Date: 1/30/2020

Grade: 5th

Subject: Math Chapter 7 Review (and Division)

Materials:
- Math Journals
- Pencils
- Whiteboards
- Markers

Technology Needed:
- Smartboard
- Laptops

Instructional Strategies:

- ☐ Direct instruction
- ☐ Guided practice
- ☐ Socratic Seminar
- ☐ Learning Centers
- ☐ Lecture
- ☐ Technology integration
- ☐ Other (list)
- ☐ Peer teaching/collaboration/ cooperative learning
- ☐ Visuals/Graphic organizers
- ☐ PBL
- ☐ Discussion/Debate
- ☐ Modeling

Guided Practices and Concrete Application:

- ☐ Large group activity
- ☐ Independent activity
- ☐ Pairing/collaboration
- ☐ Simulations/Scenarios
- ☐ Other (list)
- ☐ Hands-on
- ☐ Technology integration
- ☐ Imitation/Repeat/Mimic

Explain:

Standard(s)

5.OA.4 Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number.

5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers using visual fraction models and equations to represent the problem.

Objective(s)

At the end of this review, students will be able to apply their knowledge of multiplying fractions and simplifying them with minimal or no errors.

Bloom's Taxonomy Cognitive Level: Apply

Differentiation

Below Proficiency:
Students multiply fractions but don't simplify and have many errors.

Above Proficiency:
Students multiply and simplify fractions with no errors.

Approaching/Emerging Proficiency:
Students multiply and simplify fractions with a few errors.

Modalities/Learning Preferences:
- **Visual:** Working out problems on the smartboard
- **Auditory:** Explaining thinking throughout practice problems
- **Kinesthetic:** halfway through, everybody stretch
- **Tactile:** Touching white boards and using them

Classroom Management- (grouping(s), movement/transitions, etc.)

Students are called by row to retrieve white boards and supplies.
Students are numbered off into groups of six for the stations after reviewing together.

Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)

Students will be respectful of one another and the classroom materials.
Should the white boards be a distraction and used not for the purpose of math, students will use math journals instead.

Minutes	Procedures
10	**Set-up/Prep:** Write directions on the board for Snow Sprint: Go to http://www.mathplayground.com/ASB_SnowSprint.html You will be playing Snow Sprint - Click "Play" at the bottom of the screen - Hit "Play Now" to start. *Don't create a game. Ensure you have enough answer sheets for the Multiplying Fractions with Whole Numbers station and Point sheets for Mixed Up Kings station. Divide up face cards into piles and numbered cards into piles for Mixed Up Kings and put in bags.

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5	**Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)** Talk about what I noticed as I was grading papers - Had difficulty being consistent in our dividing making little errors, so we'll work on that first - We would do a great job multiplying the numerator, but sometimes we would forget to multiply the denominator, some people were trying to add and that messes with the whole problem - You are all fantastic at knowing what to do to multiply fractions or to make mixed numbers into improper fractions, but we struggled with simplifying fractions with larger numbers which ties back into dividing so let's work on that.
15	**Explain: (concepts, procedures, vocabulary, etc.)** Scaffold dividing, start small like 18 divided by 2 = 9 all on the smartboard for the students to see. - 64 divided by 3 - 56 divided by 4 - 82 divided by 12 - 36 divided by 11 - 126 divided by 6 - 204 divided by 2 - 468 divided by 30 Etc. Some with me, some on their own first and then I would do it after a while. Simplifying Fractions – make up examples Throughout all this, I will explain my thinking out loud and particularly where to begin and place the numbers when dividing it out and my thinking when looking for factors to simplify fractions.
35 (~13/ Rotation)	**Explore: (independent, concreate practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)** Multiplying Whole Numbers with Fractions: Students will solve a deck of cards with different problems on them and write their answers on the answer sheet to which they can check their answers by looking at the key when finished. Mixed Up Kings – Practices turning mixed numbers into improper fractions Students will be competing against their partner to be the quickest to turn mixed numbers into improper fractions to get two points and the answer must be correct by checking with one another. Mixed numbers are determined by drawing face card from a regular deck of cards to get the whole number and drawing two number cards from a separate pile to get the fraction. The smaller number goes on the top of the fraction and the whole number value for each face card can be found on the rules sheets. Snow Sprint Fractions – Practices multiplying fractions by correctly answering the fraction product to make your snowmobile move faster than the others to win the race.
5	**Review (wrap up and transition to next activity):** Clean up stations and gather materials for next class

