

1. For a mass of 1 kg and a frictional force of 10 N, adjust the Applied Force and describe how acceleration changes.
2. Draw and label 3 of your diagrams with the force and acceleration values. Next to each labeled diagram, describe how the object is moving. Remember that the object has an initial positive velocity (it is moving towards the right).
Diagram1: Applied Force $>$ frictional force:

Diagram 2: Applied Force = frictional force:

Diagram 3: Applied Force $<$ frictional force:

3. For a mass of 1 kg and an Applied Force of 10 N, adjust the frictional force and describe how the acceleration changes.
4. Draw and label 3 of your diagrams with the force and acceleration values. Next to each labeled diagram, describe how the object is moving.
Diagram1: Applied Force $>$ frictional force:

Diagram 2: Applied Force = frictional force:

Diagram 3: Applied Force $<$ frictional force:

5. Set the Applied Force to be equal to your frictional force, adjust the mass and describe the acceleration. Explain your answer.

6. Set the Applied Force greater than the frictional force, vary the mass and describe how the acceleration changes.

7. Set the Applied Force less than the frictional force, vary the mass and describe how the acceleration changes.

8. a) Develop the equation that is used to solve for acceleration using the Applied Force, frictional force and mass variables. Show all your work!!
Hint: using a diagram from above may be very helpful.

- b) Check your equation by solving for acceleration using values from the computer. Again—show all your work!!