**Art Integration Lesson Plan Template**

LTC 4240: Art for Children

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| Lesson Title & Big Idea: Fact Families- Families | | Grade Level: 1st |
| Lesson Purpose:  To teach students the relationship between fact families, and connect this understanding to relationships between real families. | | Class Periods Required: 1 |
| Key Concepts (2-3):  1. Fact families are groups of four math facts, two addition and two subtraction, that all go together.  2. Fact families are all different equations like how our families are made of different people, but they are all related like we are with our families. | Essential Questions (2-3):  1. What do you have in common with your family? What is a difference between you and your family?  2. What is different about the equations in fact families? What do they have in common? | |
| Lesson Objectives: (Excellent resource at <http://www.teachervision.fen.com/curriculum-planning/new-teacher/48345.html?for_printing=1&detoured=1>)  1. The student will participate in class discussion to find out what the equations in fact families have in common.  2. The student will work in groups to come up with all four equations in different fact families. | | |
| Grade Level Expectations (GLEs) (3-4) (<http://dese.mo.gov/divimprove/curriculum/GLE/>)  1. Numbers and Operations/1/A/Grade 1: Read, write, and compare whole numbers less than 100.  2. Numbers and Operations/3/B/Grade 1: use strategies to develop fluency with basic number relationships of addition and subtraction for sums up to 20  3. Algebraic Relationships/2/A/Grade 1: using addition or subtraction,  represent a mathematical situation as an expression or number sentence | Missouri Core Academic Standards (Common Core State Standards)  (3-4) (<http://www.corestandards.org/>)  1. [CCSS.Math.Content.1.OA.B.3](http://www.corestandards.org/Math/Content/1/OA/B/3) [Apply](http://www.corestandards.org/Math/Content/1/OA) properties of operations as strategies to add and subtract.2 *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*  2. [CCSS.Math.Content.1.OA.B.4](http://www.corestandards.org/Math/Content/1/OA/B/4) Understand subtraction as an unknown-addend problem. *For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.*  3. [CCSS.Math.Content.1.OA.D.7](http://www.corestandards.org/Math/Content/1/OA/D/7) Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2. | |
| Integrated Content Areas:  1. Math | Identify & define **common vocabulary/concepts** that connect visual art with the non-art content area.  Fact families: four equations, two addition and two subtraction, all using the same three numbers  Equation: a math problem with an answer (in this case addition or subtraction) | |
| Anticipatory Set (Gaining Attention):  What does your family have in common and what is different about you all? What do the equations in a fact family have in common, and what is different about them? | Closure (Reflecting Anticipatory Set):  Students will get into groups of four each take a turn writing the four equations that use the three numbers I will read aloud. They will practice this with about ten different sets of numbers. | |
| Lesson Activities & Procedure(s):  1. First, students will discuss things they have in common with their family members, and things that are different between them and their family members.  2. I will then display a fact family on the board and ask students to discuss what these equations have in common, and what is different about them.  3. We will discuss that they all use the same three numbers, but in different orders to create two addition and two subtraction problems.  4. We will talk as a class about how to know which number is the sum in an addition problem (the largest) and which number comes first in a subtraction problem (the largest).  5. After discussing what a fact family is, we will practice creating a few fact families when given three numbers as a class.  6. Students will then go to a spot in the room with groups of four, a piece of paper, and a pencil. I will give them sets of three numbers and they will each take a turn adding one equation to the fact family. If there is disagreement among groups, I will give students an opportunity to try and convince each other of their reasoning. If they still need help, I will step in to answer questions.  7. I will collect these papers to assess their understanding of the lesson. | Lesson Texts & Materials:  Smartboard  Paper  pencil | |
| Lesson **adaptations** for challenged learners:  If a student has a physical disability and cannot write, they can say their answers and have a group member write it down. If students do not understand the concept, hopefully having multiple perspectives in groups can help give more clear explanations. I will give special attention to groups that aren’t catching on as quickly. | Lesson **extensions/enrichments** for gifted learners:  If students finish this assignment and need more of a challenge, I will give students a list of sets of numbers and have them race to see who can come up with the fact families the fastest. | |
| **Formative Assessment** strategies:  I will ask students what they notice about fact families and what strategies they can use to come up with all four equations when given three numbers. | | |