

Newton's 3rd Law

12. If your weight is the force created by gravity on your body, what is the reaction force?

You pulling on the earth

13. If you drop a ball from the 3rd story, it will accelerate toward Earth. Due to Newton's 3rd Law, The Earth will also accelerate toward the ball. Why don't we see the Earth move in this situation?

Earth has large mass/inertia

14. There is nothing in outer space for rocket exhaust gasses to push against. How then can a rocket accelerate in outer space? Rocket pushes on gases, gases push back on rocket

15. A 70 kg person is on a 60 kg rowboat on a still lake and is pulling an empty 60 kg rowboat. Where in the diagram below will the two rowboats meet?



16. A bug splatters on a fast-moving car's windshield. How does the force felt by the bug compare to the force felt by the car's windshield? Explain. force is the same: masses + accelerations are different