| **Models for Adding Fractions** | |
|---|---|
| Term: Addend | Term: Sum |
| Like denominators | Number line |
| Unlike denominators | |
| Paper and Pencil Algorithm (Rule) for Adding Fractions | |
| Improper Fractions / Mixed Number solutions | |

| **Models for Subtracting Fractions** | |
|---|---|
| Term: Difference | |
| Take Away | Missing Addend |
| Adding Up | Unlike denominators |
| Paper and Pencil Algorithm (Rule) for Subtracting Fractions | |

## Models for Multiplying Fractions

| | |
|---|---|
| Term: Factor | Term: Product |
| Whole × Fraction; repeated addition | Fraction × Whole |

Paper and Pencil Algorithm (Rule)

Fraction × Fraction

Paper and Pencil Algorithm (Rule)

## Models for Dividing Fractions

| | |
|---|---|
| Term: Divisor | Term: Quotient |

Repeated Subtraction (Measurement)

Paper and Pencil Algorithm (Rule): Invert and Multiply

| **Number Properties for Fractions** | |
|---|---|
| Closure: Addition and Subtraction | Closure: Multiplication |
| Identity: Addition | Identity: Multiplication |
| Commutative: Addition | Associative: Addition |
| Commutative: Multiplication | Associative: Multiplication |
| Distributive: Multiplication over Addition | |
| Inverses: Addition | Inverses: Multiplication |

| **Mental Calculations for Fractions** | |
|---|---|
| Compatible Numbers | Substitutions |
| Equal Differences or Add-Up | Equal Quotients |

| **Estimation ideas for Fractions** | |
|---|---|
| Rounding | Compatible Numbers |