|  |
| --- |
| **Stage 1 – Desired Results** |

**Established Goals (Include ACOS standards in this section)**:

* **A1.8** Use the structure of an expression to identify ways to rewrite it. [A-SSE2]

**Understandings (Students will understand that …)**:

* Prime factorization is a representation of a number or a polynomial as a product of primes.
* Greatest common factor is the largest common factor of two or more given numbers.

**Essential Knowledge (Students will know …)**:

* Prime factorization
* Greatest common factor

**Essential Skills (Students will be able to …)**:

* Write the prime factorization of numbers.
* Find the GCF of a pair of numbers.
* Find the GCF of a pair of monomials.

**Essential Question(s)**:

* How can we apply GCF to real life?
	+ If a person is buying hotdogs (8 to a package) and buns (12 to a package) to serve at a cookout of 24 people and does not want to have any leftovers, they will have to find the GCF of the number of hotdogs and number of buns per package.

|  |
| --- |
| **Stage 2 – Assessment Evidence** |

**Performance Task(s)**:

* None

**Other Evidence**:

* Milk/Hershey’s kisses activity: Students will be given 18 brown paper blocks and 24 white paper blocks (paper blocks represent milk cartons), and they will also be given 9 Hershey’s kisses and 6 Hershey’s Cookies and Cream kisses. They will have to use their knowledge on GCF to figure out how many rows of blocks and kisses can be lined up with the stipulation that each row can only have one kind of block or one kind of Hershey’s kiss. The teacher will be observing the student’s for this activity. (Formative Assessment)

|  |
| --- |
| **Stage 3 – Learning Plan** |

**Materials needed for the lesson**:

(Other than pencil/pen, all materials will be provided for the students by the teacher.)

* Pencil/pen
* Paper
* Elmo
* Paper blocks (represent milk cartons)
* Hershey’s kisses

**Bell ringer (if one is used)**:

* The students will answer two questions on telling whether one number is a factor of a different number. They will tell if 6 is a factor of 50 and if 7 is a factor of 105. For the third question, the students will list all of the factors of 28. For questions four and five, the students will tell if 11 and 98 are prime or composite. If a number is composite, they will write it as the product of two primes. (5 min)

**Review of relevant, previously learned information**:

* The review of relevant material will be covered in the bell ringer. The students should have already seen the terms factor, prime, and composite. Knowing these terms and how to do problems involving them will prepare the students for the lesson.

**Introductory Activity**:

* None

**Body of the lesson**:

* Lecture over terms, writing prime factorization of numbers, and finding GCF between two or more numbers. (20 min)
	+ When students are given terms, the teacher will explain each term in multiple ways to ensure understanding. Students will be given multiple example problems that involve the terms. The teacher will solve an example with the class before having students try an example on their own. The teacher will pose questions throughout the lesson to get students thinking about more complex problems.
	+ No accommodations are needed for students. (No SPE, ESL, gifted students in the class.)
	+ The lesson will incorporate multiple methods of solving problems. For instance, the students will be shown a few different ways to how the prime factorization of a number.
* Milk/Hershey’s kisses activity (10-20 min)

**Preview of the next lesson**:

* The teacher will tell the students that the next lesson they will be using GCF to find common factors of polynomials.

**Related out of class assignment**:

* Homework problems

**Other class announcements or information**:

* None