Very easy induction proof

A proof by induction has two steps:

1. Confirming that $P(n)$ is true for some initial values
2. Check that when $P(n)$ is true it implies that $P(n + 1)$ is true.

The first step is called the "Base Case" and the second step is called the "Induction Step".

The Induction Step has two parts: The Inductive Hypothesis (assuming $P(n)$ is true for some arbitrary n) and then using that to deduce $P(n + 1)$ is true.