Welcome
Parent Information

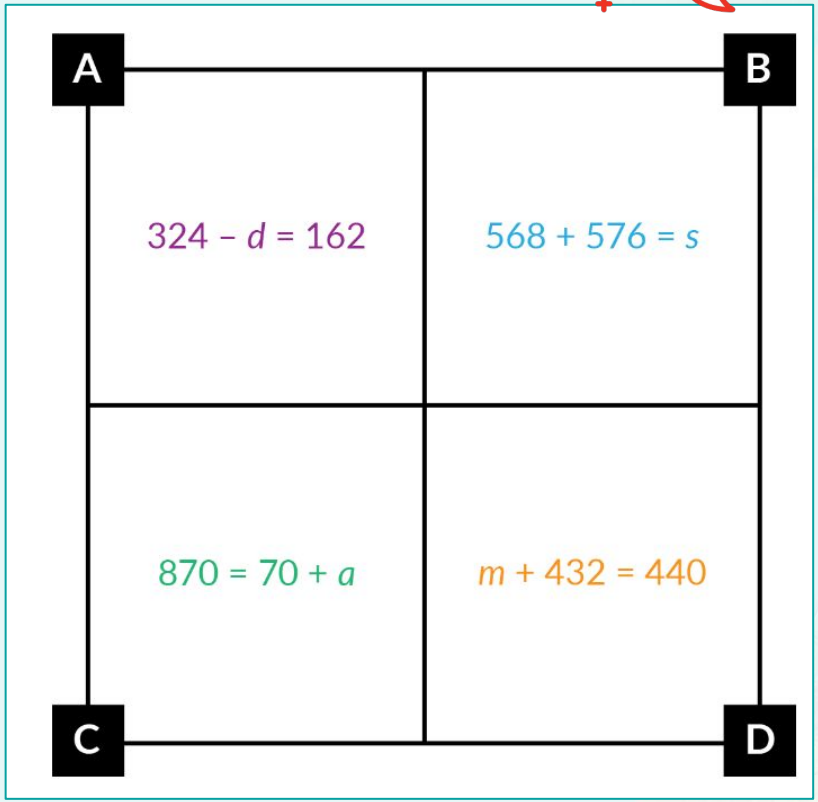
MATH

October 10, 2023

Grade 3-5 Session

Which One Doesn’t Belong?

- Look at this set of four pictures. Decide which one doesn’t belong with the other three. Use math words to describe your thinking. There are many ways to think about each one!
- See if you can find reasons why each of the pictures might not belong with the other three.
- Explain your thinking to someone else. Do they have different reasons why one doesn't belong?



Tonight's Agenda

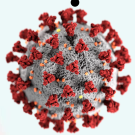
- Which One Doesn't Belong
- Program Goals and Objectives
- Implementation Timeline
- Program Structure and Components
- Mathematical Models
- Homework
- Stay informed
- Supporting Your Child at Home
- Let's Play
- Q&A

Math Resource Selection Process

Fall 2019

Math Committee

Convened math committee to examine our math instructional practices, curriculum materials and build capacity around Next Generation Learning Standards



Fall 2021

Math Committee Reconvene

Reconvened a new math committee to continue examination of new Learning Standards, explore best practices in math instruction, and determine if a new resource was needed

Winter 2022

Examine Math Resources

Math Committee set criteria for selection of new math resource and researched several different resources being currently used in elementary math education

Spring 2022

Pilot 2 Final Resources

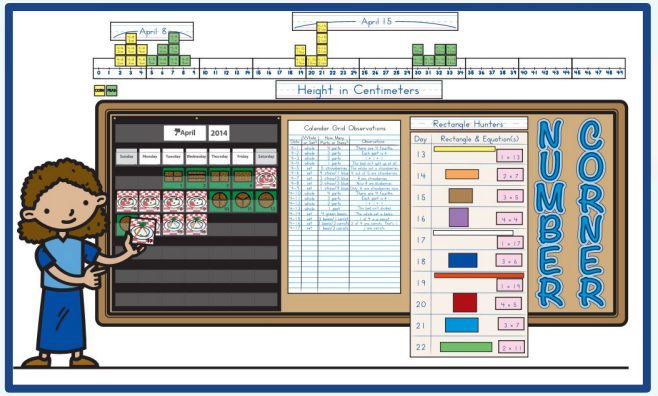
Math committee piloted 2 resources, observed in neighboring school districts and discussed resources with teachers and leaders from other Districts. The committee unanimously selected Bridges in Mathematics.