Formative Assessment: (linked to objectives, during learning) • **Progress monitoring throughout lesson (how can you document your student's learning?)** During the review with me, the students will be	**Summative Assessment (linked back to objectives, END of learning)** -Math Test the next day

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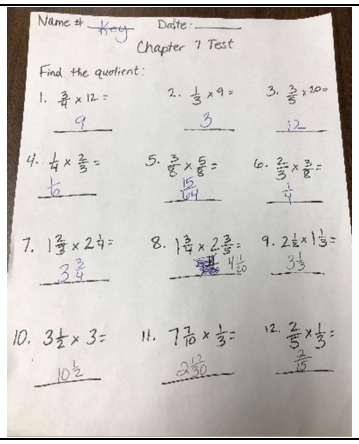
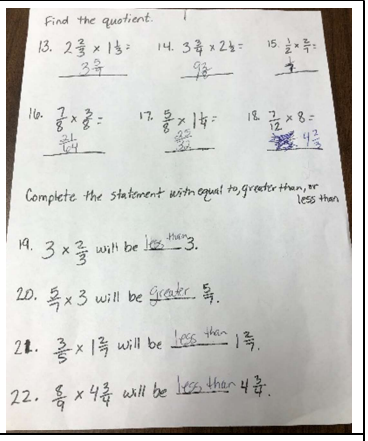
formatively assessed by either their work and answers on their white boards or in their Math journals. They will also be formatively assessed on their answer and point sheets from the two card station activities.


Name # Key Date: _____
Chapter 7 Test
Find the quotient:
1. $\frac{3}{4} \times 12 =$ 9
2. $\frac{1}{3} \times 9 =$ 3
3. $\frac{3}{5} \times 20 =$ 12
4. $\frac{1}{4} \times \frac{2}{5} =$ $\frac{2}{20}$
5. $\frac{2}{8} \times \frac{5}{8} =$ $\frac{15}{64}$
6. $\frac{2}{3} \times \frac{2}{8} =$ $\frac{1}{4}$
7. $1\frac{3}{4} \times 2\frac{1}{4} =$ $3\frac{3}{4}$
8. $1\frac{2}{5} \times 2\frac{2}{5} =$ $4\frac{11}{25}$
9. $2\frac{1}{2} \times 1\frac{1}{3} =$ $3\frac{1}{3}$
10. $3\frac{1}{2} \times 3 =$ $10\frac{1}{2}$
11. $7\frac{7}{10} \times \frac{1}{3} =$ $2\frac{37}{30}$
12. $\frac{2}{5} \times \frac{1}{3} =$ $\frac{2}{15}$


Find the quotient.
13. $2\frac{2}{3} \times 1\frac{1}{3} =$ $3\frac{5}{9}$
14. $3\frac{3}{4} \times 2\frac{1}{2} =$ $9\frac{3}{8}$
15. $\frac{1}{2} \times \frac{2}{7} =$ $\frac{1}{7}$
16. $\frac{7}{8} \times \frac{3}{8} =$ $\frac{21}{64}$
17. $\frac{5}{8} \times 1\frac{1}{4} =$ $\frac{25}{32}$
18. $\frac{7}{12} \times 8 =$ $4\frac{2}{3}$
Complete the statement with equal to, greater than, or less than.
19. $3 \times \frac{2}{3}$ will be less than 3.
20. $\frac{5}{7} \times 3$ will be greater $\frac{5}{7}$.
21. $\frac{3}{5} \times 1\frac{2}{5}$ will be less than $1\frac{2}{5}$.
22. $\frac{8}{9} \times 4\frac{2}{9}$ will be less than $4\frac{2}{9}$.

Reflection (What went well? What did the students learn? How do you know? What changes would you make?):

Overall, this lesson went fairly well in the fact that every student had the chance to practice dividing more correctly and multiplying or simplifying fractions in some way during the review. I also had the opportunity to try it twice because the 5th grade is departmentalized. I know that the students were doing the division problems with me by seeing all of their white boards and I could see how all of them participated in the activities by writing on either answer sheets or point sheets. Even though I tried it twice in a day, there were some surprises that I didn't anticipate and changes that I made that didn't work as well as I thought it would, but I know what I would like to do differently.

