

Design your own airfield

Materials

- › Paper
- › Pens and pencils



Activity Overview

- › Read the description of a typical airfield and then create your own

Activity Plan

- › Read the description of a typical airfield
- › Using the description, draw an airfield which contains all of the elements described:
 - ☐ Runway (at least 2!)
 - ☐ Windsock
 - ☐ Control tower
 - ☐ Hangars
 - ☐ Maintenance hangar
 - ☐ Fuel bowsers
 - ☐ Fire truck station
 - ☐ Café
 - ☐ Briefing rooms
 - ☐ Car park
 - ☐ Guard room

Learning Objective

- › Understand how an airfield is laid out
- › Realise what the important parts of an airfield are and why



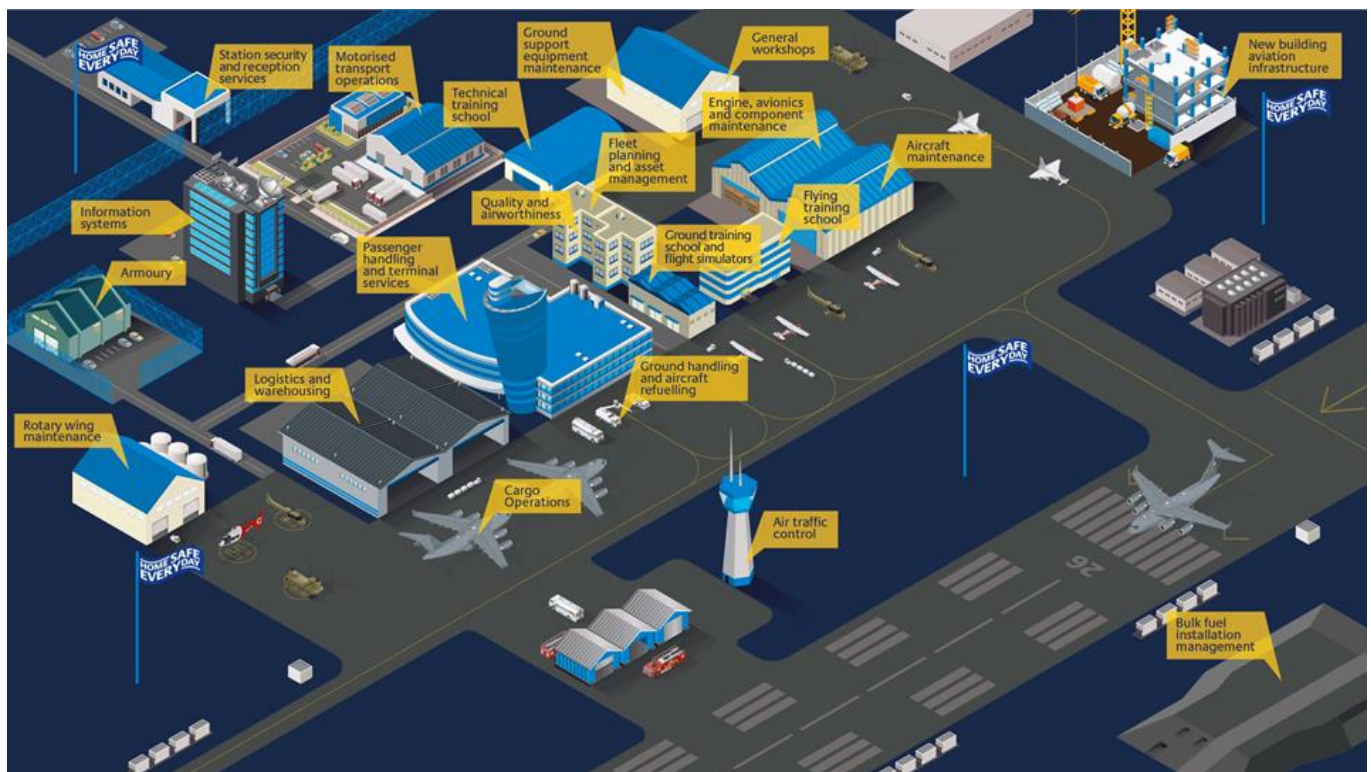
Reflection Questions

- › Where is the best place to put a control tower?
- › Can you follow a pilot all the way through their flying? First, they would arrive at the guardroom and check-in. Then they would have to park their car. Next would be planning their flight in the briefing room. Then they would need to go and check their aircraft over in the hangar. Once that is done they can get in their aircraft and talk to the radio operators to find out the airfield information. They will then taxi out