Selection Criteria

- Aligned to **Next Generation Mathematics Learning Standards**
- Based in **latest research** in mathematics instruction
- Support **critical thinking**, **problem solving**, promote **creativity** and **curiosity**
- **Engage** students in learning through **collaboration** and **discussion**
- **Accessible to all students** through multiple representations
- Available in both **English and Spanish** (DLBE)
- Strong **home component** for parent-school partnership
- Clear scope & sequence, **coherence**, and vertical alignment of math concepts
- **Professional Development** & support with onboarding process
- Strong **technology** component with online resources for both home and school

Inside Our Bridges In Mathematics Classroom

K - 5 Daily Structure



Problems & Investigations

Work Places

Number Corner

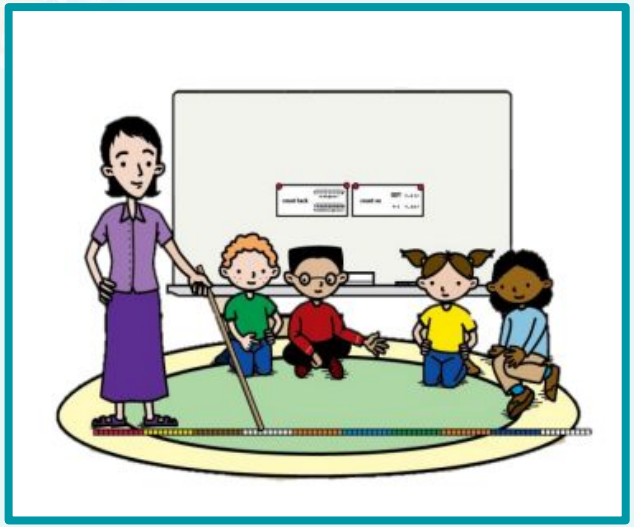
60 Minutes

15 - 20 Minutes

Problems and Investigations

- Often begin with a problem posed to the whole class.
- Students think and work independently or talk in pairs before sharing and comparing strategies and solutions as a whole class.
- The teacher provides explicit instruction in new math concepts, monitors and guides the class discussion to make sure that students understand important mathematical concepts.

Work Places

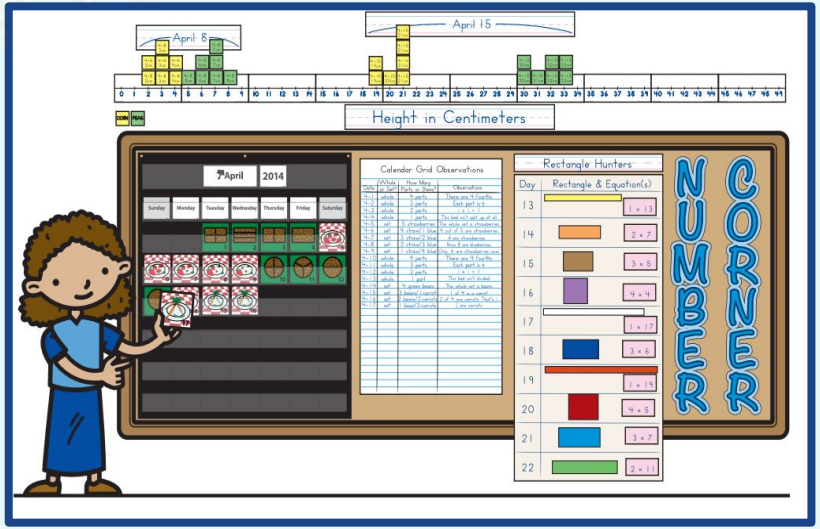


- Engaging math exploration activities that reinforce key skills.
- Explore concepts independently and with a partner
- Uses games to reinforce and extend skills and concepts
- The teacher observes and interacts to address students' need for support and enrichment.

