# PROPOSITIONS AND THEIR MEANING

**DEFINITION OF A PROPOSITION:**
A 'proposition' is a statement that expresses an idea or claim. It can be either 'true' or 'false', but not both at the same time. Think of it as a simple building block of thought, used in logic and reasoning.

**EXAMPLES:**
- "The sky is blue." (True)
- "2 + 2 = 5." (False)

These statements make clear claims that can be evaluated for truth.

**HOW PROPOSITIONS WORK:**
1. Clarity : A proposition must be precise and unambiguous.
   - Clear: "Dogs are mammals."
   - Not a proposition: "What a beautiful day!" (It's an expression, not a claim).

2. Truth Value : Every proposition is either true or false.
   - True proposition: "Water freezes at 0°C."
   - False proposition: "The Earth is flat."

3. Usage in Logic : Propositions are the foundation for arguments and reasoning. They help construct logical statements , like:
   - If A (proposition 1) is true, then B (proposition 2) must also be true.

**WHY IT MATTERS:**
Propositions are crucial in everyday thinking, debates, and scientific reasoning because they allow us to:
- Analyze ideas logically.
- Test claims for validity.
- Build arguments based on evidence.

In short, propositions are like the facts or statements we use to explain or prove things. They help us communicate clearly and reason effectively.