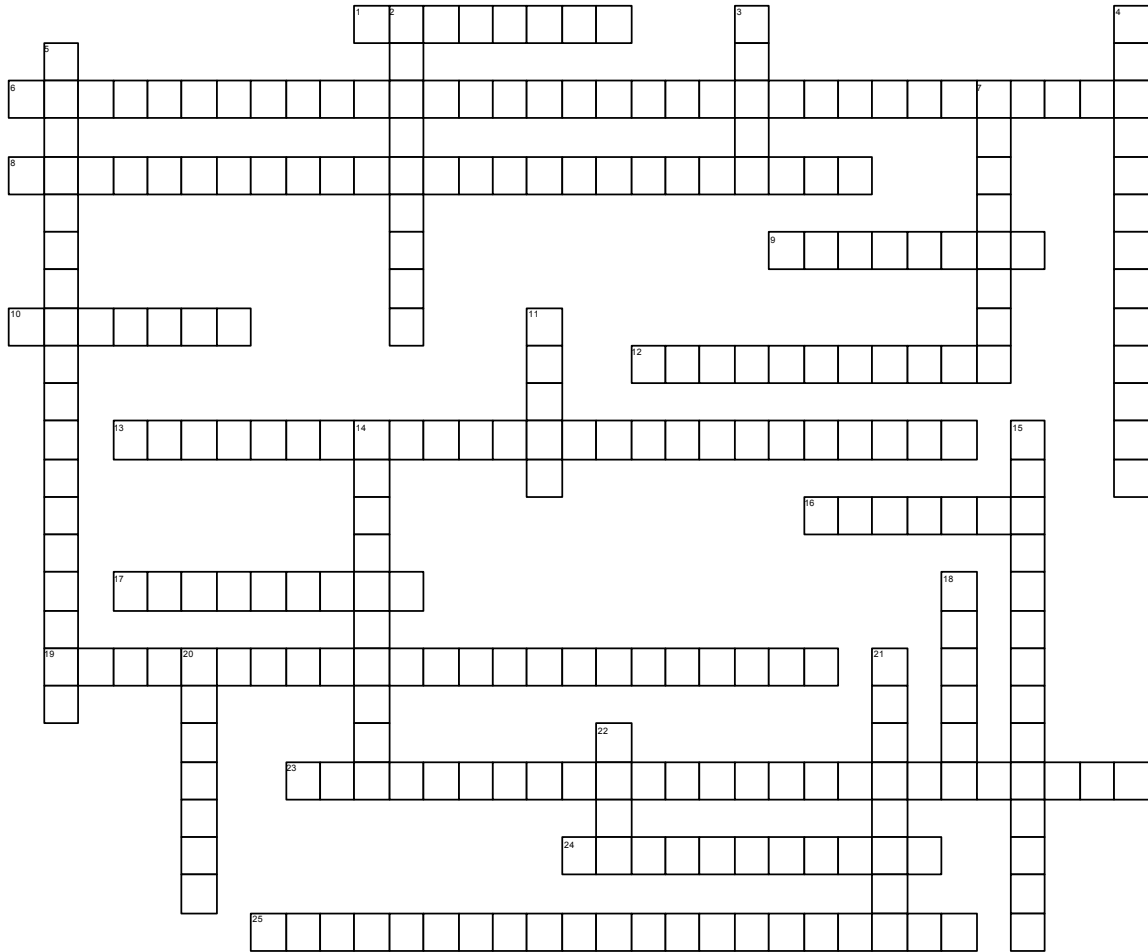


Automotive Background And Overview

Chapter 1



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ACROSS

- 1 After the coolant picks up the heat from the engine, it flows through a _____, which cools the coolant by releasing the heat into the air.
- 6 The Monroney label is the sticker on the vehicle that lists the _____.
- 8 The warning lamp is called the _____ and is labeled "Check Engine" or "Service Engine Soon."
- 9 The design where the valves were located in the engine block is called _____ design because the cylinder head simply covered the combustion chamber and included a hole for the spark plug.
- 10 An engine driven _____ forces the oil under pressure through an oil filter, then to passages in the block and head called oil galleries, and then to all of the moving parts.
- 12 Vehicles with a separate frame and body are usually called _____.

- _____ vehicles.
- 13 The _____ is designed to prevent gasoline fumes and vapors from being released.
 - 16 The _____ is a mixture of antifreeze and water to provide corrosion and freezing protection.
 - 17 Coolant is circulated by a _____ through passages in the cylinder block and head called water jackets.
 - 19 The _____ system meters about 3% to 7% of the exhaust gases back into the intake where the gases reduce the peak combustion temperature and prevent the oxygen and nitrogen from the air from combining to form oxides of nitrogen.
 - 23 All gasoline and diesel engines are called _____ and were designed to compress an ignitable mixture.
 - 24 Unburned gasoline emissions are called _____ emissions.
 - 25 After the invention of electric, steam,

- and gasoline propulsion systems, people used _____, which are vehicles that moved under their own power.
- ### DOWN
- 2 The air is filtered by a replaceable _____.
 - 3 The on-board diagnostic system is currently in the second generation and is called _____.
 - 4 _____ is the engine design where the valves are placed in the cylinder head.
 - 5 The _____ is a unit located in the exhaust system usually close to the engine, which causes chemical changes in the exhaust gases.
 - 7 Some systems use a _____ to regulate the flow of gasses created in the crankcase of a running engine, which are routed back into the intake manifold.
 - 11 _____ construction usually consists of channel-shaped steel beams

- welded and/or fastened together.
- 14 The temperature of the coolant is maintained by using a _____ located in the coolant passage, which opens to allow coolant to flow to the radiator or closes until the coolant is hot enough to need cooling.
 - 15 After the air is filtered, it passes through a throttle valve and then into the engine through an _____.
 - 18 Most engine are equipped with an _____ containing 3 to 7 quarts of oil.
 - 20 _____ is a design that combines the body with the structure of the frame.
 - 21 Electronic hand-held testers, called _____, are needed to access stored diagnostic trouble codes and view sensor and system data.
 - 22 The frame or _____ of the vehicle is used to provide the support for the suspension and steering components as well as the power train.