

Integers and Fractions: Grade 7 Number Operations

Central concept: **Number Operations**

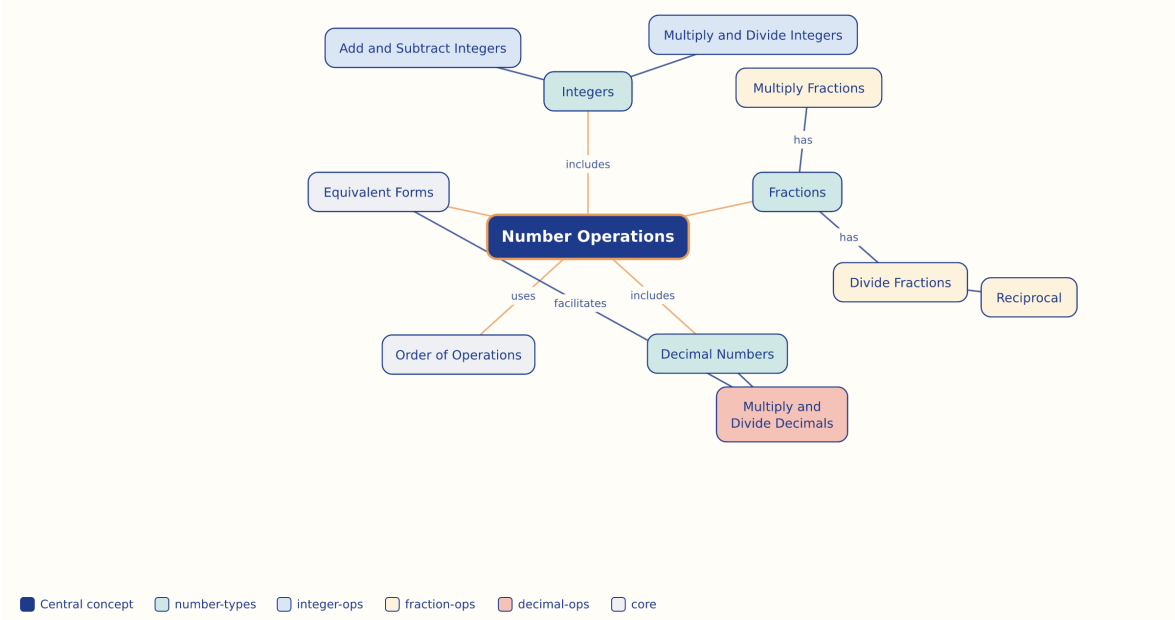
Connections

- Number Operations (includes) -> Integers
- Number Operations (includes) -> Fractions
- Number Operations (includes) -> Decimal Numbers
- Number Operations (uses) -> Operations on Positive and Negative Numbers
- Number Operations (applies) -> Equivalent Forms
- Integers (has) -> Apply Operations to Positive and Negative Numbers
- Integers (has) -> Apply Operations to Positive and Negative Numbers
- Fractions (has) -> Multiply Fractions
- Fractions (has) -> Divide Fractions
- Divide Fractions (uses) -> Reciprocal
- Decimal Numbers (has) -> Multiply and Divide Decimals
- Equivalent Forms (facilitates) -> Multiply and Divide Decimals

Notes

- **Number Operations:** Systems for calculating with integers, fractions, and decimals [Outcome](#), [Outcome](#)
- **Integers:** Positive and negative whole numbers with operations [Outcome](#), [Knowledge](#)
- **Fractions:** Parts of a whole with numerators and denominators [Outcome](#), [Knowledge](#)
- **Decimal Numbers:** Numbers expressed using place value and decimal point [Outcome](#), [Understanding](#)
- **Add and Subtract Integers:** Combine or remove positive and negative quantities [Knowledge](#), [Skills](#)
- **Multiply and Divide Integers:** Rules for signs: same signs give positive, different signs give negative [Knowledge](#), [Skills](#)
- **Multiply Fractions:** Multiply numerators and denominators; result is part of a part [Knowledge](#), [Understanding](#)
- **Divide Fractions:** Multiply by the reciprocal; quotient is number of fraction-sized groups [Knowledge](#), [Understanding](#)
- **Reciprocal:** Multiplicative inverse; fraction and reciprocal multiply to 1 [Knowledge](#)
- **Multiply and Divide Decimals:** Use equivalent expressions, algorithms, or area models [Understanding](#), [Knowledge](#)
- **Order of Operations:** Conventional sequence for evaluating expressions [Knowledge](#), [Skills](#)
- **Equivalent Forms:** Different expressions that represent the same value [Understanding](#), [Understanding](#)

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