



**MACHINES CAN MOVE**

Name: \_\_\_\_\_

**Unit 5 End-of-unit test**

Class: \_\_\_\_\_

**1. Underline *true* or *false*.**

- a. A machine is a device that changes a force and makes work easier. true / false
- b. Simple machines have moving parts. true / false
- c. There are six types of simple machines. true / false
- d. A lever and a fulcrum is a complex machine. true / false
- e. A wheelbarrow is a complex machine and consists of three simple machines. true / false

**2. Write the names of the machines in the box next to the descriptions a–f.**

Lever	Inclined plane	Pulley	Screw	Wedge	Wheel
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- a. With its axle, it moves people, objects or parts of a complex machine. ....
- b. With its point of support, it lifts heavy weight. ....
- c. It is used to lift or pull heavy weight. ....
- d. It holds things together. ....
- e. It makes it easier to mover objects or people from higher to lower surfaces. ....
- f. It is used to separate two objects. ....

**3. Complete the sentences about flight. You are given the first letter.**

- a. The way objects move through air is called **a** .....
- b. The push that lets a plane move upwards is called **l** .....
- c. The force that pulls back on a plane and slows it down is called **d** .....
- d. **W** ..... is the force of gravity on a plane which pulls it towards the centre of the **E** .....
- e. **T** ..... is the force which pulls a plane forward and is created by the plane's **e** .....
- f. For **l** ....., lift must be **l** ..... than weight and **t** ..... must be **l** ..... than drag.

**4. Complete the descriptions. Write: *Level flight, The balance of opposing forces or Constant speed.***

- a. .... When this changes the plane can rise, descend or change speed.
- b. .... When the size of thrust equals the size of drag, the plane achieves this.
- c. .... When the size of lift equals the size of weight, the plane achieves this.

**5. Choose and underline the correct word.**

- a. Archimedes' principle states that an object immersed in water experiences **an upwards / a downwards** force.
- b. Buoyancy pushes the ship **upwards / downwards**.
- c. Buoyancy is **less than / equal to** the weight of the water it displaces.
- d. If a ship weighs more than the water it displaces, it **floats / sinks**.
- e. If a cargo ship has no cargo, it **takes water into / lets water out of** its water tanks.
- f. Ships are filled with air, which makes them **heavier / lighter** than the displaced water.

**6. Complete the information with words from the box about how cars move.**

action	aerodynamic	Drag	engine	Friction	grip	Thrust	reaction
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- a. .... is the backward force of air against a moving car.
- b. Cars are designed to be .... in order to minimise drag, move faster and to save fuel.
- c. .... is the resistance that the tyres on car's wheels meet when they move on the road.
- d. .... is the force that pushes the car forwards. A car's .... makes the wheels turn.
- e. When a car tyre spins, the tyres push the road with an amount of force backwards called ..... force.
- f. The road pushes the car with an equal amount of force forwards called the ..... force.
- g. On icy roads, winter tyres and snow chains improve the car's .....

**MACHINES CAN MOVE**

Name: \_\_\_\_\_

**Unit 5 Support**

Class: \_\_\_\_\_

**1. Read the sentences. Circle *true* or *false*.**

- a. A machine changes a force to make work easier. true / false
- b. Simple machines have moving parts. true / false
- c. There are six types of simple machines. true / false
- d. A wheel and axle is a complex machine. true / false
- e. A complex machine consists of two or more simple machines. true / false
- f. A wheelbarrow is an example of a complex machine. true / false

**2. Complete the sentences. Use words from the box.**

Lever	Inclined plane	Pulley	Screw	Wedge	Wheel
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a. ....



b. ....



c. ....



d. ....



e. ....



f. ....

**3. Complete the words in each description about flying.**

- a. When the **b \_ \_ n \_ e** of **o \_ p o \_ \_ g** forces changes the plane can rise, descend or change speed.
- b. **C \_ \_ s \_ \_ t s \_ \_ d** is when the size of thrust equals the size of drag.
- c. **L \_ \_ l f \_ \_ g \_ \_ t** is when the size of lift equals the size of weight.

