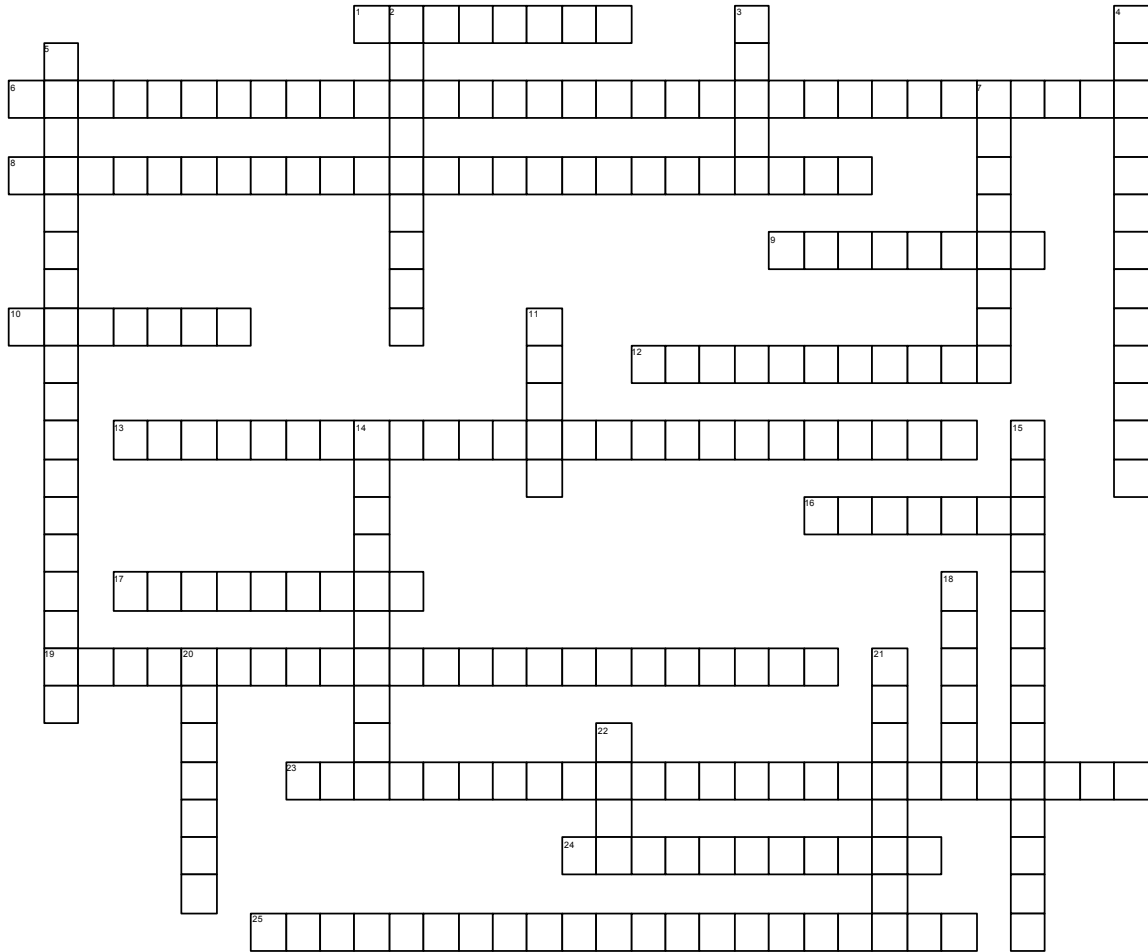


# Automotive Background And Overview

## 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.