to the runway and take-off. When they have finished their flying, they will come back and land on the runway. Then they will taxi to the fuel bowsers to top up, then back to the hangar and put the aircraft to bed. Head back to the briefing rooms for a debrief and then pop to the café for a cup of tea and some cake (flying is tiring work!). Back to the car, go and checkout at the guard room and then head home.

Babcock and air station support

Babcock Aviation operates at around 300 sites across the world, with varying levels of air station support. One of our contracts with the MoD is called HADES and this involves supporting military airfields across the UK and providing services such as security, refueling, storing and maintaining weapons, maintaining ground support equipment, providing and maintaining motorised transport and welcoming visiting pilots. All of these support functions have a direct impact on allowing the military to continue flying and protecting our nation.



A lot of the airfields that we operate have even more facilities than the ones we've discussed in this activity, every single one vital to completing the missions required. The ones you have placed on your airfield are the crucial elements for every airfield but some sites will have flying schools, armories or medical equipment stores.

Each airfield is specifically built for the purpose of the site, whether it is military flying training, air ambulance or firefighting and Babcock adapts to each situation to provide the right service for our customers.

Heavy aircraft take longer to gain the speed they need to take-off. This means they need a longer runway. Heavy aircraft also need a much harder surface to take-off from, whereas a light aircraft can take off on grass (as long as it's not too wet and muddy!)

Airfield Brief

Every airfield has at least one **runway**, but normally has two at right angles to each other so that the aircraft can always take off into the wind. You may know that a runway is allocated a number; this is based on the direction of the runway. A compass is used to work out the direction of the runway and the first two numbers are then used to mark the runway. When a pilot is coming in to land, they are told which runway to land on e.g. '26'. Then when they fly over the airfield, they will see the numbers painted and will aim to touchdown on those numbers.



At each end of the runway is a **windsock**, this tells the pilot which direction the wind is blowing and how strongly it is blowing just above ground level. A pilot about to take-off or land will need to know this information to ensure a successful take-off and landing.

Every aircraft is communicated with by radio operators who can inform them of the airfield conditions and guide them to/from the airfield. It is important that the radio operators have good sight of the runway and any aircraft that are flying in or out. It also needs to be high enough to see over any buildings. This building is called the '**Control Tower**'.

Every airfield needs **hangars** to store the aircraft in; this protects them from the weather and keeps them in good condition. It is best if the hangar doors open on to a taxiway, which leads from the hangar to the runway so that the aircraft have a solid surface to move along.

Where there are aircraft there is a need for maintenance so a **maintenance hangar** is very important. All aircraft must be fit to fly and if there is a problem then it needs to be fixed quickly to get it back in the air as soon as possible.

All aircraft need fuel to run so it is important to have **fuel bowzers**. Depending on the airfield, it will either need to be in a position where aircraft can taxi to it or there will be trucks that take the fuel from the bowser to the aircraft.

In case of an emergency, every airfield has a fire truck and staff trained to act in an emergency. The fire truck should be stored in its own building to protect it from the elements. The **fire truck station** should be one of the closest buildings to the runway so that if something does happen, they can respond as quickly as possible.

To encourage pilots to fly to an airfield it's important to have a **café** for food and drinks. A full pilot is a happy pilot! It is also good to have some **briefing rooms** where pilots can plan their flights and instructors can do any ground schooling with students.

Pilots will drive a long way to go to a good airfield and there will probably be some keen aircraft photographers visiting so it is a good idea to have a **car park** for everyone.

Aircraft are expensive and it's important to protect them as much as possible, so some airfields will have a **guard room** at the entrance, to keep an eye on who comes in and goes out.