**4. Choose and underline the correct word to complete the sentences.**

- a. The way objects move through air is called **aerodynamics** / **flight forces**.
- b. The push that lets a plane move upwards is called **thrust** / **lift**.
- c. The force that pulls back on a plane and slows it down is called **drag** / **gravity**.
- d. **Drag** / **Weight** is the force of gravity on a plane which pulls it towards the centre of the Earth.
- e. **Lift** / **Thrust** is the force that pulls a plane forward created by the plane's engine.
- f. For **taking off** / **landing**, the lift must be greater than the weight and thrust greater than **drag** / **lift**.
- g. For **taking off** / **landing** lift must be less than weight and **gravity** / **thrust** must be less than drag.

**5. Complete the information with words from the box about how cars move.**

action	Drag	Friction	grip	Thrust	reaction
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- a. .... is the backward force of air against a moving car.
- b. .... is the resistance that the tyres on car's wheels meet when they move on the road.
- c. .... is the force that pushes the car forwards. A car's ..... makes the wheels turn.
- d. When a car tyre spins, the tyres push the road with an amount of force backwards called ..... force.
- e. The road pushes the car with an equal amount of force forwards called the ..... force.
- f. On icy roads a car needs winter tyres to improve its .....

**6. Choose and underline the correct word to complete the sentences.**

- a. Buoyancy pushes the ship **upwards** / **downwards**.
- b. Buoyancy is **less than** / **equal to** the weight of the water it displaces.
- c. If a ship weighs less than the water it displaces, it **floats** / **sinks**.
- d. If a cargo ship has cargo, it **takes water into** / **lets water out of** its water tanks.

# MACHINES CAN MOVE

Name: \_\_\_\_\_

## Unit 5 Reach higher

Class: \_\_\_\_\_

### 1. Read the sentences. Underline *true* or *false*.

- a. A machine is a device that changes a force and makes work easier. true / false
- b. Simple machines usually have moving parts. true / false
- c. There are six types of simple machines. true / false
- d. A lever and a fulcrum is a complex machine. true / false
- e. A wheelbarrow consists of a number of simple machines. true / false
- f. Complex machines are made up of one or more simple ones. true / false
- g. A wheelchair is an example of a pulley type of machine. true / false
- h. A seesaw in a children's playground is a lever with its point of support. true / false

### 2. Write the names of the machines next to the descriptions a–g.

- a. With its axle, it moves people, objects or parts of a complex machine. ....
- b. With its point of support, it lifts heavy weight. ....
- c. It is used to lift or pull heavy weight. ....
- d. It holds things together. ....
- e. It makes it easier to mover objects or people from higher to lower surfaces. ....
- f. It is used to separate two objects. ....
- g. It has levers, an inclined plane, wheel and axle, and is used to carry things,  
e.g. in the garden. ....

### 3. Answer the questions related to flight forces.

- a. What do changes in the balance of opposing forces allow a plane to do?  
.....
- b. How is constant speed achieved?  
.....
- c. How is level flight achieved?  
.....

**4. Complete the sentences about the four forces of flight.**

- a. The push that lets a plane move upwards is called .....
- b. The force that pulls back on a plane and slows it down is called .....
- c. .... is the force of gravity on a plane which pulls it towards the centre of the Earth.
- d. .... is the force which pulls a plane forward and is created by the plane's .....
- e. For ..... off, the lift must be greater than the ..... and thrust greater than .....
- f. For landing, ..... must be less than weight and ..... must be less than drag.

**5. Choose the correct word and phrases in the box to complete the sentences. There are some extra words.**

equal to	downwards	float	heavier	less
lets water out of	lighter	sinks	takes water into	upwards

- a. Archimedes' principle states that an object immersed in water experiences an ..... force.
- b. Buoyancy doesn't push the ship .....
- c. Buoyancy is Buoyancy is ..... the weight of the water it displaces.
- d. If a ship weighs more than the water it displaces, it .....
- e. If a cargo ship has no cargo, it ..... its water tanks.
- f. Ships are filled with air, which makes them ..... than the displaced water.

**6. Complete the information with words about how cars move.**

- a. .... is the backward force of air against a moving car.
- b. .... is the resistance that the tyres on car's wheels meet when they move on the road.
- c. On icy roads, winter tyres and snow chains improve the car's .....