Number Corner – Five Essential Workouts

Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Calendar Grid					
Calendar Collector					
Computational Fluency					
Number Line				Problem Strings	
Days in School		Daily Rectangle		Solving Problems	

Number Corner

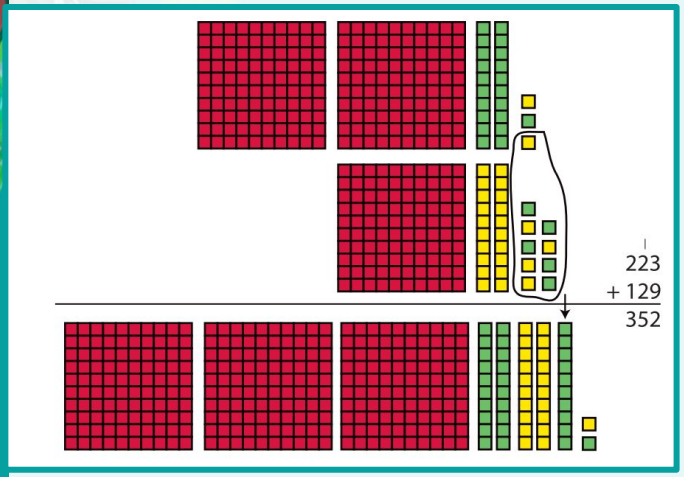


- Is a skill-building program that revolves around the classroom calendar and gives students an active role.
- Patterns and repetition
- Opportunities for discussions
- They receive daily practice as well as steady encounters with broader mathematical concepts.
- It’s a time for students to review previous content and preview upcoming concepts.

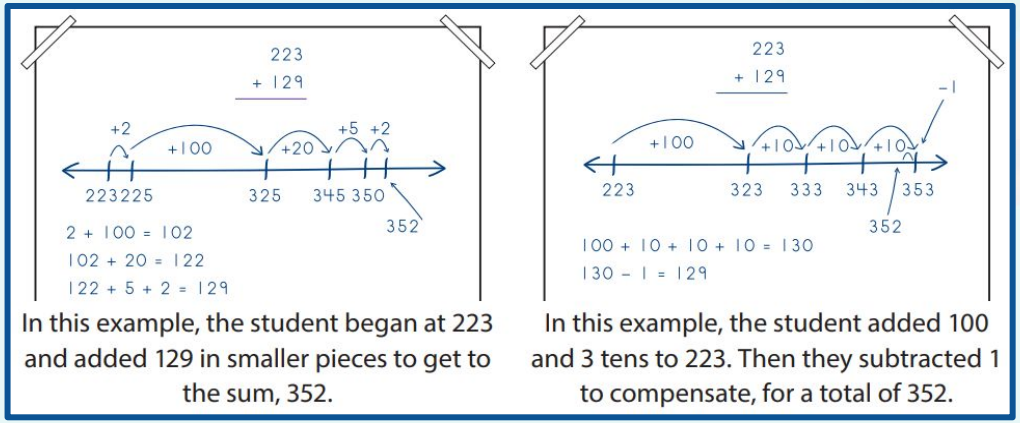
Implementation Timeline

2022 - 2023	K - 2	Number Corner	Problems and Investigation	Work Places
	3 - 5	Number Corner	Math In Focus	
2023-2024	K - 5	Number Corner	Problems and Investigation	Work Places

