UNIT 7 – Moving Around

Reading 1

Skills:

- Details
- Insert sentences into the passage
- Make associations
- Vocabulary in context
- Understand negative facts

Getting started: How do you move around in your hometown?

AIRLANDER



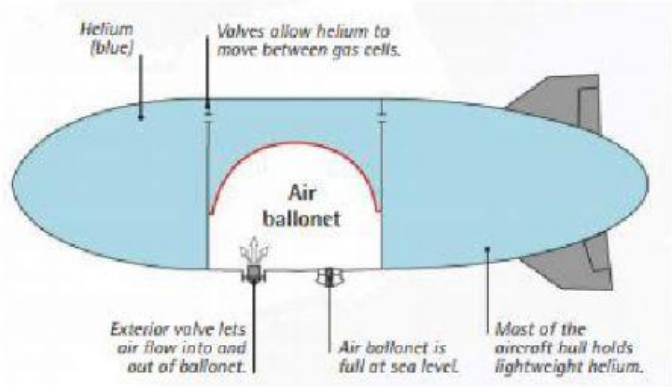
The Airlander 10 is a hybrid airship designed and built by British manufacturer Hybrid Air Vehicles (HAV). This is a helium airship with auxiliary wing and tail surfaces, which flies using both aerostatic and aerodynamic lift and is powered by four diesel engine-driven propellers. **[2A]** The HAV 304 (original name) was initially built for the United States Army's Long Endurance Multi-Intelligence Vehicle (LEMV) program. Its debut flight took place in 2012 at Lakehurst, New Jersey, in the US. **[2B]** As a result, HAV

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reacquired the airship and brought it back to Cardington Airfield in England. **[2C]** It was reassembled and modified for civilian use, and in this way, it was renamed the Airlander 10. **[2D]**

The Airlander is the largest aircraft ever to have flown. It is 302 ft (92 m) long and has a total volume of 1,340,000 ft3 (38,000 m3). It can fly at 9,840 ft (3,000 m) and cruise at a speed of 92 mph (148 km/h), and it can remain in the air for five days, or longer if it is remotely controlled from the ground. The **vast** aircraft uses three distinct ways of staying in the air: Most lift comes from the resistance of the helium gas; further lift is created by the wing shape of the three gas-filled hulls; and more force is added by the propeller-powered thrusters (small engines that provide extra force), which can be angled in any direction.

The Airlander is a helium-filled aircraft that can lift 10 tons of cargo and take it anywhere. It looks like an airship, but it is a hybrid air vehicle combining the lighter-than-air abilities of gas balloons with the aerodynamics of a winged aircraft. The Airlander is a very versatile aircraft; it can take off and land without a runway, float in the air, and access remote places, carrying heavy cargos far beyond the capacity of other aircrafts. Furthermore, it could be used as an airborne mothership for delivery drones, which can't fly very far or for very long without needing to be refueled.



At sea level, the hull of the Airlander holds mostly helium gas with air inside small ballonets. **[6A]** As the aircraft rises, the atmospheric pressure outside falls, and the helium gas expands. **[6B]** Air escapes from the ballonets, reducing the aircraft's weight. To reduce altitude, the helium is compressed into storage tanks, which allows air back inside, increasing the aircraft's weight and lowering its altitude. **[6C]** The Airlander floats upward because its total weight is less than the weight of the air it displaces. As the aircraft rises, air is pushed out of the ballonets constantly to reduce the Airlander's weight. **[6D]**

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The Airlander is a very complete aircraft that could be used in different ways. This vehicle has **potential** civil and military applications; these include transportation purposes, conducting aerial surveillance, acting as a communications relay, supporting disaster relief operations, and various passenger services such as leisure flights and luxury VIP duties.

**Adapted from How Super Cool Tech Works. DK Publishing.*

Answer the following questions:

1. What is stated about the Airlander in paragraph 1?
    a. The Airlander's first flight took place in England.
    b. It was designed in the United States.
    c. HAV created it for the British army in 2012.
    d. It was originally designed as a military aircraft.

2. Look at the four squares in paragraph 1. Where can the following sentence be inserted in that paragraph? **However, in 2013 the LEMV project was cancelled by the US Army**.

3. What is NOT stated about the Airlander in paragraph 2?
    a. There are three different types of fuel to power the aircraft.
    b. It is the biggest flying vehicle.
    c. It can stay in the air for almost a week.
    d. The thrusters can be directed in different angles.

4. The word **vast** in paragraph 2 is closest in meaning to
    a. awful
    b. huge
    c. heavy
    d. unlimited

5. What is NOT stated about the Airlander in paragraph 3?
    a. It has the ability to reach places other planes can't.
    b. It can be used to release drones in certain places.
    c. It requires a specific surface to land and take off.
    d. It can hold more weight than normal airplanes.

6. Look at the four squares in paragraph 1. Where can the following sentence be inserted in that paragraph? **When the ballonets have been emptied, the aircraft has reached its maximum altitude and stops rising**.

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7. The word **potential** in paragraph 5 is closest in meaning to
    a. possible
    b. future
    c. hidden
    d. strong

8. Which is NOT a use for the Airlander that is mentioned in paragraph 5?
    a. Carry tourists
    b. Bomb enemy bases
    c. Transmit information
    d. Watching certain areas

What do you think?

Can you think of another use for the Airlander?

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