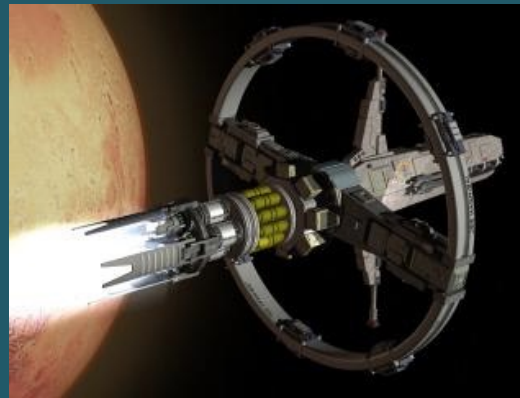


Improving Flight

- Helicopters vs. Airplanes
- Reducing Drag
- Decreasing Weight
- Increase Thrust
- Stealth Airplanes
- Drones
- The Future of Space Travel



Preview File

Please enjoy this preview of your Student Version of the presentation. Please note within this sample file:

- Some slides appear blank because they have been removed
- Student versions have portions of the text removed which is given in the teacher version and appear as _____ which the students are to fill in
- Other slides may have on them, this represents writing that has been removed on this sample

The paid full version of your resource includes both Google Slides and PowerPoint and is Google Classroom Ready



Helicopters - Uses

- Helicopters can do many things planes cannot.

They can

- _____
- _____
- _____
- _____



See how videos are embedded directly into your lesson. While in slideshow mode, clicking the video image will automatically open the video in your browser

- This allows them to act as rescue planes which can access very difficult areas such as mountains, open water, etc.

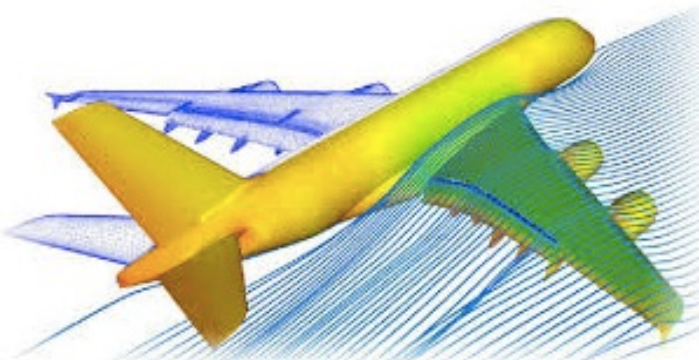
Helicopters - Uses

- Helicopters can do this because their rotors generate lift by spinning, allowing them to take off and land vertically
- Planes cannot do this because to generate lift, they need to be moving forward with a _____



Reducing Drag to Increase Performance

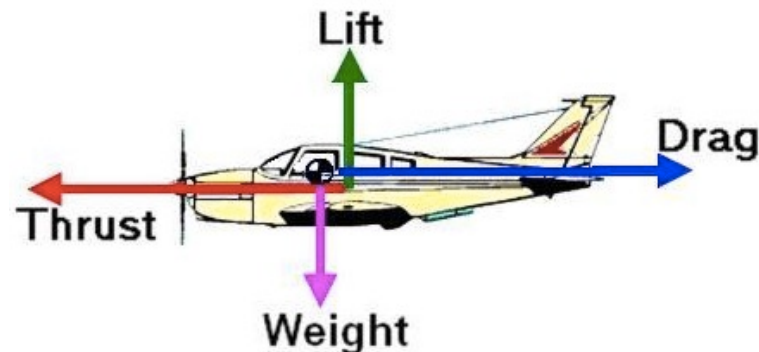
- _____
- Everything that moves through the air deals with aerodynamics including cars, planes, people, etc.
- As discussed prior, aerodynamic forces affect a planes ability to fly including



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Decreasing Weight

- To make the plane rise in the air, lift needs to be greater than the weight
- _____
- Engineers are constantly coming up with lighter and stronger materials to be used in aircrafts



What Planes Are Made Of

Various materials have been used in the past

1. Wood – used in the first airplanes
2. Aluminum – Lightweight and stronger than wood
3.
4. Graphite-epoxy – as strong as aluminum and weighs half as much
5. Titanium – As strong as steel but weighs less
6. _____



Increasing Thrust - Flying Fast

- _____
- To provide thrust, engines produce exhaust in the direction opposite to motion



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Stealth Flight

- Building a faster
- Many military planes are built with stealth technology so the enemy can't find them using radar
- Stealth is achieved by shaping the plane differently or covering the _____



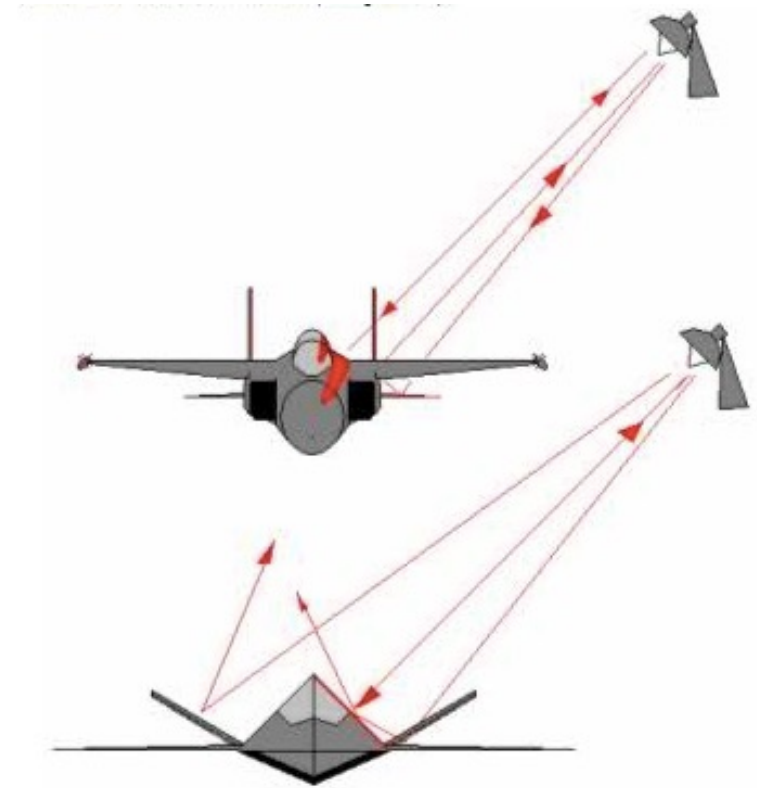
Lockheed Martin Skunk



B-2 Stealth Bomber

Stealth Flight

- Planes are detected using radar which bounces a signal off the plane and records the reflection
- _____
- This plane is then exposed to those who might want to shoot it down
- Stealth planes don't reflect the radar signal



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Drones - Advantages

- Since they are unmanned, there is no danger to the flight crew
- They can go into hard-to-reach
- They are much cheaper than full aircraft
- _____



Future Space Flight

There are two main problems with space flight

1. The lack of usable gravity in space for long periods of time has a significant and negative affect on humans
 - Examples include muscle and bone deterioration
2. Things in space are really, really far apart and we simply can't travel fast enough to get where we need to go in a reasonable time
 - _____

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Watch and Take Note

- Watch the video and take note of the health consequences of long-term space travel on the human body. What do astronauts do to reduce these affects?

Future Space Flight – Distance and Speed

- To overcome the large distances in space, we need a spaceship which can either _____
- We don't currently have the technology to do this but scientists are

