An International Airport

On an international airport, the runways are parallel and in line with the prevailing wind - so that planes take off and land into the wind. This increases the speed of the air flowing over the wings, to provide the plane with more lift. Lift is the upward movement of an aeroplane, produced by flow of air over the wings. Taxiways link the runway with apron - near the terminal where aircraft park between flights for loading, unloading and servicing.

Long piers jut out across the apron, linking each plane at its 'stand' to the terminal buildings. The piers provide places for a large number of planes, and they allow passengers to travel to and from their aircraft under cover (often along moving 'walkways'). There is also room on the apron for the many vehicles needed to service and refuel each plane between flight.

The Control Tower, the airport's nerve centre, stands in the middle of the main group of buildings. Beside it are the airport offices, and grouped around these are a number of terminal buildings - which are linked to the main approach road by a network of airport roads. Some of the terminals are for passengers on international flights, others are for those on internal flights. There is also special cargo terminal. The fuel is stored away from these buildings. There are also huge hangars where the aircraft are serviced.

Safety is vitally important at airports. The emergency services - fire and ambulance - are always on the alert and can rush to the scene of an accident in seconds. Chemical foam is used to smother flames and fire fighters wear special protective clothing.

Exercise

1. What is a taxiway on an airport?
2. What is a runway on an airport?
3. What is an apron on an airport?
4. What is a terminal building on an airport?
5. What is a pier on an airport?
6. What is a control tower on an airport?
7. What is a cargo terminal on an airport?
8. Where is the fuel stored on an airport?
9. What is an aircraft hangar on an airport?
Gateway to the Sky

In the early days of air travel there were few passengers and the aircraft were slow and fairly small. Airports were little more than large flat fields, with sheds to shelter waiting passengers and cargo, and hangars for the aeroplane.

A large modern airport handles between 50 and 100 thousand passengers on a busy day, as well as many hundreds of tonnes of cargo. Aircraft - some of them carrying as many as 400 people - take off and land every few minutes. Aircraft from all over the world fly in and out of international airports night and day. The apron is floodlit at night for loading, unloading and boarding. While waiting for your flight to be called, you can buy refreshments and duty free goods. Each passenger can only take a certain weight of baggage on an aeroplane. Baggage has to be checked by the security officers to prevent smuggling and hi-jacking. The airport bustles with activity and people - rather like a small town, complete with shop and offices, buses, taxis and even its own hospital and police force.

To keep everything running smoothly 50,000 or more people work in the airport on jobs ranging from controlling the movements of every aircraft and seeing that passengers are in the right place at the right time, to serving snacks in the restaurants and running the airport shops.

Airports are normally some distance from the city they serve, so that the noise of big jet airliners disturbs as few people as possible. The airport is usually linked to the city centre by motorway and sometimes by railway, but even so passengers flying short distances may take as long travelling out to the airport as they spend in the air. Some cities now have an inner airport for STOL aircraft. STOL stand for Short Take Off and Landing.

Exercise

1. What were the early days of air travel like?
2. How many passengers can an aircraft carry?
3. Why is a modern airport thought to be like a small town?
4. How many people work in the airport to run different things?
5. Which facilities can you find on an airport?
6. Why are the airports some distance from the city they serve?
7. How is an airport linked to the city centre?
8. What does STOL stand for?
9. What is an apron on an airport?
10. Why is the baggage checked by the security on an airport?
Control Tower

From their look-out point at the top of the control tower, air traffic control and ground control officers watch the movements of all aircraft on the runways and taxiways and around the apron. In a darkened room lower down in the tower, approach control officers direct aircraft coming in to land. Helped by computers and other electronic aids, the ground control officers must plan the exact rout of each plane as it moves through the airport. Equally important, they must decide precisely when each move should be made, and radio the information to the pilot - and to the drivers of all the fuel, maintenance and other vehicles attending the planes during turn-round. As there may be a great many aircraft in the airport at one time, the work is very complicated. The smallest mistake or misunderstanding could lead to disaster. Imagine, for example, what would happen if a plane taxied out on to a runway along which another plane was taking off.

The air traffic and ground controllers should be able to see the positions and movements of all aircraft at all time. Even when visibility is bad - for example at night, or in fog - their special radar screens give them a clear ‘picture’ of the runway, taxiways and aprons, and all aircraft in the airport.

If anything should go wrong, the officers quickly alert the emergency services (fire, ambulance, for instance) and warn other planes and vehicles nearby. To ensure the smooth and safe running of the airport, officers in the control tower are in radio contact with: runway clearance services; the passenger terminals; meteorological offices; security forces; ambulances; the pilot; and the fire service. Very occasionally air traffic control has to deal with an emergency landing - a plane's undercarriage (landing wheels) may have jammed. In this event, the controllers clear the runway and alert the emergency services, before allowing the pilot to land.

**Exercise**

1. Where is the look-out point on a control tower?
2. What staff work in the control tower?
3. What do the staff watch from the control tower?
4. What do approach control officers do and where are they?
5. What are the duties of ground control officers?
6. Why is the work on an airport very complicated?
7. Does it matter if you make a very small mistake on an airport?
8. What happens if something goes wrong on an airport?
9. Who deals with an emergency landing of an aircraft?
10. Whom are the officers (in control tower) in contact with for smooth running of the airport?