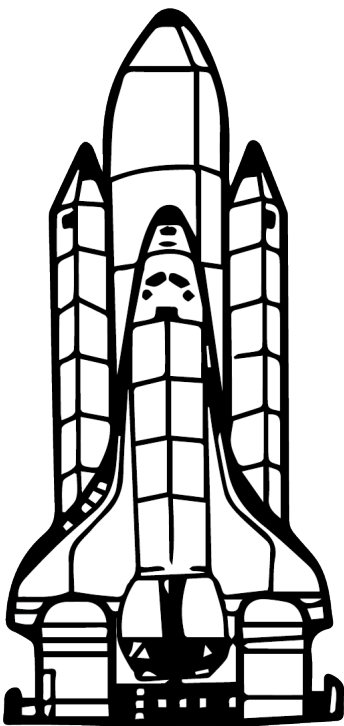
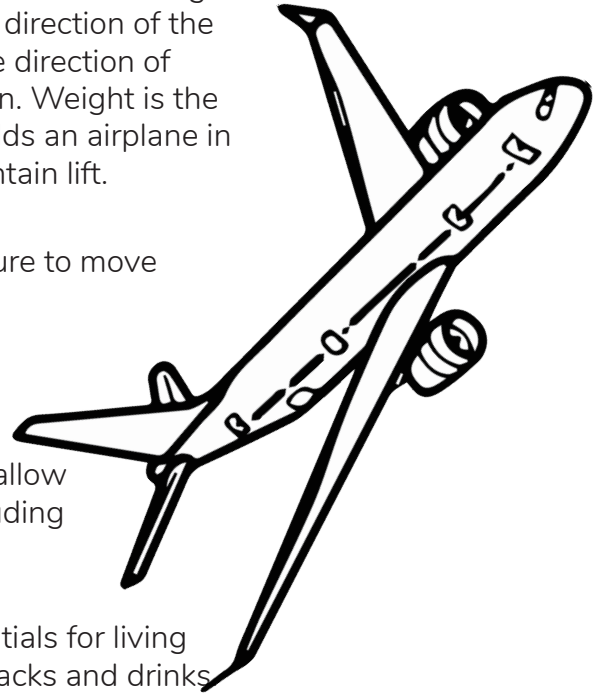


Name the Variable

This activity was created by Shannon.

You've probably seen an aircraft before, such as a hot air balloon or an airplane. Have you ever seen a spacecraft before though, like a rocket? Though they sound and look pretty similar they have a lot of large differences, from their uses to the way they use different forces. Check out the info below and then test your knowledge on the next page to see how much you learned!

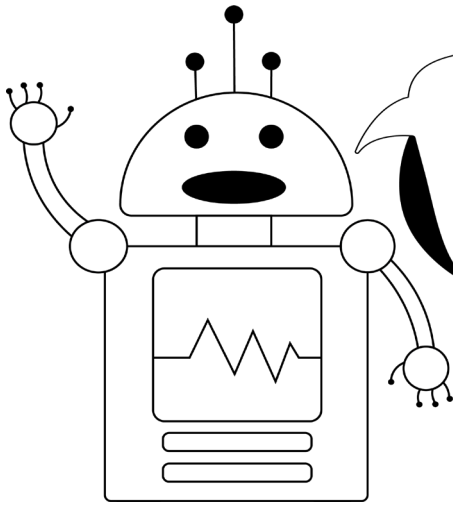
- An aircraft is affected by four forces: drag, lift, thrust and weight. Thrust is the force that moves an aircraft in the direction of the motion. Drag is a force that acts opposite to the direction of motion; it tends to slow down an objects motion. Weight is the force caused by gravity. Lift is the force that holds an airplane in the air. Wings are required to achieve and maintain lift.
- Aircrafts rely on air and differences in air pressure to move themselves around, hence the name AIRcrafts.
- Aircrafts never leave the Earth's atmosphere.
- An aircraft needs to be made of materials that allow it to withstand atmospheric temperatures, including coldness.
- While on board an airplane, for example, essentials for living aren't really needed except for maybe some snacks and drinks



- A spacecraft is affected by two forces: thrust and weight. A spacecraft requires tremendous thrust and stability to escape from the Earth's atmosphere. The spacecraft must rely on thrust to push itself forward in Space.
- Spacecrafts have to be very careful when re-entering Earth's atmosphere because they have enter slow enough so that they don't burn up.
- A space craft needs to be made of materials that allow the craft to withstand the heat caused by re-entering the Earth's atmosphere.
- Spacecrafts don't generate lift.
- Enough of the essentials for living such as food, oxygen, water and toiletries must be stored on the spacecraft to last the entire duration of the trip, which can be several months long.

Date: _____

Name: _____



An important part of coding is choosing an appropriate name for your variables. You want to make sure your variable's names are accurate to what they represent!

Your turn to see if you can tell the difference between aircraft and spacecraft. Read the statements below and decide which variable they belong to, either aircraft or spacecraft. Write the variable's name (either aircraft or spacecraft) on the line beside the statement.

- 1 Requires wings to achieve lift _____
- 2 Drag is a factor that controls its speed _____
- 3 Requires special materials to withstand extreme heat _____
- 4 Travels at the speed of over 25,000 kilometers an hour _____
- 5 A machine designed for flight _____
- 6 Requires a tremendous amount of thrust and stability _____
- 7 Travels beyond the Earth's atmosphere _____
- 8 Don't have to pack the essentials for living on board _____
- 9 Travels at the speed of up to 1,000 kilometers an hour _____
- 10 Flies within the Earth's atmosphere _____
- 11 Fuel tanks detach after take off _____
- 12 Requires materials that can withstand the cold _____