RP Ratios and Proportional Relationships

- **6.RP.A Understand ratio and rate concepts and use ratio and rate reasoning to solve problems.**
  - o **6.RP.A.1 Understand the concept of a ratio including the distinctions between part:part and part:whole and the value of a ratio; part/part and part/whole. Use ratio language to describe a ratio relationship between two quantities.**
    - ▪ Write a ratio (6-R.1)
    - ▪ Write a ratio: word problems (6-R.3)
    - ▪ Which model represents the ratio? (6-R.4)
  - o **6.RP.A.2 Understand the concept of a unit rate *a/b* associated with a ratio *a:b* with *b ≠ 0*, and use rate language in the context of a ratio relationship, including the use of units.**
    - ▪ Unit rates (6-R.9)
  - o **6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.**
    - ▪ **6.RP.A.3.a Make tables of equivalent ratios relating quantities with whole-number measurements. Find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.**
      - ▪ Identify equivalent ratios (6-R.5)
      - ▪ Write an equivalent ratio (6-R.6)
      - ▪ Ratio tables (6-R.7)
      - ▪ Equivalent ratios: word problems (6-R.8)
      - ▪ Ratios and rates: complete a table and make a graph (6-R.11)
    - ▪ **6.RP.A.3.b Solve unit rate problems, including those involving unit pricing, and constant speed.**
      - ▪ Compare rates: word problems (6-R.14)
      - ▪ Ratios and rates: word problems (6-R.15)
      - ▪ Unit prices (6-V.2)
      - ▪ Unit prices with fractions and decimals (6-V.3)
    - ▪ **6.RP.A.3.c Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.**
      - ▪ What percentage is illustrated? (6-S.1)
      - ▪ Solve percent problems using grid models (6-S.8)
      - ▪ Percents of numbers and money amounts (6-S.10)
      - ▪ Percents of numbers: word problems (6-S.11)
      - ▪ Find the total given a part and a percent (6-S.15)
      - ▪ Which is the better coupon? (6-V.1)
      - ▪ Sale prices (6-V.5)
    - ▪ **6.RP.A.3.d Use ratio reasoning to convert measurement units within and between measurement systems; manipulate and transform units appropriately when multiplying or dividing quantities.**
      - ▪ Convert and compare customary units (6-T.3)
      - ▪ Convert, compare, add, and subtract mixed customary units (6-T.4)
      - ▪ Multiply and divide mixed customary units (6-T.5)

- Customary unit conversions involving fractions and mixed numbers (6-T.6)
- Convert and compare metric units (6-T.7)
- Convert between customary and metric systems (6-T.8)
- Unit prices with customary unit conversions (6-V.4)
- **6.RP.A.3.e Solve problems that relate the mass of an object to its volume.**