Age problems are a classic type of word problem in mathematics that involve determining the ages of individuals based on given information and relationships. These problems often require setting up and solving equations involving ratios, sums, or differences of ages.

Example Problem:

Tom is twice as old as John. In 10 years, Tom will be three times as old as John. How old are Tom and John now?

Solution:

Let's denote Tom's age as T and John's age as J.

1. **Establishing Equations**:
2.
   - From the first statement, we know that $T=2J$ (Tom is twice as old as John).
   - From the second statement, we know that in 10 years, Tom's age will be $T+10$ and John's age will be $J+10$. Thus, we have $T+10=3(J+10)$ (Tom will be three times as old as John in 10 years).
3. **Solving Equations**:
4.
   - Substitute $T=2J$ into $T+10=3(J+10)$: $2J+10=3(J+10)$ $2J+10=3J+30$ $J=20$
5. **Finding Ages**:
6.
   - Substitute $J=20$ into $T=2J$: $T=2(20)$ $T=40$

Conclusion:

Tom is 40 years old, and John is 20 years old. This problem illustrates how age problems involve setting up equations based on the relationships provided in the problem statement and solving them to find the unknown ages. Similar strategies can be applied to solve various age-related problems involving different scenarios and conditions.