Logic of Flight
Takeoff

https://www.youtube.com/watch?v=fAoMjiFPKUw
Forces on an Airplane

Four Forces on an Airplane

- Lift
- Drag
- Weight
- Thrust
Control Surfaces

Activity - Build the Glider

1. Cut the templates
Activity - Build the Glider

2. Connect straws, wing, and tailplane
Activity - Build the Glider

3. Bend wing and tailplane
Activity - Build the Glider

4. Connect the rudder
Activity - Build the Glider

5. Attach a penny coin at the tip
Activity - Build the Glider

5. Attach the rubber band behind the coin
Activity - Build the Glider

6. Launch!
Activity - Build the Glider

6. Fill the table

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bend left aileron up and right aileron down</td>
<td></td>
</tr>
<tr>
<td>Bend left aileron down and right aileron up</td>
<td></td>
</tr>
<tr>
<td>Bend left and right elevators up</td>
<td></td>
</tr>
<tr>
<td>Bend left and right elevators down</td>
<td></td>
</tr>
</tbody>
</table>
Research at UofM

Photo from https://www.flickr.com/photos/100936386@N02/16041398441/