

Five cards are lettered A,B,C,D,E. Three cards are picked at random, one after the other without replacement and are placed on a table. What is the probability that the cards will spell the word BED?

At first, we need to pick B. Probability to pick certain card from five cards equals:

$$P(B) = \frac{1}{5}$$

After that we have 4 cards: A, C, D, E. And we need to pick E. Probability of it equals:

$$P(E) = \frac{1}{4}$$

After that we have 3 cards: A, C, D. And we need to pick D. Probability of it equals:

$$P(D) = \frac{1}{3}$$

All of these events are independent, so total probability equals:

$$P(BED) = P(B)P(E)P(D) = \frac{1}{5} \frac{1}{4} \frac{1}{3} = \frac{1}{60}$$

Answer: 1/60