Hill's "Let's Go To Vegas" help me with this one. Use colored counters so yellow represents positive and red represents negative. Colored counters are opposite that attract. If a red and yellow are invited to the same gathering, they fall instantly in love and head to Vegas to elope. As the opposite pairs leave for Vegas, the remaining chips represent what is left behind. After doing only a few problems, students can start looking at a problem to determine which color will have chips left behind and how many will be left by subtracting.