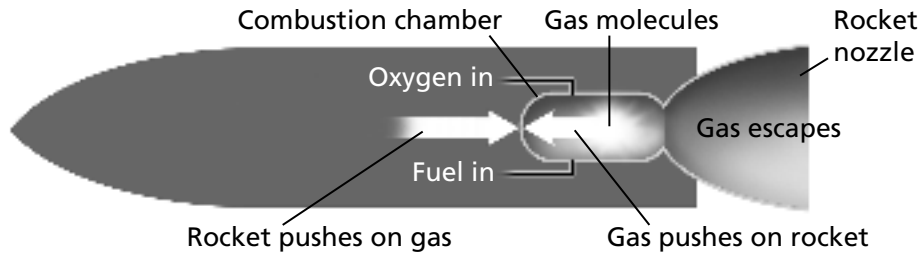


Exploring Space ▪ Enrich

Rocket Thrust

Rockets fly by producing thrust. Thrust is a name for the force that moves the rocket forward. Thrust occurs because forces always come in pairs. This is stated in Newton's third law of motion. According to this law, if you push on an object, the object pushes back with the same force.

You know that fuel burns in a rocket engine. When the fuel burns, hot gases form. The burning occurs in an area called the combustion chamber, which is attached to the rocket nozzle. The molecules of hot gas from the burning fuel are moving. These moving molecules hit the inside of the combustion chamber and nozzle, except at the back, where the molecules are able to escape. As the gas molecules hit the rocket, the rocket pushes back on the gas. Because the back of the rocket is open, this pushing back, or thrust, moves the rocket forward. The more gas that is produced and the faster the gas moves, the more thrust the rocket has.



Answer the following questions on a separate sheet of paper.

1. What is thrust?
2. Which law states that forces always come in pairs?
3. What happens when gas molecules hit the inside of a rocket's combustion chamber?
4. How is thrust produced in a rocket?
5. What are two ways to increase the amount of thrust a rocket produces?