7th Grade Versa Tiles

Mid-Valley
STEM-CTE HUB

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7th Grade Versa Tiles

The VersaTiles STEAM Kit offers a hands-on, self-checking system that reinforces math concepts aligned with 7th-grade standards. Students engage with topics such as ratios, geometry, and more through interactive activities that promote independent practice and immediate feedback. This kit is designed to build confidence and proficiency in mathematical skills.

Grade Level

7th

Group Size

1–2 students per set

Time Duration

15 - 30 minutes

Content of Kits

Components

- 24 Student Activity Books (4 copies of each title, 32 pages each)
- 8 Answer Cases
- 1 Teacher Guide

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Usage

Getting Started

1. **Introduce the VersaTiles System -** Demonstrate how to use the answer case and tiles in conjunction with the activity books.
2. **Model a Sample Activity -** Walk through an example problem, showing how to place tiles and check answers.
3. **Assign Roles for Pair Work -** In pairs, designate one student as the "solver" and the other as the "checker" to encourage collaboration.
4. **Set Clear Objectives -** Define the learning goals for each session to keep students focused.
5. **Encourage Reflection -** After activities, have students discuss what strategies worked and where they faced challenges.

Storage

- Return components to the provided storage bin between uses.

Troubleshooting

- **Misplaced Tiles -** If tiles are misplaced, guide students to double-check their placements against the activity book.
- **Difficulty Understanding Instructions -** Provide additional guidance or peer support for students struggling with activity instructions.
- **Engagement Issues -** Incorporate game-like elements or timed challenges to increase motivation.

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Activity Guide

Beginner

Math Fluency Warm-Up
Students complete VersaTiles sets that reinforce adding, subtracting, multiplying, and dividing integers and rational numbers. This activity helps build confidence and speed in handling core operations, providing a strong base for more advanced math topics.

Intermediate

Proportional Reasoning & Ratios
Students work in pairs or small groups to complete VersaTiles activities on ratios, rates, and proportional relationships. After completing each set, they discuss how these concepts apply in everyday contexts (e.g., scaling recipes, comparing prices).

Advanced

Exploring Expressions & Equations
Students complete VersaTiles sets involving writing and solving linear equations and inequalities. Afterward, they create their own word problems that translate into equations and challenge their classmates to solve them using the tiles.

Extension Activities:

STEAM Connections Journal
After completing a VersaTiles activity, students write a brief reflection explaining how the math skill they practiced could be used in a STEAM career (e.g., solving equations in engineering, understanding ratios in biology experiments).

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Learning Extensions

STEAM Connections: Math

Learning Objectives:

- Build fluency and confidence in key grade-level math concepts, including integers, ratios, and linear equations.
- Develop proportional reasoning and apply it to real-life problem-solving.
- Strengthen algebraic thinking through manipulation of expressions and equations.
- Foster independence and self-monitoring through the use of the self-checking VersaTiles system.
- Connect mathematical thinking to real-world STEAM applications.

Career Connections:

- **Engineer –** Uses equations and ratios in designing systems and solving technical problems.
- **Data Scientist –** Applies proportional reasoning and data analysis to interpret trends.
- **Architect –** Uses geometry and proportional reasoning in building design and modeling.
- **Financial Analyst –** Relies on algebraic thinking to evaluate financial models and forecasts.
- **Computer Programmer –** Uses logical reasoning and algebraic structures in coding and algorithm development.

Essential Employability Skills:

- Numeracy
- Critical Thinking
- Attention to Detail
- Communication
- Independence & Initiative

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Resources and Accessibility

Safety Guidelines

- **Clean Regularly -** Wipe tiles, cases, and activity books with a soft, damp cloth to maintain hygiene, especially in shared-use environments.
- **Store Properly -** Return all tiles to their cases after use to avoid misplacement or damage.
- **Handle Tiles Carefully -** Encourage students to slide or place tiles gently—avoid forceful snapping or tossing to prevent wear and breakage.
- **Keep Workspaces Clear -** Ensure desks are free of clutter so tiles don't scatter or fall, reducing the risk of slipping or losing pieces.

Accessibility

- **Offer Verbal Instruction Support -** Allow peer partners or teachers to read prompts aloud for students with reading or processing differences.
- **Incorporate Flexible Timing -** Allow extended time for students who need it to complete tile placement and self-check activities at their own pace.
- **Enable Alternative Response Modes -** If physical tile use is difficult, students can write answers on paper or use digital equivalents where available.

Library Catalog

Library Resources

Feedback

QR to feedback survey