

## Identifying independent events given descriptions of experiments

Independent events are two events that do not affect the probability of each other.

If I replace the item back in, I am not changing the probability. (Independent)

If I remove the item, I have changed the probability. (Dependent)

If the 1st event HAS to happen in order for the 2nd event to happen then the 2nd dependent upon the 1st. (Dependent)

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For each experiment, determine whether events A and B are independent or dependent.

Experiment	Events	Independent	Dependent
A litter of puppies consists of black puppies and white puppies. A puppy is randomly selected <u>and removed from the litter</u> . Then another random selection is made from the remaining puppies.	Event A: The first selection is a black puppy.	<input type="radio"/>	<input checked="" type="radio"/>
	Event B: The second selection is a white puppy.		
A family has two children. <i>1<sup>st</sup> child has to have brown eyes for both to have them (2<sup>nd</sup> event dependent on 1<sup>st</sup>)</i>	Event A: The older child has brown eyes.	<input type="radio"/>	<input checked="" type="radio"/>
	Event B: Both children have brown eyes.		
A hat contains slips of paper with the names of boys and girls in a class. A name is randomly selected <u>and returned to the hat</u> . Then another random selection is made.	Event A: The first selection is a boy.	<input checked="" type="radio"/>	<input type="radio"/>
	Event B: The second selection is a girl.		
A box contains pens. Some pens have ink and some do not. A teacher randomly selects a pen <u>and sets it aside</u> . Then another random selection is made from the remaining pens.	Event A: The first selection is a pen with ink.	<input type="radio"/>	<input checked="" type="radio"/>
	Event B: The second selection is a pen with no ink.		
At the beginning of each of two football games, a coin is tossed, and the winner of the coin toss is determined.	Event A: In the first game, the home team wins the coin toss.	<input checked="" type="radio"/>	<input type="radio"/>
	Event B: In the second game, the visiting team wins the coin toss.		