



## AUTOMOBILE/CAR

### What is an AUTOMOBILE?

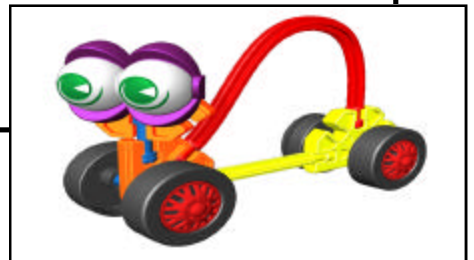
- A 4-wheeled (usually) vehicle that moves under its own power and is used to transport people on roads and streets.

### How does an automobile work?

- The vehicle is a complex machine that includes an engine, chassis (body), wheels and braking system.
- The engine is called an internal combustion engine because it burns fuel and air inside a small chamber. The combustion creates a large amount of energy and is used to power the vehicle.
- The compression and ignition of fuel and gas inside the engine is accomplished by a series of pistons that move up and down in a cycle.
- The vertical (up and down) movement of the piston is transformed into a rotational (round and round) movement via rods connecting the pistons to the joints on a crankshaft.
- Putting the vehicle into gear transfers power from the turning crankshaft to the wheels on the road. The wheels turn and the vehicle moves forward (or backward if put into reverse gear.)
- To increase the speed of the vehicle the driver presses the accelerator and changes into a higher gear.
- The vehicle can be slowed and stopped by changing to a lower gear and/or applying the braking system.
- The driver and passengers are seated inside the protective body of the vehicle.

### What are some different types of automobile designs?

- **Sedan:** a large car with four doors and able to carry 5 people in comfort.
- **Hatchback:** A compact car with 5 doors - the 5th door is at the rear of the vehicle and opens directly into the trunk. This makes it easy to load packages.
- **Station Wagon:** A large vehicle with room for at least 5 people and an extensive area at the back for bags and other types of gear. A 5th door opens to access the trunk area. Some station wagons include a 3rd row of seats.
- **Sports Car:** A car with a powerful engine and sleek, streamline shape. Usually sports cars seat only two people comfortably. They may be designed so that the roof can be lowered or removed when weather conditions are favorable.
- **SUV:** Sports Utility Vehicle. Built using a truck base, but with better suspension and more comfortable interiors. They are designed to be able to travel off the road in rugged conditions and to carry sports gear for outdoor activities.
- **Mini Van:** Designed using a modified truck base, but a mini van can be luxurious with three rows of seats, sliding side doors, built in TVs and video/DVD players. Seats can be lowered to provide plenty of storage space.
- **Taxi:** A large sedan designed to transport people and their luggage. The front passenger seat may be removed to provide extra storage space. Usually taxis have a distinctive color and decals.
- **Limo:** A sedan that has been 'stretched' to provide seating for 10 or more people. There are usually facilities for refreshments. People hire limos for special occasions.



#### References:

<http://auto.howstuffworks.com/engine.htm>. (Accessed January 2005.)

Bingham, Caroline. (Ed.) *The Big Book of Things That Go*. New York, NY: Dorling Kindersley Limited. 1994.

Macaulay, David. *The Way Things Work*. Boston: Houghton Mifflin Company. 1988.