Using Probabilities to Make Fair Decisions - Step-by-Step Lesson

Two teams decided to play cricket. They want to decide who bats first. Robert and David are the team captains. So, they have two suggestions to decide that who bats first. Decide whether the suggestions are fair ways to make the decision. The suggestions are given below: -

Robert: We can flip a coin. If it lands on heads then my team bats first. If it lands on tails then David's team bats first.

David: We can roll a single die. If it lands on either 1, 2, or 3 my team bats first. If the roll is a 4, 5, or 6 then Robert's team bats first.

Explanation:

Robert's suggestion is to flip a coin and if it lands on head then his team bats first and if it lands on tail then David's team bats first. This is a fair method because each player has equal chance.

If we select the David's suggestion, roll a dice. If it lands on 1, 2, or 3 then his team bats first and if it lands on 4, 5, or 6 then Robert's team bats first. This is also a fair method as well. Everyone has an equally fair shot to win.

So, the answer is that both the suggestions are fair.