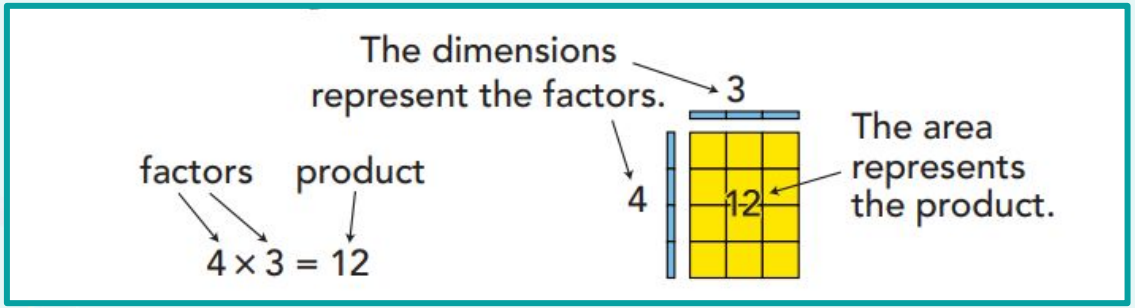
Visual Models



Base Ten Area Pieces



Number Lines



Array Models

Visual Models

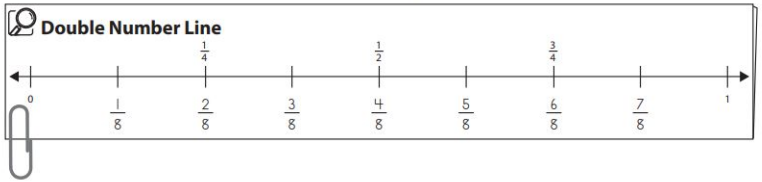
Strategy for solving 243 ÷ 9

Number of Groups	1	10	20	5	2	27
Total	9	90	180	45	18	243

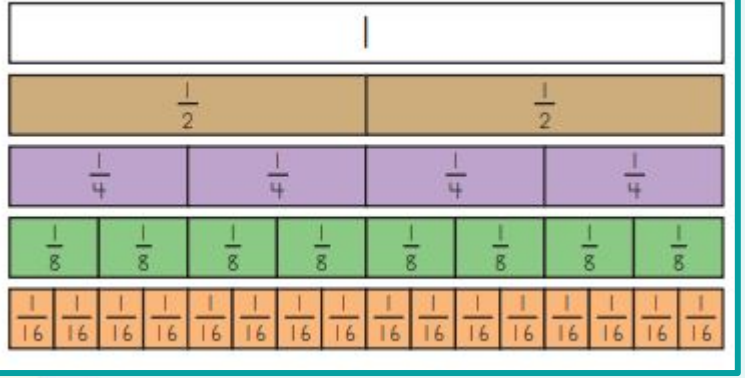
20 + 5 + 2

180 + 45 + 18

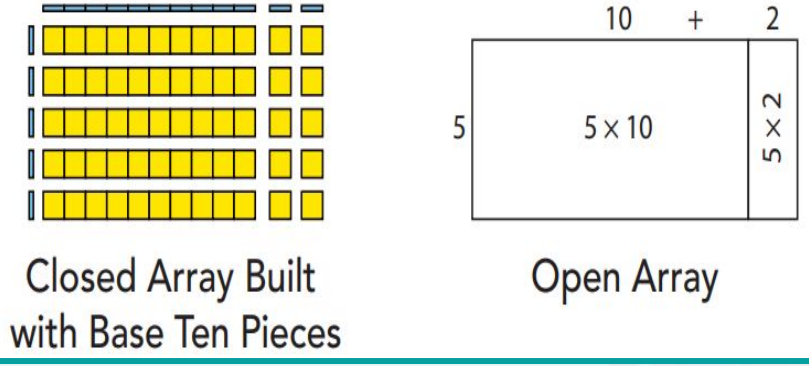
Ratio Tables



Double Number Lines



Folded Paper Strips



Open Array Models

Math Practices In Action

Habits of Mind of a Productive Mathematical Thinker

MP.1 Make sense of problems and persevere in solving them.

MP.6 Attend to precision.

Reasoning and Explaining

MP.2 Reason abstractly and quantitatively.

MP.3 Construct viable arguments and critique the reasoning of others.

Modeling and Using Tools

MP.4 Model with mathematics.

MP.5 Use appropriate tools strategically.

