

4 Math Unit 06: Factors and Multiples

Content Area: **Mathematics**
Course(s):
Time Period: **January**
Length: **2 Weeks**
Status: **Published**

Unit Overview

Students extend the idea of decomposition to multiplication and learn to use the term multiple. Any whole number is a multiple of each of its factors. A number can be multiplicatively decomposed into equal groups and expressed as a product of these two factors (called factor pairs).

A prime number has only one and itself as factors. A composite number has two or more factor pairs. Students examine various patterns in

factor pairs by finding factor pairs for all numbers 1 to 100 (e.g., no even number other than 2 will be prime because it always will have a factor

pair including 2). To find all factor pairs for a given number, students can search systematically, by checking if 2 is a factor, then 3, then 4, and so

on, until they start to see a “reversal” in the pairs (for example, after finding the pair 6 and 9 for 54, students will next find the reverse pair, 9 and

6; all subsequent pairs will be reverses of previously found pairs). Students understand and use of the concepts and language in this area, but

need not be fluent in finding all factor pairs. Determining whether a given whole number in the range 1 to 100 is a multiple of a given one-digit

number is a matter of interpreting prior knowledge of division in terms of the language of multiples and factors.

- How can you use arrays or multiplication to find the factors of a number?
- How can you identify prime and composite numbers?
- How can you find multiples of a number?

Students will be able to...

find the factors and multiples of a given number

Standards

MA.4.OA.B.4

Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.

Materials

- [EnVision Math](#)
- 7-1 Understand Factors
- 7-2 Factors
- 7-3 Math Practices and Problem Solving: Repeated Reasoning
- 7-4 Prime and Composite Numbers

- 7-5 Multiples
- 7-5 Multiples
- 7-5 Multiples

ST Math

- [Happy Numbers](#)
- [3 Act Lessons](#)
- [Building Fact Fluency Kit](#)
- [Brainiaccamp Manipulatives](#)
- [Nearpod Lessons](#)
- [Brainpop Resources](#)
- [Math Diagnosis and Intervention System](#)
- [Online Resources](#)

Technology

- 8.1.5.A.1,2,4 (solve problems, word processing, databases, spreadsheets)
- 8.1.5.F.1 (digital tools to support scientific finding)
- 8.2.5.C.1,2,3 (solve problems, troubleshoot repair tools)

Assessment

Formative Assessment

- Teacher Observation
- Daily Quick Check
- Quizzes
- Exit Tickets

Summative Assessment

- Topic Tests
- Benchmark Tests
- Alternative Assessments: Performance Tasks & Projects

Accommodations & Modifications

Special Education

- Follow IEP Plan which may contain some of the following examples...
- In class/pull out support with special ed teacher
- Additional time during intervention time
- Preferred seating
- Questions read aloud
- Extended time for completing tasks
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Limit number of questions
- Scribe
- Manipulatives
- Calculators
- Reteach pages
- Leveled homework
- Lesson intervention activities
- Math Diagnosis & Intervention System
- Another look homework video
- Practice buddy

504

- In class/pull out support with special ed teacher Additional time during intervention time
- Preferred seating
- Questions read aloud
- Extended time for completing tasks Graphic organizers
- Vocabulary support Mnemonic devices
- Songs/videos to reinforce concepts Limit number of questions
- Scribe Manipulatives Calculators Reteach pages Leveled homework
- Lesson intervention activities
- Math Diagnosis & Intervention System Another look homework video
- Practice buddy

ELL

- Translation device/dictionary
- In class/pull out support with ESL teacher
- Preferred seating
- Questions read aloud
- Extended time for completing tasks
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Manipulatives
- Math Diagnosis & Intervention System

At-risk of Failure

- Additional time during intervention time
- Questions read aloud
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Manipulatives
- Calculators
- Reteach pages
- Leveled homework
- Lesson intervention activities
- Math Diagnosis & Intervention System
- Another look homework video
- Practice buddy

Gifted & Talented

- Independent projects
- Enrichment pages
- Online games
- Leveled Homework
- Extension Activities
- Today's Challenge

Interdisciplinary Connections

Topic 1 Math and Science Project - Using different presentations tools, students will collect different types of paper. Talk about the uses of paper. Tell how strong each type of paper is. Tell how the paper feels. Tell if the paper can soak up water.

ELA:

NJSLSA.R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed.

Science:

3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

21st Century Life Literacies & Key Skills

Critical Thinking and Problem Solving:

Problem-solving activities starting with the lesson “Solve and Share” and ending with higher order thinking questions that utilize the mathematical practices

Communication and Collaboration:

Throughout the lesson, students are provided with opportunities to discuss their ideas as they investigate mathematical concepts.

Creativity:

Students have opportunities to express their creativity by solving problems their own way, participating in performance tasks, and group projects.

Technology:

Use of iPads, instructional apps, lab materials embedded in lessons. Programs such as BrainPop, Math Reflex, Google Slides are used to support instruction.

Career Ready Practices

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP12. Work productively in teams while using cultural global competence.