**Types of engines**

**Exercise 1. *Read the text about the work of a 4-cylinder, 6-cylinder and 8-cylinder engine and say what advantages a 4-cylinder engine has if compared to 6- or 8-cylinder engines.***

In a four-stroke engine, a series of movements causes fuel to be converted into forward motion. The difference between a 4-cylinder and 6-cylinder engine is that the latter produces more power. This is due to the two extra cylinders. In a basic engine design, pistons travel down cylinder sleeves or chambers (камеры), allowing intake valves to open. Intake valves let fuel and air enter the cylinders, while rising pistons compress these gases. Spark plugs ignite the compressed gas, causing explosions that drive the pistons back down. The next rise of the pistons coincides with exhaust valves opening to clear the chambers. The timing of the pistons is staggered so that one pair rises while another falls. Pistons are connected to rocker arms, which turn a crankshaft; the crankshaft turns the wheels, thereby converting fuel into motion. In a 4-cylinder engine, there are four pistons rising and falling in four chambers. A 6-cylinder engine has six pistons and produces a theoretical 50% more power than the same 4-cylinder engine. While a 4-cylinder engine might hesitate when you press on the gas, a 6-cylinder is more responsive.

The 4-cylinder engine is standard in smaller cars, as the relatively light weight of the vehicle makes it an economical choice with plenty of power for average motoring needs. Many models include a 6-cylinder engine upgrade option. The 6-cylinder engine is standard in passenger cars, vans, small trucks and small to midsize sports utility vehicles (SUVs). Standard trucks and larger SUVs commonly feature an 8-cylinder engine. These heavier vehicles are used for towing and carrying substantial weight. Though more cylinders equal more power when comparing the same engine models, there are exceptions when comparing different engines. Improved engine designs over the years have resulted in substantial gains. This has made 4-cylinder engines more powerful than they were a decade ago, and 8-cylinder engines more fuel-effi cient than they once were. In short, a 6-cylinder engine from 1993 might have less power than a recently designed 4-cylinder engine. In addition, a new 8-cylinder engine might get better gas mileage than the older 6-cylinder engine. If deciding between a 4- and 6-cylinder engine on a new vehicle, there are a few considerations. The smaller engine will be less expensive and should get slightly better gas mileage. The disadvantage is lack of power. For hilly or mountainous areas, the 6-cylinder engine would be a better choice. If interested in towing substantial weight, such as a powerboat or house trailer, consider an 8-cylinder motor.

**Exercise 2. *Give the English equivalents to the following words.***

Преобразовать, прямолинейное движение, дополнительные цилиндры, сжимать, воспламенять, совпадает, соединены с, относительно лёгкий, экономичный выбор, в качестве одного из вариантов, значительный вес, существенный выигрыш, иметь меньший расход топлива, удовлетворяет вашим потребностям.

**Exercise 3. *Give the title to the text. Divide the text into logical parts and entitle them.***

**Exercise 4.** Answer the questions.

1. What is the main difference between a 4-cylinder and 6-cylinder engine?

2. What is this due to?

3. What vehicles is the 6-cylinder engine standard on?

4. What should we take into consideration deciding between a 4 and 6-cylinder

engine on a new vehicle?

5. Is their any way to tell if a particular engine will suit your needs?

**Exercise 5*. Fill in the table and compare advantages and disadvantages of different types of engine.***

|  |  |  |  |
| --- | --- | --- | --- |
| **The type of the****engine** | **Advantages****of the engine** | **Disadvantages****of the engine** | **Vehicles, that use****this type of engines** |
| 4-cylinder engine |  |  |  |
| 6-cylinder engine |  |  |  |
| 8-cylinder engine |  |  |  |

**Exercise 6.** Your friend likes going to the mountains with his family. He wants to buy a car for this purpose. Give him some recommendations on what type of engine will be the best choice.