Lift Off!: Scene 1

It was an unusually warm day in January. Margarite and Marc were walking to the popular store in Little Five Points, The Junkman's Daughter. The televisions at Front Page News blared " . . . this global warming trend continues to cause trouble for citizens around the world. Many are considering how to leave Earth, because they fear polar melting, increased hurricanes, and high temperatures. Satellite images show odd movements of air masses, causing unpredictable forces . . ."

Margarite and Marc passed the post office, and then saw a telephone pole with several flyers attached to it: "Free puppies," "Yard Sale Saturday," "Work from home on the Internet!"

Margarite stopped in her tracks and said, "Hey, Marc! Hold on! Here's somethin' about NASA!"

Marc and Margarite stopped to read the flyer.

Lift Off!: Scene 2

NASA
Needs You!

Global warming is heating up the Earth and making weather disasters more frequent and more severe! Many people are busy trying to improve life on Earth, but the possibilities of living beyond the Earth must be explored also. The U.S. Department of Homeland Security and NASA are calling for amateur civilian scientists to form teams who can find solutions!

Your mission is to design a model of a rocket which can lift off with enough force to overcome the Earth's gravity and atmosphere. The rocket may orbit the Earth or travel to another planet. Teams must present their designs to NASA scientists for review.

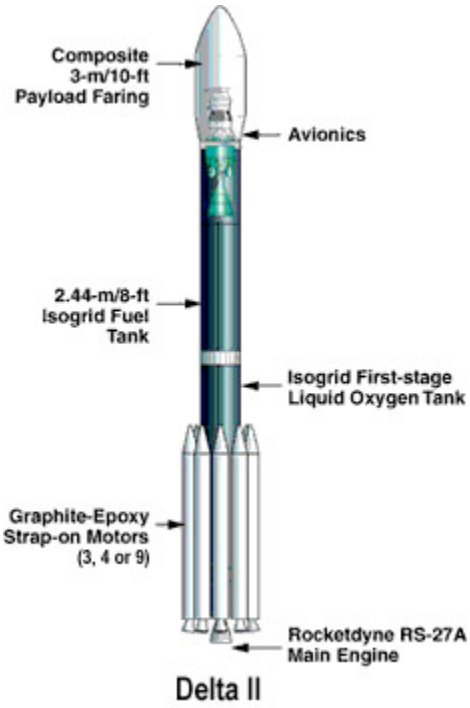
For more information,
contact your local NASA Recruiter.

Lift Off!: Scene 3

National Aeronautics and Space Administration

Global warming is heating up the Earth and making weather disasters more frequent and more severe! The U.S. Department of Homeland Security and NASA are calling for amateur civilian scientists to form teams to design rockets to explore possibilities beyond the Earth!

Your mission is to become a NASA-certified rocket scientist. Then your team can design a rocket to leave this unpredictable planet.



Step 1. Fill out a NASA application (provided by your science teacher).

Step 2. Gather information about gravity, forces, Newton's Laws, orbits, etc. and organize it into a boxchart. NASA suggests this format:

Facts	Hypotheses
Questions	Learning Issues

Step 3. Your team must help each other prepare for the NASA rocket scientist certification exam. You may take this exam at the following locations on the following dates:

Date	Time	Address	Room

Please note that your team will not be cleared to build a rocket until EVERY team member has been certified. NASA suggests group study and good teamwork for best results. When all of your team members are certified, you will receive confidential instructions and information on how to proceed. Good Luck!

National Aeronautics and Space Administration

Application to Become a Certified NASA Rocket Scientist

Team Name: _____

Names: _____ _____ _____

_____ _____ _____

School Name & Address: _____

_____

Grade: _____ Teacher's Name: _____

Please answer the following questions without using the textbook or other resources:

1. What is inertia?
    a. A magnetic force that brings two objects together.
    b. The flow of electricity that helps objects go forward.
    c. The tendency of objects to keep moving unless acted upon by another force.
    d. The idea that forces always come in pairs.
    e. None of the above.
2. Choose an example that demonstrates Newton's Third Law:
    a. When Becky kicks a soccer ball, the ball pushes back on her foot.
    b. Gravity pulls things downward.
    c. When you push off the ground to take a step, the ground pushes back on you.
    d. Answers a & c are correct.
    e. All of the above.
3. What is the scientific meaning of pressure?
    a. Gravity pulling down on an object.
    b. Force over a certain amount of space.
    c. An amount of force sometimes measured in pounds per square inch (psi).
    d. Answers b and c are correct.
    e. None of the above.
4. True or false? Air resistance and friction are often the "unbalanced force" that slows down or stops objects. _____
5. A rocket displays Newton's Third Law by:
    a. Burning everything underneath it (grass, trees, etc.) in order to have enough fuel to go upward.
    b. Pushing downward with enough thrust so that the ground will push upward.
    c. Using electricity to just go upward without pushing on anything.
    d. Answers a and c are correct.
    e. None of the above.