



Instructor's Name: Trevor Larson

Subject: Mathematics

Grade: 6th Grade

Title of Lesson: Prime Factorization

Materials and Resources (including technology):

- White boards
- Note books

Standard(s) the Lesson will Address: Type out the source, number, and the text of the standard (s) addressed in this lesson

- 6.1.1.5 Factor whole numbers; express a whole number as a product of prime factors with exponents.

Objective: State the **CONDITION**, the **BEHAVIOR**, and the **CRITERIA**. Label in () the predominant domain of **C** for Cognitive, **A** for Affective, or **P** for Psychomotor. **DO NOT** make every condition “at the conclusion of the lesson..”

- During the lesson, students will name prime and composite numbers and find prime factorization. (P)

Vocabulary:

Academic: Language needed by students to do the work in schools.

- Prime Number
- Composite Number
- Prime Factorization

Anticipatory Set: How will you get the students ready and/or excited to accept instruction?

- Instruct the students start their Do Now, when they finish have them discuss with a table partner what they remember about factors.

Pre-Assessment Plan (if any): Pre-assessments help you to determine what students already know and bring to the lesson content.

- Daily Spiral Review (DO NOW Activity) once the bell has rung (5 minutes to complete)

Input: (SCRIPTED) *Detailed planning: Write plans to a level of depth that would allow another teacher to use the plan to deliver the instruction. Script the learning target(s), transitions and key questions as well as timings.)*

1. Daily Spiral Review (DO NOW) on the board (Students will work on this once the bell has rung). While the students are working, check students' work while answering questions.
2. Review the problems on the Spiral Review with the students on the board.

3. Remember when I said that knowing factors and how to find them will be important?
Today we will be using those skills
4. Display the learning goal for today
 - a. **Students will be able to identify numbers as prime or composite and give the prime factorization for numbers**

5. [Notes](#)

6. [Guided Practice](#)

1. start at guided learning in link above
2. Go over what a factor is
3. Have students write on white boards what the factors of 12 are
4. List out all the factors starting at 1. Move on from 1-2 and so on until all factors are listed
5. Have students write out all the factors of 36 - 1,2,3,4,6,9,12,18,36
6. Go over divisibility rules- students should have posted note in their notes with the rules
7. Divisibility rules help determine the factors of a number
8. Try out the rules Is 1346 divisible by what numbers 1-10?
9. It is only divisible by 2
10. Is 3450 divisible by 10? Yes
11. Is 1298 divisible by 3? No Make sure to ask the students why for all three of these questions
12. Is 3678 divisible by 2? Yes
13. **Classifying numbers**
14. Now that you have learned about identifying and finding factors , we can move onto organizing numbers. We can put numbers into two categories. **Prime** and **Composite**
15. The number of factors that a number has determines whether the number is considered **prime** or **composite**
16. **Prime number** = a number with only two factors, 1 and itself
17. Can you name a **prime** number higher than 10? Give students think time
18. What is a **composite** number? - a number that has more than two factors
19. We can combine factoring and prime numbers together too. This is called **Prime factorization**. When we factored before , we broke down the numbers into two factors. These factors may have been prime, or they may have been composite numbers
20. Go over example D
21. When we factor a number all the way to its prime factors, it is called **prime factorization**
22. Have students complete the prime factorization of the following numbers in a factor tree.
81
23. Have students apply their knowledge on their own guided practice of 124 questions 1-2
24. Anytime left over will be allowed for homework time
25. **Review- Prime number has only two factors**
26. **Composite numbers have three or more factors**
27. **Factors- a group of numbers that are multiplied together to get a product**

Guided Practice (Formative Assessment):

- Discussion
- Homework assignment

Closure: (SCRIPTED)

- Feel free to ask me any questions you may have. Also remember to look at your notes if you aren't quite sure of something.

Independent Practice/Summative Assessment: (How will students extend or apply their learning OR demonstrate mastery? If demonstrating mastery, include criteria for evaluation (checklist, rubric, sample, etc).

- Homework assignment

Accommodations & differentiation for learners: (For all practice lesson assume that you have at least one student in each category: attention/focus issue, language processing issue, sensory issues)

- Go through all directions aloud
- Move around the room to participate in discussions
- Gifted: have extra problems/ have higher level questions

Multiple Intelligences Addressed: verbal linguistic, visual/spatial, logical/mathematical,

AFTER TEACHING THE LESSON:

Respond with *professional insights that go beyond superficial considerations.*

- As I reflect on the lesson, to what extent were students productively engaged?
 - To what extent did the students learn what I intended? Were instructional objectives met?
 - To what extent did I alter my objectives or instructional plan as I taught the lesson? Why?
 - To what extent did I practice effective classroom management strategies? What issues do I need to address when I teach again?
 - To what extent did I provide closure to the lesson?
 - If I had the opportunity to teach this lesson again to the same group of students, what would I do differently? Why? How would this affect the outcome of this and future instruction?
1. The students were engaged from the get go. I set the stage by letting them know how and why they need to learn the content. Not only can it be applied in the real world, but you need to establish this information in order to keep moving and learning. By letting them know why it's important can really help some students focus their attention and energy.
 2. The students met my goals for what I intended them to learn. The first half of the lesson really served as a review for the students. The second half was new and fresh for them. My instructional objectives were met by 95% of the students. By the end of the class period it was met by 100%.
 3. I did not alter my objectives during the lesson at all. I knew I had to stick to what they needed to learn. I did alter my instructional plan just a little bit. You should always know as a teacher that students will have questions that will get you off task. Its how you

respond and get back on track towards the objectives that is important. I altered my instructional plans a little bit because of questions from the students. I then took those questions and tried to make a real life connection for those students.

4. My classroom management is becoming more fluent the more I know and the more I build a relationship with my students. My biggest issue that I have is that I have so much planned out for my students that often times something gets left out because of my pacing. I have been trying to get in the most important content for my students.
5. My pacing was much improved from my previous lessons. Today I actually had time for some closure and to tie things up. I went over the objectives again for the day and asked the students for examples and for them to explain.
6. If I had the opportunity to teach this over again I would take out some things to save more time. While I still view these components to my lesson important, I know the time can be better used for the students. I would do this because I believe that students need more time doing and practicing than anything. These experiences often can make or break a student. This would affect my future instruction greatly, I might cut out some of the “fat” and let my students try things for themselves and to practice, and experiment.