Seeing Structure and Generalizing

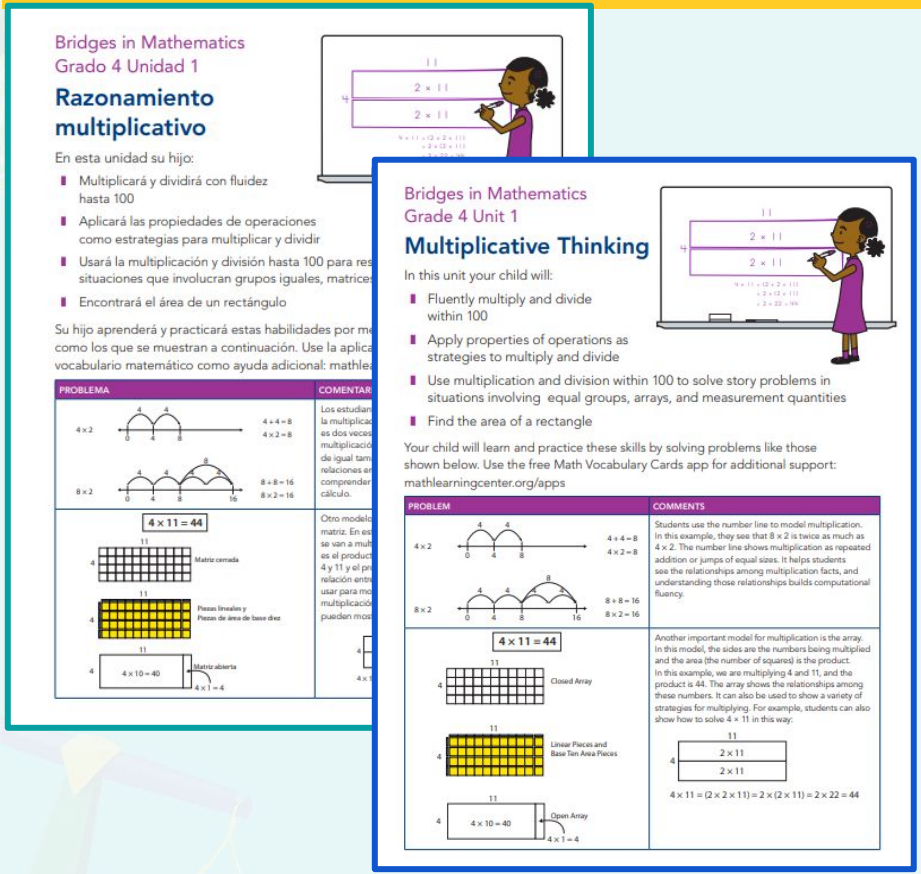
MP.7 Look for and make use of structure.

MP.8 Look for and express regularity in repeated reasoning.

Homework & Assessments

- Home Connections assignments are sent home at the discretion of your child's teacher.
- Bridges recommends 2-3 times per week.
- At times, your child may bring home math games or activities for you to enjoy together, but the main role for parents is not to teach but to guide your student and take an interest in their work.

Stay Informed – Unit Overviews



Bridges in Mathematics
Grado 4 Unidad 1

Razonamiento multiplicativo

En esta unidad su hijo:

- Multiplicará y dividirá con fluidez hasta 100
- Aplicará las propiedades de operaciones como estrategias para multiplicar y dividir
- Usará la multiplicación y división hasta 100 para res situaciones que involucran grupos iguales, matrice
- Encontrará el área de un rectángulo

Su hijo aprenderá y practicará estas habilidades por m como los que se muestran a continuación. Use la aplica vocabulario matemático como ayuda adicional: mathle

PROBLEMA	COMENTAR
4 × 2 → 4 + 4 = 8, 4 × 2 = 8 8 × 2 → 8 + 8 = 16, 8 × 2 = 16	Los estudian la multiplica es dos veces multiplicació de igual tam relaciones en comprender cálculo.
4 × 11 = 44 Matriz cerrada Piezas lineales y Piezas de área de base diez 4 × 10 = 40, Matriz abierta, 4 × 1 = 4	Otro modelo matriz. En es se van a mult es el product 4 y 11 y el pr relación entr usar para mo multiplicació pueden mos

Bridges in Mathematics
Grade 4 Unit 1

Multiplicative Thinking

In this unit your child will:

- Fluently multiply and divide within 100
- Apply properties of operations as strategies to multiply and divide
- Use multiplication and division within 100 to solve story problems in situations involving equal groups, arrays, and measurement quantities
- Find the area of a rectangle

Your child will learn and practice these skills by solving problems like those shown below. Use the free Math Vocabulary Cards app for additional support: mathlearningcenter.org/apps

PROBLEM	COMMENTS
4 × 2 → 4 + 4 = 8, 4 × 2 = 8 8 × 2 → 8 + 8 = 16, 8 × 2 = 16	Students use the number line to model multiplication. In this example, they see that 8 × 2 is twice as much as 4 × 2. The number line shows multiplication as repeated addition or jumps of equal sizes. It helps students see the relationships among multiplication facts, and understanding those relationships builds computational fluency.
4 × 11 = 44 Closed Array Linear Pieces and Base Ten Area Pieces 4 × 10 = 40, Open Array, 4 × 1 = 4	Another important model for multiplication is the array. In this model, the sides are the numbers being multiplied and the area (the number of squares) is the product. In this example, we are multiplying 4 and 11, and the product is 44. The array shows the relationships among these numbers. It can also be used to show a variety of strategies for multiplying. For example, students can also show how to solve 4 × 11 in this way: 2 × 11 / 2 × 11 4 × 11 = (2 × 2 × 11) = 2 × (2 × 11) = 2 × 22 = 44

- Explain the math concepts the class is currently focused
- Suggest specific ways you may support your child.

