








Math Magic Concept Lab:









Master the Foundations











- ★ **PR** – Pattern Recognition & Number Sense ★ **OP** – Structures (ST)
★ **OP** – Operations & Mathematical Choices (OP) ★ **FR** – Fractions, Ratios & Proportions (FR)

Concept Lab Item	Domain Code	Why This Fits
 Patterns	PR	Foundational pattern recognition before operations or structure




















Concept Lab Item	Domain Code	Why This Fits
 Multiplication	OP	Core operation that creates groups
 Division (Inverse of Multiplication)	OP	Undoing / reversing an operation
 Inverse (Opposites)	OP	Operational undoing (prepares for integers later)
 Identity Property (Multiplication)	OP	Rule governing how an operation behaves
 Operation	OP	Meta-concept about choosing actions

Concept Lab item	Domain Code	Why This Fits
 Prime Numbers 	ST	Describes number structure, not an operation
 Prime Factorization	ST	Breaking numbers into structural building blocks
 Multiples (2, 4, 6, 8, 10)	ST	Repeating structure formed by grouping
 Factors 	ST	Structural components of numbers
 Greatest Common Factor	ST	Shared structure across numbers
 Least Common Multiple	ST	Coordinating repeating structures

Concept Lab item	Domain Code	Why This Fits
 Proportion 	FR	Relationship between quantities
 Ratio 	FR	Comparison relationship
 Equivalent Fractions 	FR	Same relationship, different representation
 Cross Product 	FR	Operation used to analyze proportional relationships

Flexible; neuroscience-aligned entry points to core concepts.

Math Magic Concept Lab — Grid

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 Operation	OP	Meta-concept about choosing actions
 Mathematical Expression	EX	Representation of thinking, not action yet
 Exponents	EX	Repeated multiplication expressed symbolically
 Square Root	ST	Structural inverse of squaring
 Proportion	FR	Relationship between quantities
 Ratio	FR	Comparison relationship
 Equivalent Fractions	FR	Same relationship, different representation
 Cross Product	FR	Operation <i>used</i> to analyze proportional relationships

What This Confirms (Important)

Each item cleanly answers one question:

- **PR** → “Do you see the pattern?”
- **OP** → “What action is happening?”
- **ST** → “How is this number built or organized?”
- **FR** → “How do quantities relate?”

- **EX** → “How do we *represent* thinking?”

That’s a **coherent math ontology**, not just a list of topics.