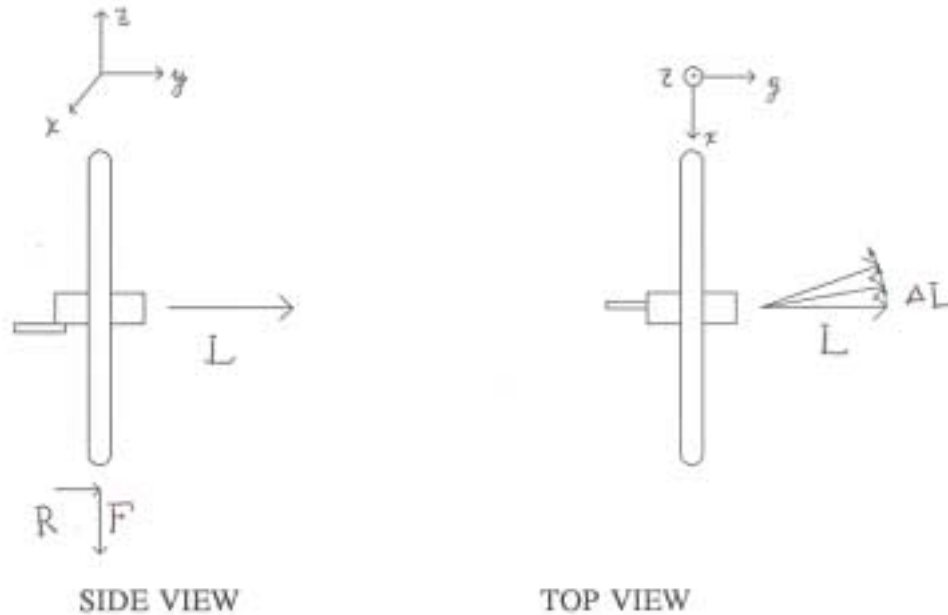


## Conservation of Angular Momentum Bicycle Wheel Gyroscope



$$\tau = R \times F = dL/dt \quad \text{where } F = Mg.$$

Since  $L$  is in direction of  $R$ , the cross product implies that the change in angular momentum is always perpendicular to the angular momentum of the wheel. In this diagram the change in angular momentum is directed into the page for the SIDE VIEW and in the plane of the page as shown for the TOP VIEW. Thus there is precession about the z-axis.