

Operations and Algebraic Reasoning



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The Real-World Math in Action Book Collection connects math concepts to real-life careers, scientific discoveries, high-adrenaline sports, and global travel. Through action-packed narratives and STEM-rich scenarios, students will explore rational numbers, expressions, graphing, and variables while learning about first responders, hackers, engineers, athletes, and planetary scientists.

Whether racing motocross bikes, exploring Komodo Island, or investigating underwater mysteries, readers are challenged to apply mathematical reasoning to real-world problem solving. These books foster math confidence by showing how numbers are used in exciting and meaningful ways. This kit also develops reading comprehension, critical thinking, and STEM literacy—all while sparking curiosity about future careers.

Grade Level

5th - 7th

Reading Level

Beginner



Contents of Kit

- **On the Job: First Responders: Expressions, Equations, and Inequalities by Vickie An -**
In an emergency, first responders are the first to answer the call for help. Police officers, firefighters, and paramedics put their lives on the line every day in an effort to save others. Get an inside look at what they do, the lifesaving tools they use, and the future of first response work.
- **Fun and Games Disc Golf: Rational Numbers by Ben Nussbaum -** The sport of disc golf is fairly new, but it's exploding in popularity. Similar to golf, participants throw flying discs into target baskets. Learn rational numbers as you read about this up-and-coming sport that just about anyone can play.
- **On the Job: Underwater Investigators: Plotting Rational Numbers by Michelle R. Prather -** What lies below the ocean surface is still a great mystery. Many amazing discoveries have been made underwater, but there is so much more to know. Learn about plotting rational numbers as you read about the thrilling missions of underwater investigators.
- **Travel Adventures: Komodo National Park: Operations with Whole Numbers by Monika Davies -** At Komodo National Park, you can meet the world's largest lizards, Komodo dragons! Nearly the entire population lives in the park, where volcanoes, beaches, and forests meet across three remote Indonesian islands. Explore the park and learn operations with whole numbers along the way!
- **Engineering Marvels: Muscle Cars: Graphs, Tables, and Equations by Elisa Jordan -** Muscle cars combined steel, power, and ingenuity. Much more than a way of getting from point A to B, muscle cars defined a way of life for a generation. Find out how muscle cars connected speed, science, and style as you connect and relate graphs, tables, and equations. Packed with factual information and high-interest content, this nonfiction math book uses real-world examples of problem solving to build students' math and reading skills.
- **STEM: The Remarkable Ringed Planets: Problem Solving with Variables by Angela Davids -** Everyone knows about Saturn's rings. Meanwhile, the rings of Jupiter, Uranus, and Neptune don't get the attention they deserve. Learn how each planet's rings were formed, what they are made of, and how old they are. Packed with factual information and high-interest content, this nonfiction math book uses real-world examples of problem solving to build students' math and reading skills.



- **The Hidden World of Hackers: Expressions by Elise Wallace by** - The world of hackers is complex. White hat hackers are hired to protect private information. But there are also black hat hackers who want to create chaos. Develop your expertise with expressions as you explore the secret world of computer hackers! Packed with factual information and high-interest content, this nonfiction math book uses real-world examples of problem solving to build students' math and reading skills.
- **Spectacular Sports: Motocross: Rational Numbers by Michelle Lee** - Bert Jovin is an amateur motocross racer. Learn what it takes to be successful in this high-intensity sport and practice using rational numbers on the ride. Packed with factual information and high-interest content, this adrenaline-boosting book uses real-world examples of problem solving to build students' math and reading skills.



Learning Extensions

STEAM Connections: Math

Learning Objectives:

- Students will apply math concepts (e.g., rational numbers, expressions, variables, equations) to real-world scenarios.
- Students will explore STEM careers and the mathematical skills used in various professional fields.
- Students will develop problem-solving skills through engaging, nonfiction texts that require data interpretation and analysis.
- Students will enhance reading comprehension while integrating mathematical content.

Career Connections:

- **First Responder (EMT, Firefighter, Police Officer)** – Explored in On the Job: First Responders, highlighting quick decision-making and math under pressure.
- **Underwater Investigator/Oceanographer** – Featured in On the Job: Underwater Investigators, where plotting and analysis skills are used in marine research.
- **Professional Athlete (Motocross Racer, Disc Golfer)** – Highlighted in Spectacular Sports: Motocross and Fun and Games: Disc Golf, where precision and math guide success.
- **Hacker/Cybersecurity Analyst** – Introduced in The Hidden World of Hackers, where ethical and logical thinking skills are crucial.

Essential Employability Skills:

- Numeracy and Data Literacy
- Critical Thinking and Problem Solving
- STEM Literacy
- Career Exploration and Awareness
- Adaptability and Curiosity



Resources and Accessibility

Safety Guidelines

- **Avoid Food and Drinks Near Books** - Encourage clean, dry reading areas to prevent spills, stains, or water damage.
- **Handle Books Gently** - Model how to turn pages carefully, avoid bending spines, and store books upright or flat.
- **Use Clean Hands** - Have students wash or sanitize hands before handling shared books to keep materials in good condition.
- **Designate a Safe Storage Spot** - Store books in a sturdy, dry, and clearly labeled bin or tote to protect them from wear and tear between uses.

Accessibility

- **Use Book Stands or Holders** - Provide angled book holders or clipboards to support independent reading for students with mobility or motor challenges.
- **Pair Audio with Print** - Use audiobooks or teacher-read recordings when available to support students with reading disabilities or visual impairments.
- **Incorporate Read-Alouds and Peer Reading** - Offer opportunities for shared or buddy reading to help students who benefit from auditory learning or support with decoding.
- **Offer Visual Aids and Discussion Prompts** - Supplement books with images, models, or key vocabulary cards to reinforce understanding and engagement.

Library Catalog



Library Resources



Feedback

QR to feedback survey

