

## 12.5 Probability of Independent and Dependent Events

### VOCABULARY

**Independent** Two events such that the occurrence of one has no effect on the occurrence of the other

**Dependent events** Two events such that the occurrence of one affects the occurrence of the other

**Conditional probability** The probability that event  $B$  will occur depending on whether event  $A$  has occurred. This is called the conditional probability of  $B$  given  $A$  and is written  $P(B|A)$ .

### PROBABILITY OF INDEPENDENT EVENTS

If  $A$  and  $B$  are independent events, then the probability that both  $A$  and  $B$  will occur is  $P(A \text{ and } B) = \underline{P(A) \cdot P(B)}$ .