For one, I didn't even think of what the students would use to erase their white boards for the first class. Some of them knew to grab tissues or cleaning wipes from having used them previously, but other students didn't think about it either until after they had sat down again. Then they had to get up to get the supplies when it could've been more efficient by getting it all in one round which is what I had the second class do, and it went smoothly.

During the first part of the review, I did much better on explaining my thinking throughout the division problems I would work through either them with me or after I had given them time to work it out on their own. We didn't' get to just simplifying fractions together because I wanted time for them to still get to the activities, but we were able to do some as a result of some of the division problems. I also liked that as I explained some of the errors I had noticed when grading their homework, I added that we wanted to work on quality over quantity which I also explained as doing it well vs. going through it really fast just to be done. Looking back now, though, I would add a real-life connection by asking them whether they would like a shoe made well that will last a year or two, or one that was made quickly but will fall apart after wearing it a few times. In this way, the students can make connections and see the importance of doing a task well that will help them throughout the rest of their education and life.

The activities were where the majority of the surprises occurred. They were not used to stations, but I thought since they were 5th graders that they would be able to figure it out, but they didn't clear up their stations well the first time. Therefore, I made that an explicit expectation for the next class, and it worked better. We also were only able to rotate twice in which the two groups of students who were with the two card activities went to the computers and the computer group divided into the two card activities. Everyone got to practice some sort of practice with fractions, but not everyone could try both math card activities.

I think the biggest issue with the stations was the computers. The first group thought they could sit against the wall rather than in the desks where they couldn't see the board and had difficulty finding the game. Once they got to the game, it lagged a bit because it was lower quality that what the students I used to, but it still worked. With the second class, I made sure the students on the computers sat in the desks and explicitly told them they had to type the entire website in, but there were still many issues typing it which I didn't think would be such a problem and took me away from seeing how the other students were doing on the activities. These technological issues also took away their review time because some students would end up being on the game for maybe 2 or 3 minutes before having to switch or end the class. I also had to explain the Mixed Up Kings game each time since they had never done it before and was more confusing than solving the cards for the Whole Numbers game, so that took time away from the practice, too. If I were

to do another review like this, I would have them all do one game at a time so that I would explain things once, and the students would have more time to review with the activity. I would also either opt out of an online game or find other options that wouldn't be so difficult for the students to find. I could also have them all bookmark a few games throughout the lesson to then be able to access them easier for review days like this.

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MIXED UP KINGS

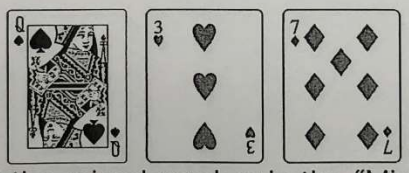
This is a game for 2-4 players. The object of the game is to be the first one to turn a mixed number into an improper fraction.

MATERIALS NEEDED:
1 deck of playing cards
1 recording sheet for each player

Face Card Values
Jack = 1
Queen = 2
King = 3
Ace = 4
Joker = 5

HOW TO PLAY:

1. Separate the deck of cards into two upside down piles. One pile should contain the Jokers and all of the face cards (Kings, Queens, Jacks, and Aces). The other pile should contain the rest of the cards (2-10).
2. One player should draw one card from the faced cards and 2 cards from the numbered cards. The face card drawn represents a whole number that will be part of a mixed number. See the box above for the face card whole number values. The numbered cards drawn represent the fractional part of the mixed number. The smaller number is the numerator and the larger number is the denominator. An example is shown below.



$= 2\frac{3}{7}$

3. Players record the mixed number in the "Mixed Number" column on their recording sheet.
4. Each player works by him/herself to change the mixed number into an improper fraction and record their answer in the "Improper Fraction" column on their recording sheet. Players should check each other's work. Any player who gets it correct gets a point. The player who did it the fastest gets 2 points. Each player records their points in the "Points" column on their recording sheet.
5. The player with the most points at the end of 10 rounds is the winner!

Happy Playing!

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Name _____ Date _____

MIXED UP KINGS
RECORDING PAGE

Round	Mixed Number	Improper Fraction	Points
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Multiplying Fractions by a Whole Number

Name:
Date:

Card #	Answer	Card #	Answer
1		16	
2		17	
3		18	
4		19	
5		20	
6		21	
7		22	
8		23	
9		24	
10		25	
11		26	
12		27	
13		28	
14		29	
15		30	

on school website or internet.

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