

Solar Lesson Plan Format

Age Level: 5th Grade

Subject(s) Area: PE and Math

Materials Needed: scooter, balls (multiple sizes), hula hoops, papers with fractions to attach to the balls.

Standards:

Code and description:

5.NF.1: Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)

S2.E3.5a: Applies movement concepts to strategy in game situations.

S4.E6.5: Applies safety principles with age-appropriate physical activities.

Objectives:

What will the students know or be able to do?:

Cognitive Level of Lesson (Bloom's Taxonomy):

I can be safe while using a scooter.

I can add fractions with unlike denominators while playing hungry hippos.

Learning Activities:

Opening Element: (Anticipatory set, setting a purpose for learning, assessment of background knowledge, Review, Etc.)

Have fractions taped to the balls and them in the middle circle before class starts. 5 hula hoops for each group. Bring scooters out but not by the hula hoops yet.

Reflective Questions: (Questions asked to help students process or reflect upon content)

?? What is the top number in a fraction? (Numerator)

?? What is the bottom number in a fraction? (Denominator)

Warm-up: write this on board before starting class

Laps 3 numerator of 3/4

Push-ups 8 denominator of $\frac{5}{8}$

Sit ups 6 common denominator of $\frac{1}{2}$ and $\frac{2}{3}$

Squats 12 common denominator of $\frac{3}{4}$ and $\frac{1}{3}$

Technology: variety of technology used in the lesson

Music: for the warm-up and during the game

Required Vocabulary:

Denominator: bottom of a fraction

Numerator: top of a fraction

Common Denominator: combination of two denominators so you can add or subtract easily

Instructional Methods:

Break the students up into 5 groups, 4 to 5 students in each group. (plan for 22 students)

Hand out scooters to groups.

Talk about scooter safety: when not using the scooter keep it flipped over, look behind you when going backwards on the scooter, hands on the inside of the handle

Explain the game hungry hippos:

Two students will grab balls at a time. One student will lay on the scooter on the stomach with legs in the air and the other student will push them by the feet. The other two students will stay back behind the hula hoop. The student on the scooter will grab only two balls and bring it back to the group. The four or five group members will then add the two fractions on the balls. When done adding the fractions they put the two balls into the hula hoop. Once done the two students that went to grab the balls first will stay back and the other two that stayed behind will grab two more balls to add the fractions.

Fractions for balls: $\frac{1}{2}$; $\frac{2}{3}$; $\frac{1}{3}$; $\frac{1}{4}$; $\frac{3}{4}$; $\frac{1}{5}$; $\frac{2}{5}$; $\frac{3}{5}$; $\frac{4}{5}$; $\frac{1}{6}$; $\frac{5}{6}$; $\frac{1}{7}$; $\frac{2}{7}$; $\frac{3}{7}$; $\frac{4}{7}$; $\frac{5}{7}$; $\frac{6}{7}$; $\frac{1}{8}$; $\frac{3}{8}$; $\frac{5}{8}$; $\frac{7}{8}$; $\frac{1}{9}$; $\frac{2}{9}$; $\frac{4}{9}$; $\frac{5}{9}$; $\frac{7}{9}$; $\frac{8}{9}$

?? Which scooter safety rule will we need to remember when playing hungry hippos? (Keeping scooter flipped over when not using it. Which is when we are adding up the fractions.)

Play music and let them play for 15-20 minutes

Guided Practice Strategies: Levels of scaffolding, various elements broken into parts, etc.

Independent Concrete Practice/Application: practice of skills in practical ways

Differentiation:

Wrap-Up:

?? What was the hardest fractions to add together?

Assessment:

Formative:

Writing down what fractions they had and their work and answers. (Informal)

Individual Measurability:

Summative:

Give them a list of fractions to add together.

Reflection:

Overall, I thought the lesson went okay. There were times when I felt lost during it, but the students were having fun. The warm-up went well for the group we were working with and I think it was a good start to what we had them doing. As the day went on I think the explanation of the activity went better and better. The first class, I was nervous during and their game was not as structured as I would have hoped it to be. The second class the students were all doing the activity the correct way. During the first lesson, I should have stuck with more addition time than multiplication time.

I like how I was able to keep teaching during the next two classes because it gave me a chance to really perfect the introduction of the lesson. I thought it was a great idea to have scratch paper for the students to write on. This also allowed for the paper to be turned into the teacher, so she knew what had happened during physical education. This little addition to the lesson helped the students become accountable for what they were doing. I think in the first two classes they were not completely solving the math problems. This was a great idea to check their answers.

All in all, I liked how I was able to keep working with the students throughout the day, because the lesson got better and better. I liked how the game was played and how the students were so close to the middle circle and they could continue working without having to travel to far to get their next shark skin balls. I think it was smart not to continue moving the students back at all for the continuation of the classes. If I could change one thing it would be to have more shark skin balls in the middle so the students would have more options. But the amount that we had did work.