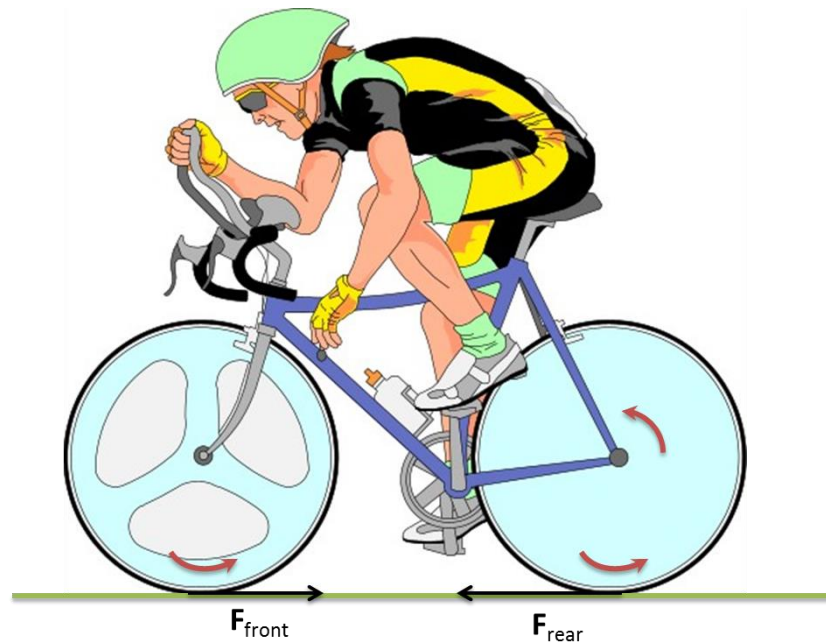


what is the direction of friction on front and rear tyre of bicycle while driving it

Solution.



Consider the rear wheel. If friction were absent, the wheels would spin at the same location. The bottom most point of the wheel (the one in contact with the surface) has a velocity in a direction opposite to that of the car. Hence the local motion here is opposite to motion of the bicycle. Thus the friction here acts opposite to this local motion and ultimately in the direction of motion.

Things are different at the front wheel. If there were no friction, the wheel would not have any rotational motion. All points on the wheel would simply move with the same velocity as that of the bicycle. The point of contact is also moving in the same direction. Thus friction here is opposite to the motion of the bicycle.