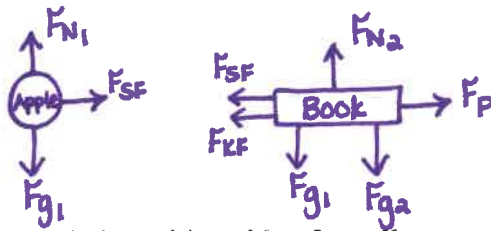


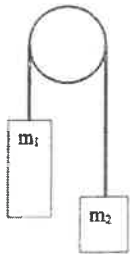
1) An apple sits at rest on top of a textbook, which is sitting at rest on a table. Draw the free-body diagram for each object.



2) A student pushes on the book with a horizontal force, such that the book moves at a constant speed. The apple does not slip and moves with the book. Draw the free-body diagram for each object.



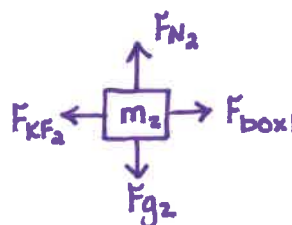
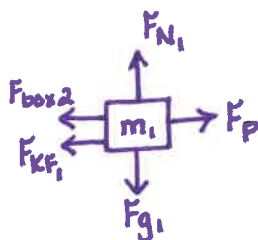
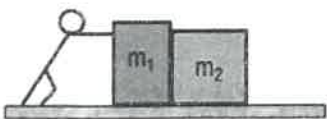
3) Two masses are suspended on either side of a pulley, as shown below. Draw the free-body diagram for each of the masses.



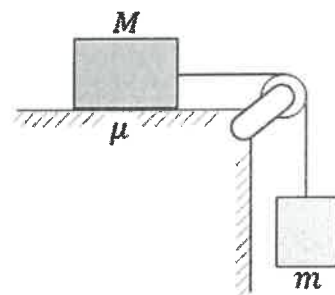
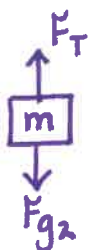
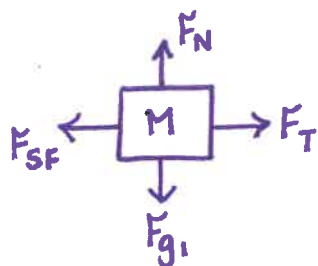
4) Two masses are connected by a light string that goes across a pulley. One mass sits at rest on the floor and the other is suspended by the string. Draw the free-body diagram for each mass.



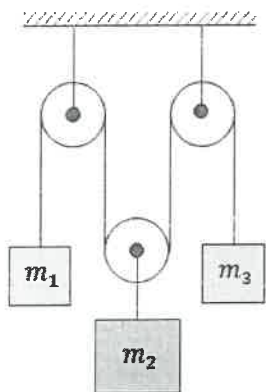
5) A man exerts a horizontal push force on the box labeled m_1 , and that box then exerts a force on the box labeled m_2 , as shown below. The man pushes such that both boxes move across the floor at a constant speed. Draw the free-body diagram for each box.



6) A large box, M , sits at rest on a level surface. It is connected to a light rope, which goes over a pulley and suspends a smaller box, m .



7) Three masses, labeled m_1 , m_2 , and m_3 , are all connected by a single string in the arrangement shown below. Draw the free-body diagram for each mass.



or:

