Fraction Fun

1. Target Audience:

5th grade students in CA

2. Objectives:

Students will create a website. In collaborative groups, each group will create a webpage that addresses the following objectives. In addition, the students will be expected to use various forms of media to express their knowledge and understanding -- including, but not limited to tools such as: Go Animate, Voki, Soundcloud, Vocaroo, video recordings, and xtranormal.

- Explain fractions and mixed numbers.
- Explain how to change mixed numbers into improper fractions.
- Explain how to change improper fractions into mixed numbers.
- Explain how to add and subtract fractions (with like and unlike denominators).
- Explain how to multiply and divide fractions.

3. Standards:

- CA Blueprint Standards:
    - 2.3 Solve simple problems, including ones arising in concrete situations, involving the addition and subtraction of fractions and mixed numbers (like and unlike denominators of 20 or less), and express answers in the simplest form.
    - 2.4 Understand the concept of multiplication and division of fractions.
    - 2.5 Compute and perform simple multiplication and division of fractions and apply these procedures to solving problems.
- ISTE -- NETS-S:
    - 1. Basic operations and concepts
    - 2. Social, ethical, and human issues

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        - Students practice responsible use of technology systems, information, and software.
        - Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
    - 3. Technology productivity tools
        - Students use technology tools to enhance learning, increase productivity, and promote creativity.
        - Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other .
    - 4. Technology communications tools
        - Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.

4. Considerations for Implementations:

This 'project' will take place in sections. As students learn and build upon fraction concepts, they will build their web page. The tools that they will be using will be introduced and used throughout the year.

5. Instructions for Students:

As you learn about fractions, you will will be working with a partner (or 2) to create a web page that demonstrates your knowledge and understanding. You should give examples and show videos (either your own or ones you find) or create podcasts.

Each group will have their own page where the information will be posted. You are in charge of all information on your page. You may ONLY edit your group page. (Note: only one person may work on one page at a time. So work with your group on one computer to complete the project.)

Here is the Scale I will be using to grade your work:

Score:	Description:
5	In addition to a 4, in-depth inferences and applications that go beyond what was taught.
4	Students show appropriate, grade level understanding of: ● Explain and show examples of fractions. ● Explain and show examples of mixed numbers. ● Explain and show examples of improper fractions. ● Explain and show procedure to change a mixed number to an improper fraction. ● Explain and show procedure to change an improper fraction to a mixed number. ● Explain and show procedure to add fractions with like denominators. ● Explain and show procedure to add fractions with unlike denominators. ● Explain and show procedure to subtract fractions with like denominators. ● Explain and show procedure to subtract fractions with unlike denominators. ● Explain and show procedure to multiply fractions. ● Explain and show procedure to multiply mixed numbers. ● Explain and show procedure to divide fractions. ● Explain and show procedure to divide mixed numbers. ● Each collaborator will contribute equally -- As defined by a peer evaluation. ● At least three (3) different methods were posted on the webpage. The students exhibit NO major errors or omissions. Students are encouraged to use a variety of methods to help explain and show procedures including, but not limited to:

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	podcasts, videos, animation, and imagery.
3	There are no major omissions or errors with the simpler details and processes. ● Has a basic understanding of material. ● Needs some assistance explaining procedures. ● Recognizes or recalls basic vocabulary related to topic: ○ Fraction, Mixed Number, Reciprocal, Numerator, Denominator However, the students exhibit major errors or omissions regarding the more complex ideas and processes.
2	With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes.
1	Even with help, no understanding or skill demonstrated.

Description of Lesson:

Students will be given the instructions in ‘chunks’. They will learn a concept, demonstrate understanding, then the teacher will give feedback.

- Students will learn the meanings of ‘fraction’, ‘improper fraction’, and ‘mixed number’
- Students will be given 1 week to show their understanding of the definitions on their web page.
- The teacher will give feedback, and the students will be allowed to modify their information until it is correct.

- Students will learn how to change a mixed number into an improper fraction and an improper fraction to a mixed number.
- Students will be given 1 week to show their understanding of the new concept on their web page.
- The teacher will give feedback, and the students will be allowed to modify their information until it is correct.
- Students will learn to add and subtract fractions with like and unlike denominators.
- Students will be given 2 weeks (1 week for like denominators, and 1 week for unlike denominators) to show their understanding of the definitions on their web page.
- The teacher will give feedback, and the students will be allowed to modify their information until it is correct.
- Students will learn to multiply and divide fractions.
- Students will be given 1 week to show their understanding of the new concept on their web page.
- Teacher will give feedback, and the students will be allowed to modify their information for 1 week to make all information correct.

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