Net Force 1
Space Pilot Simulation Name: _____

Open up Pilot The Rocket (Easy) Simulation

1. Fire the rear engine once - which way and how many firings does it take to stop?	
2. Reset the game and fire the rear engine twice - which way and how many firings does it take to stop?	
3. You wish to go right to the middle of the screen, stop, come back to your start position and stop. What is the least number of engine firings that will do it?	
4. Is your answer different if you instead go to the other side of the screen, stop, come back to the start and stop again?	

5. Which statement do you think is more accurate?
   - □ "You fire the engines to move."
   - □ "You fire the engines to change how you're moving."

6. When NASA sent rockets to the moon in the late 1960s and early 1970s, do you think they spent the most fuel at the beginning and end of the trip, or during the trip? Why?

7. If you were to run out of fuel at a certain point in your mission, what would happen?

8. Why is it unwise to get your ship going very fast? (Try it.)

Open up Pilot The Rocket Simulation

1. Give yourself some fuel and practice flying around and coming back to your starting position and stopping. (nothing to record)

2. a) Click once in the middle of the screen to make a space buoy.
b) Give yourself 50 kg of fuel.
c) Go out, navigate around it, and come back to your start position and come to a halt.
d) Record how much fuel you have left and how much time it took. Calculate the amount of fuel used.

Fuel you started with	Fuel you ended up with	Fuel used.	Time it took
50 kg			

3. Reset the simulation.
a) Click once in the middle of the screen to make a space buoy again.
b) Give yourself 50 kg of fuel again.
c) Go out, navigate around it, and come back to your start position and come to a halt, **but this time do it faster.**
d) Record how much fuel you have left and how much time it took. Calculate the amount of fuel used.

Fuel you started with	Fuel you ended up with	Fuel used.	Time it took
50 kg			

4 .Can you think of another reason why it is unwise to get going very fast in space?

5. a) Name at least two ways in which walking on ice and piloting in space are **similar**.
b) Name at least two ways in which walking on ice and piloting in space are **different**.