Supporting Your Child At Home

1 Show Math Is All Around Us

Emphasize the importance of using math in everyday life. Point out math concepts in grocery shopping

Make it interactive

Engage your child in hands-on activities and games that involve math. For example, you can use dice, cards, or other manipulatives to play math-based games or have kids create their own math-based puzzles or problems to solve

2

Encourage practice

3

Math skills improve with practice, so encourage your child to keep practicing math concepts and problems. You can also make practice fun using math-based games or challenges.

Supporting Your Child At Home

Talk About Math –Ask Questions

Let your child know it's okay to ask questions and seek help. Open communication is essential. Young mathematicians enjoy showing their families what they are learning in school. Asking questions, encouraging, and showing interest in their work builds your child's confidence as a mathematician.

Set High Expectations

Every child can succeed in various math areas, including algebra, geometry, statistics, and calculus. Praise effort over perfection. A growth mindset and persistence are essential for long-term success.

Stay Informed

Stay updated on your child's math curriculum and school resources. Knowledge is key to providing the right support. The Math Learning Center Website offers many family resources, including Unit Overviews, more tips for helping your child, and links to online apps, games, and resources.Visit the Bridges Website at : **Mathlearningcenter.org/families**

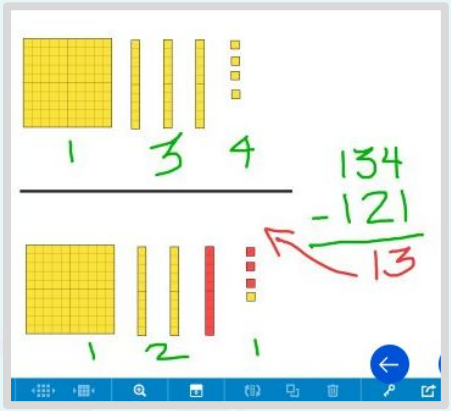
Family Support

- Visit the Support for Families page on the Math Learning Center website
  - https://www.bcsdny.org/Page/1844
- where you will find:
  - Unit overviews that explain what your child will be learning (We will send these home when we start a new unit)
  - Tips for helping your child with homework
  - Links to more information about each grade level of Bridges
  - Links to additional resources, including books and free online games

Math At Home

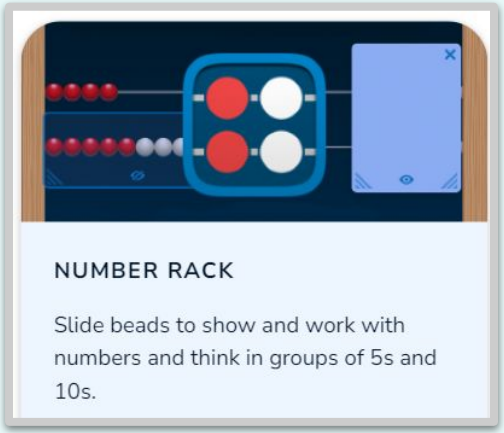
Math Vocabulary Cards:

(in English & Spanish)
Deepen understanding of key terms in mathematics



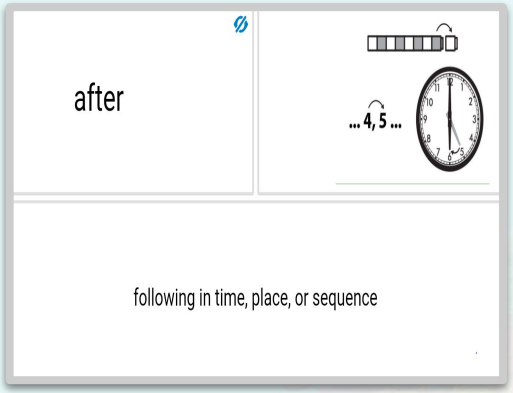
Free Math Apps:

Free online math tools based on the visual models used in Bridges in Mathematics program



Free Resources - No Log-in

A website filled with fun daily math activities, collections of practice pages, family games, and online games



Bridges Home Support – https://www.mathlearningcenter.org/

Let's Play

Loops and Groups (3rd)

Products of Four in a Row (4th)

The Product Game (5th)

Thank you!