| **Lesson Title**: Intro to Fractions: Lesson 1 - The Unit Fraction  **Created by:** Naomi Ramage | | | **NRS Level of Lesson:** 2 |
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| **Intended Modality:** (check all that apply)  √ In-person □ Virtual √ Hybrid | | | |
| **Content Area(s)** | **Targeted** [**IL ABE/ASE Content Standards**](http://www.excellenceinadulted.com/resources/abease-curriculum-project/) | | |
| **Illinois ABE/ASE Mathematics Content Standards** | **2.G.3** Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.  **2.G.5** - Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1 4 of the area of the shape.  **2.NF.1** Understand a fraction 1/𝑏 as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction 𝑎/𝑏 as the quantity formed by *a* parts of size 1/𝑏.  2.NF.3 …Compare fractions by reasoning about their size. (d) Compare two fractions with the same numerator … by reasoning about their sizes | | |
| **SMPs** | 1,3, 4 | | |
| **Integrated** [**Essential Employability Skills**](https://www.illinoisworknet.com/DownloadPrint/ILEssentialEmployabilitySkills-Handout.pdf) | | | |
| □ Personal Ethic *(Integrity, Respect, Perseverance, Positive Attitude)* | | √ Teamwork *(Critical Thinking, Effective & Cooperative Work)* | |
| √ Work Ethic *(Dependability, Professionalism)* | | √ Communication *(Active Listening, Clear Communication)* | |
| **Lesson Objectives *(Students will be able to)****:*   * Count and name the fractional unit of a partitioned shape * Partition a shape or number into 1-8 equal parts * Choose a unit fraction that is less than or greater than another, reasoning about the size of the units | | | |
| **Explain how you are including** [**Multiple Means of Learner Engagement**](https://udlguidelines.cast.org/engagement)**:**  **CHECKPOINT 7.3 - Minimize threats and distractions**  Color-coded background in slides to help students understand which task they are expected to be on at any given time.  **CHECKPOINT 8.1 - Heighten salience of goals and objectives**  Multiple learning checks throughout the lesson that allow for students to assess their own knowledge in different ways (e.g.: on a scale, by task-mastery). Lesson is structured tightly aligned to the breakdown of the objectives. Multiple examples of each objective and goal are provided throughout the lesson. | | | |
| **Key Vocabulary**   1. **fraction**: a rational number that shows its value in the relationship of a whole and its parts 2. **partition**    1. verb: to divide into parts    2. noun: a separation between parts; the process of dividing something into parts 3. **part**:  segment, share, section of a whole 4. **unit fraction**: one part of a partitioned whole; a fraction with a numerator of 1 5. **fractional unit**: the name of the equal shares of a partitioned whole 6. **numerator**: the top number of a fraction, which shows how many equal parts are to be counted 7. **denominator**: the bottom number of a fraction, which shows the equal parts of the whole | | | |
| **Instructional Materials**  *Videos (YouTube.com):*   * [“Americans know wealth inequality is a problem…”](https://www.youtube.com/watch?v=DANUXO-GQwU&t=27s) * [“One is one. Or is it?”](https://www.youtube.com/watch?v=EtclcWGG7WQ&feature=emb_logo)   *Referenced material:*   * [A&W’s story](https://awrestaurants.com/blog/aw-third-pound-burger-fractions) - AWRestaurants.com blog * [Rainbow Flag History](https://www.glbthistory.org/rainbow-flag) * [Pride Flags - University of Colorado](https://www.unco.edu/gender-sexuality-resource-center/resources/pride-flags.aspx) * [Flags World](https://flagsworld.org/)   *Tools:*   * Math Learning Center’s [Fraction-modeling app](https://apps.mathlearningcenter.org/fractions/) (or instructor-chosen alternative) * Geogebra [Fraction Bars](https://www.geogebra.org/m/cw3s8z7c)   Student materials:   * Slide Deck * Student lesson guide | | | |
| **Lesson Activities**   1. **Intro activity/objectives/video discussion** “A Share of the Pie’ | Objectives [12 minutes]   Slides 5-8   1. **Review** “What is a unit?” [7 minutes]   Slides 9-12   1. **Lecture/Background knowledge** We use fractions every day and in many ways. [6 minutes]   Slides 14-15   1. **Instruct, Model, and Check**    1. Counting and naming the fractional unit [6 minutes]       1. Slides 16-20    2. Naming the unit fraction [4 minutes]       1. Slides 21-23 2. **Notice & Wonder:** *Pride Flags History* demonstrating various fractional units [12 minutes]   Slides 24-26   1. **Paired Practice**    1. Look for fractional units of flags [6 minutes]       1. Slides 27  [+Flags World](https://flagsworld.org/) +[Pride Flags (UNCO)](https://www.unco.edu/gender-sexuality-resource-center/resources/pride-flags.aspx)    2. Naming unit fractions [10 minutes]       1. Slides 28-29 2. **Demonstrate** partitioning shapes to get fractions, on paper and using modeling software [10 minutes]   Slides 30-31   1. Optional: ***Model, Practice*** *partitioning numbers to get a fraction of a whole number [15 mins]*   *Slides 32-39*   1. **Demonstrate** Comparing two unit fractions [5 minutes]   Slides 40-45   1. **Independent Activities**     1. Online review activities [10-20 minutes]       1. Slides 46-47    2. Post-test [10-20 minutes]       1. Slides 48-49 2. **Share** and **discuss** A&W vs. McDonalds Story [10-12 minutes]   Slides 50-61 | | | |
| **Explain below how you are including** [**Multiple Means of Content Representation**](https://udlguidelines.cast.org/representation)**:**  **CHECKPOINT 3.1 Activate or supply background knowledge** Knowledge about partitions and units is activated/supplied at start of lesson, before students move on to fractional units. Students partition a familiar unit (pie). Making change for a dollar is connected to fractional units.  **CHECKPOINT 3.3 Guide information processing and visualization**  Multiple visual models, directions, and scaffolds provided for students to become familiar with partitioning units. Models are shapes and familiar images. Practice provided along the way to allow for ample feedback. Multiple contextualized examples of fractions are shown. | | | |
| **Performance Tasks**   1. Filling out note-taking guide 2. Participation in discussions and learning checks 3. Chosen independent activities | | | |
| **Explain how you are providing** [**Multiple Means of Action & Expression**](https://udlguidelines.cast.org/action-expression) **for learners:**  **CHECKPOINT 5.1 Use multiple media for communication:** Students can choose to develop and present knowledge on paper or digitally. As a class, students present their learning in writing, with gestures, and orally. In a small group, students can choose to present their visual models on paper or virtually.  **CHECKPOINT 6.1 Guide appropriate goal-setting:** Goals and objectives are reiterated throughout the lesson to help students direct their own understanding, while check-ins provide students with ways to monitor their own comprehension. Furthermore, frequent learning checks allow students to check their understanding of the material in a variety of tasks and contexts.  **CHECKPOINT 6.3 Facilitate managing information and resources:** Student note-taking guide provided for students to record notes, discussion points, and discoveries. | | | |
| **Notes**   * Instructor’s notes on Slide Deck features provided separately | | | |