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| **21st Century Lesson Cycle Template** |
| **Grade: 6-7 Subject: math** **Unit: Fractions** |
| **Driving Question:**How would a pizza explain how people divide it up and eat it? |
| **Curriculum Outcomes:** Demonstrate an understanding of and use fractions up to 1/12.

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* Model fractions up to 1/12
* Compare and order fractions with the same denominator.
* Add and subtract fractions with the same denominator.
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| **Expected Time:** 3-4x60 min classes: #1 for instruction and practice, #2 for review Fraction Stories, #3-4 to work on and share Digital Story projects. |
| **Resources:**- Egg carton, pizza model, fraction pieces, fraction rods, instructional video.- iPads with apps: Book Creator, [imovie](https://www.youtube.com/watch?v=R2dBVIGsmLU), Adobe Voice, Explain Everything and others.- Online practice [here](http://www.aplusmath.com/Worksheets/OnlineFractions.html)  |
| **Lesson Procedure** | **21st century skills** |
|  | Teacher does (I Do): 1. Lead introduction/review of modeling various fractions: ½ to 1/12. (See step #1 in You Do section).

 1. Tell real life stories where one would need to add fractions while students do #2 below with partners. (See step #2 in You Do section).
2. Show my instructional [video.](https://www.youtube.com/watch?v=R2dBVIGsmLU)  (Followed by step #3 in You Do section).
 | [ ]  find, validate[ ]  remember, understand [ ]  **collaborate, communicate**[ ]  analyze, synthesize[ ]  **critical thinking**[ ]  evaluate, leverage[ ]  **create**, publish[ ]  **citizenship** |
| Individual student work (You Do):1. Ask the students to demonstrate/model ½ and 1/12 using a pizza and specific pie and rod fraction pieces. (See step #1 in I Do section).
2. Students create the models while I give real life stories. (See step #2 in I Do section).
3. Practice time using online [activity sheet](http://www.aplusmath.com/Worksheets/OnlineFractions.html) with review. (See step #3 in I Do section).
 | [ ]  find, validate[ ]  remember, understand [ ]  **collaborate, communicate**[ ]  analyze, synthesize[ ]  **critical thinking**[ ]  evaluate, leverage[ ]  **create**, publish[ ]  **citizenship** |
| Group work (We Do): 1. Students (in partners) write their own Fraction Stories to show adding fractions. These stories will demonstrate student knowledge about putting together smaller pieces shared with 2 people from a whole.
2. Students (in partners) write their own Fraction Stories to show subtracting fractions. These stories will demonstrate student knowledge about putting taking wholes apart to share with 2 people from a whole.
3. With partner, create their own 1-2 minute video that tells a story about pieces of a pizza, an egg carton, a dozen cookies, etc who is/are shared with 2 people. Must demonstrate and model their knowledge of denominator, numerator, and simple addition and subtraction.
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| Class share (We Share):1. Share examples of their Digital Stories or real world fraction stories.
 | [ ]  find, validate[ ]  remember, understand [ ]  **collaborate, communicate**[ ]  analyze, synthesize[ ]  **critical thinking**[ ]  evaluate, leverage[ ]  **create**, publish[ ]  **citizenship** |
| **Lesson Wrap Up:** Students have demonstrated how fractions are important in everyday life. Each student will write an [Exit Pass](#ExitPass) that explains which of the Digital Stories or Fraction Stories they connected with and why. |
| **Differentiation/Modification/Enrichment**: Students can use the fraction pieces they are most comfortable with (rods, pie, pizza, etc).Students can access the instructional video for adding fractions at any time.Students can also demonstrate subtraction with common denominators.Selection of video tools are at the student’s discretion and comfort levels.Online activity sheet can be created by “easy”, “moderate” and “hard” |
| **Assessment:** Digital Story [Rubric](#Rubric) and [Exit Passes](#ExitPass) |

Pass



**Directions**:

Write or draw a description of the 3 things you learned in class today.



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**Digital Story Rubric**

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| CRITERIA | 3 POINTS | 2 POINTS | 1 POINT |
| Digital story demonstrates knowledge of the vocabulary related to adding fractions | Includes strong definition of related vocabulary (numerator and denominator) in words or pictures. | Includes an average definition of related vocabulary (numerator and denominator) in words or pictures. | Definition of related vocabulary (numerator and denominator) in words or pictures is poorly demonstrated. |
| Digital story explains how to add fractions. | Story clearly explains how to add fractions. | Story somewhat explains how to add fractions. | Story does not explain how to add fractions. |
| Digital story demonstrates knowledge of the vocabulary related to subtracting fractions | Includes strong definition of related vocabulary (numerator and denominator) in words or pictures. | Includes an average definition of related vocabulary (numerator and denominator) in words or pictures. | Definition of related vocabulary (numerator and denominator) in words or pictures is poorly demonstrated. |
| Digital story demonstrates knowledge of the vocabulary related to subtracting fractions | Includes strong definition of related vocabulary (numerator and denominator) in words or pictures. | Includes an average definition of related vocabulary (numerator and denominator) in words or pictures. | Definition of related vocabulary (numerator and denominator) in words or pictures is poorly demonstrated. |
| Use of technology is appropriate and makes the operations concepts clear. | App and/or program is well suited to content of the presentation. | App and/or program is somewhat suited to content of the presentation. | App and/or program is not well suited to content of the presentation. |

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