

## Vocabulary: Biconditional Statements



### Vocabulary

- **Biconditional statement** – a statement formed by combining a conditional statement with its converse, and written in if-and-only-if form.
  - For example, “A stone is a pebble if and only if it is small,” is a biconditional statement.
    - This statement is a combination of the conditional statement, “If a stone is a pebble, then it is small,” and its converse, “If a stone is small, then it is a pebble.”
  - In geometry, all definitions can be written as biconditional statements.
    - For example, the definition, “Congruent angles are angles that have the same measure,” can be written as, “Angles are congruent if and only if they have the same measure.”
- **Conclusion** – the “then” part of a conditional statement.
  - For example, in the conditional statement, “If the porch light is on, then we’re home,” the conclusion is “we’re home.”
  - Another name for the conclusion is *consequent*.
- **Conditional statement** – a statement written in if-then form.
  - For example, “If an animal is a cat, then it is a mammal,” is a conditional statement.
- **Converse** – a statement formed by switching the hypothesis and the conclusion of a conditional statement.
  - For example, the converse of the statement, “If it’s a school day, then I get up at 6:00,” is, “If I get up at 6:00, then it’s a school day.”
- **Hypothesis** – the “if” part of a conditional statement.
  - For example, in the conditional statement, “If the porch light is on, then we’re home,” the hypothesis is “the porch light is on.”
  - Other names for the hypothesis are *condition*, *premise*, and *antecedent*.