



**Instructor's Name:** Morgan Schwarz

**Subject:** Mathematics

**Grade:** 6th Grade

**Title of Lesson:** Prime Factorization

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**Materials and Resources (including technology):**

- [Google Slides](#)
- Prime Factors Chart (Optional)

**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 distinguish between prime and composite numbers. (A)
- At the conclusion of the lesson, students will be able to accurately produce a factor tree with the appropriate factors. (P)
- At the conclusion of the lesson, students will be able to recall how to find the prime factorization of a specific number. (C)

**Vocabulary:**

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

- Prime number
- Composite number
- Prime factorization

**Content:** Language the students need to learn to apply the content.

- Factor tree

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

- Think: When have you found it helpful to break something down into its simplest parts?

- Giving directions to find something
- Assembly instructions

**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. Think: When have you found it helpful to break something down into its simplest parts?
  - a. Giving directions to find something
  - b. Assembly instructions
4. Display the learning goal for today
  - a. I will identify numbers as prime or composite and give the prime factorization for numbers.**
5. Review vocabulary
  - a. Prime number- Has exactly 2 factors, 1 and itself
    - i.  $5 \rightarrow 1$  and 5
  - b. Composite number- Has more than 2 factors
    - i.  $16 \rightarrow 1, 2, 4, 8,$  and 16
  - c. Prime factorization- Writing a number as the product of its prime factors
6. Review the following numbers. Allow students time to identify if they think the number is prime or composite. Discuss as a class.
  - a. 43
  - b. 22
  - c. 77
  - d. 47
  - e. 68
7. Using the factor tree method, review the following problems as a class.
  - a. Write the prime factorization of each number below. If it is prime, write *prime*.
    - i. 24
    - ii. 125
    - iii. 38
    - iv. 23
8. Distribute the prime factors chart. If students would like, they may color code this chart to help them in the future and with their homework assignment.

- a. Tip: Use pencil first to identify Composite or Prime. After completed, they may check their answers with a teacher and then proceed to color the boxes.
9. Ask for questions. Allow time for answers. If numerous questions arise, allow students to ask during work time.
10. Display and assign the homework assignment on the board for them to begin independently.

**Guided Practice (Formative Assessment):**

- Group work
- Homework assignment
- Discussion

**Closure: (SCRIPTED)**

- When the bell rings... Please make sure you ask during study hall if you have questions. Make sure this assignment is brought with you to class TOMORROW (Wednesday).
- We will review tomorrow so bring your questions then, too!
- TEST THURSDAY!

**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
- Summative assessment (test/quiz) at the end of Topic 5

**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)

- Student A- Assignments read to him, shortened assignments, small group environment for homework
- Student B- Use a calculator on math assignments, visual cues to get back on track, goal sheet to monitor progress, “breaks” in resource room when struggling in general education setting
- Student C- Assignments broken down into smaller, more manageable steps, extended time, frequent breaks, small group environment
- Student D- Assignments broken down into smaller, more manageable steps, extended time, frequent breaks, small group environment
- Student E- Allowed to work on homework assignment during instruction, given more advanced problems in textbook and IXL/Prodigy

**Multiple Intelligences Addressed:** Address at least ONE of these intelligences: **verbal linguistic**, musical/rhythmic, **visual/spatial**, intrapersonal, **logical/mathematical**, interpersonal, bodily/kinesthetic, naturalistic

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**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?
  - I felt as if the students were actively engaged. They were eager to learn as I kept the lesson moving on quickly. There was enough time for students to think; however, I continued to move on rapidly. This encouraged students to keep paying attention and stay up on the pace of the lesson.
- To what extent did the students learn what I intended? Were instructional objectives met?
  - The instructional objectives were met as I corrected their homework I was pleased with how it looked. They understood how to make a factor tree and was able to identify the prime and composite numbers within their factor tree. If any mistakes were made it was identifying a prime number from a composite number which is why I gave them the prime factors chart with numbers from 1-100.
- To what extent did I alter my objectives or instructional plan as I taught the lesson? Why?
  - This lesson I did not alter anything; however, I kept the pace of the lesson at a high which was not intended. I felt it was necessary as the lesson progressed.
- To what extent did I practice effective classroom management strategies? What issues do I need to address when I teach again?
  - “3, 2, 1...”
  - Waiting in front of the classroom until everyone is paying attention
    - It is their lunch period that is being wasted, not mine.
  - If this were my own classroom, I would provide other classroom management strategies; however, this is what the students are used to.
    - Raising hands needs to be enforced
    - Independently working while doing the spiral review. It is way too loud and “out of hand” while students do this as their DO NOW activity.
- To what extent did I provide closure to the lesson?
  - Students were able to independently work on their homework and ask questions
  - When the bell rang, the students were dismissed when prompted.
- 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?
  - Discuss prime and composite numbers more in depth
  - Require the prime factors chart to be completed
    - I assumed most of them would complete it because they were given the opportunity to use it on their test