

How Birds Fly Review Guide (PS-AFSF-7)

1. Aerodynamics required for flight: _____ up into the air; _____ as long as needed or desired; _____ the _____ of flight; & _____ safely.
2. Describe how birds achieve lift: _____

3. Describe how birds stay in the air by gliding: _____
by soaring: _____

The Origins of Flight Final Review Guide (PS-AFSF-7)

1. In tracing the history of flight, two traits appear over and over: people have always _____ to fly; and flight has always depended on our own ability to _____ to carry us through the air
2. Leonardo da Vince was influenced by interest in _____; in his sketches he worked out _____ structures and _____ mechanisms; these machines, called _____, were powered by the _____ and _____ of the passenger; failed to realize that the _____ a man produced was small compared to his _____; left detailed sketches including first known design of a _____ & _____ had he worked on the design of _____ gliders instead of bird-like machines, may have moved aviation ahead _____ years!!!

Principles of Flight Final Exam Review Guide (PS-AFSF-7)

EXPLAIN AND RELATE to AIRCRAFT/FLYING:

1. Newton's First Law/Law of Inertia: _____

2. Newton's Second Law: _____

3. Newton's Third Law: _____

4. Bernoulli's Principle: _____

The Physics of Flight Final Review Guide (PS-AFSF-7)

1. EXPLAIN AND RELATE the four force of flight to AIRCRAFT/FLYING:

Lift: _____

Gravity: _____

Thrust: _____

Drag: _____

2. How does the aircraft's motion through the air generate lift: _____

3. **Explain** the three variables that effect how lift is controlled: _____

4. What provides an aircraft's thrust: _____
5. What affects thrust: _____
6. What does parasite drag do to aircraft energy:: _____

7. What is ___/how is it overcome/fixd: a) form drag= _____/_____;
- b) interference drag=_____/_____;
- c) skin friction= _____/_____;
8. What is induced drag: _____
- how is it counteracted: _____
9. Explain what happens with aircraft flight when the four forces are each dominant (4 situations): _____
- _____
10. Explain what happens with the aircraft when two forces are dominant (4 situations): _____
- _____

The Purpose and Function of Airplane Parts Final Review Guide (PS-AFSF-8)

1. Explain what the fuselage designs AND what it is designed to hold: _____
- _____
2. Describe the role of vertical stabilizer: _____
3. Describe the role of the horizontal stabilizer: _____
4. Describe the role of the rudder: _____
5. Describe the role of the elevator: _____

Aircraft Motion and Control I Final Review Guide (PS-AFSF-8)

1. Describe the yaw axis, how it works, and how it is controlled: _____
- _____
2. Describe the pitch axis, how it works, and how it is controlled: _____
- _____
3. Describe the roll axis, how it works, and how it is controlled: _____
- _____
4. Describe how the aircraft's three primary control systems function and how they relate to the three axis of rotation:
- a) _____
- b) _____
- c) _____
5. Describe how the aircraft's three secondary control systems function and how they relate to the three axis of rotation:
- a) _____
- b) _____
- c) _____
6. Wings: the major part of an aircraft responsible for _____
7. Ailerons: controls the right and left _____ movement; located on _____ edge of _____
8. Flaps: responsible for _____ and _____
9. Empennage: _____ of the aircraft; major parts are _____ and _____
10. Elevator: responsible for the _____ and _____ movement of aircraft's _____ and _____
11. Horizontal stabilizer: helps control the _____
12. Rudder: responsible for change of _____ to the _____ and _____
13. Vertical stabilizer helps control the _____
14. Engines: responsible for aircraft _____; generates _____