



## YouthBytes.org - A Powerful Tool for Youth Workers

YouthBytes is a simple, yet effective tool in the hands of those who have a passion to reach and teach this generation. The Episode Guide is designed to help you implement YouthBytes into your particular setting at whatever level you choose: from a full meeting schedule to just a small video to enhance your meeting. We encourage each worker to add his or her own stories, experiences and illustrations to make your particular scenario work. The discussion questions are also just a starting point and we encourage each group to go further and deal with local issues and topics that might be relevant.

### Each YouthByte Episode will include :

- Video summary
- Icebreaker
- Primary Lesson
- Facts, figures and illustrations used in the episode
- Key Scriptures
- Discussion Questions
- Complimentary story

We look forward to getting your feedback and comments for these Episode Guides. Also let us know what subjects you would want new YouthBytes to cover. As always, testimonies are welcome. Comments, ideas, and testimonies can be sent to [feedback@youthbytes.org](mailto:feedback@youthbytes.org).

## Disc 11 ~ Soaring High Crash Landing



### Video Summary

Chad and Chris are at it again, trying to build an airplane that actually flies, and doesn't just crash in a nosedive. Chris, in his zeal also to be a human-airplane, attempts several one-man missions from a local roof top. Learn the 4 forces that act upon an airplane while in flight, and how these relate to our spiritual quest to fly high with God.



### Icebreaker ~ A Difficult Landing

The airline had a policy that required the first officer to stand at the door while the passengers exited, smile, and give them a "Thanks for flying XYZ airline."

An airline pilot on this particular flight hammered his plane into the runway really hard. In light of his bad landing, he had difficulty looking the passengers in the eye, all the time he thought that a passenger would have a smart comment. However, it seemed that all the passengers were too shell shocked to say anything.

Finally, everyone had gotten off except for this little old lady walking with a cane. She said, "Sonny, mind if I ask you a question?" "Why no Ma'am," said the pilot, "What is it?" the little old lady said, "Did we land, or were we shot down?"



### Primary Lesson ~ Lift and Gravity, Thrust and Drag

As a plane flies, it is in the center of four forces. **Lift** and **thrust** get a plane into the air. **Gravity** and **drag** try to pull the plane down and slow its speed.

Lift ~ Lift is an upward force caused by the wings. The plane is designed to take advantage of these lifting forces all around it.

- The Spirit of God is referred to as a wind, coming to breathe life into your life and situation. You cannot get off the ground without the *lift* of God and His spirit!

Gravity ~ Gravity (or weight) pulls on any object of mass, and is likened to sin that pulls us down and can potentially keep us from flying. The Bible says that "We are in the world but not of the world." We do have to operate our lives and fly regardless of the forces at work against us. Once you are off the ground and in the air that is when the real forces of opposition begin, spiritually, emotionally, and even physically.

But this force of gravity is a key ingredient in our ability to fly. You cannot fight gravity, per se. It will have an effect on you, but you can allow attitude to work around it. What goes up must come down, unless you can break its hold on your spirit.

- Gravity and lift are opposing forces. When the plane's lift equals the force of gravity and the force of thrust equals the drag, the plane remains in level, cruising flight. When one or more of these four forces change, the plane begins to change its altitude, direction, or speed.
- Life is about balance. The Bible says that a man of God avoids all extremes. If we are out of balance or heavy in one place and too light in the other, we cannot maintain consistent flight.

**Thrust** ~ Thrust is likened to passion or zeal. To overcome drag, most airplanes have some kind of propulsion system to generate a force called thrust. The magnitude of the thrust depends on many factors associated with the propulsion system. The Bible says that all we do is "not by might, nor by power, but by My Spirit." With that type of propulsion, you cannot help but move forward and stay afloat!

- The prophet Jeremiah in the Bible says that God's word is like a fire shut up in his bones. It is the power that drives us to serve God, to preach the Word, and to live a life of holiness.

**Drag** ~ Drag is the natural force of air that resists an airplane's forward movement. It is who we are as humans: stubborn, lazy and easily distracted. The Bible says that no one searches for God, but while we were sinners Jesus came and died for us. The drag can be represented by our fallen nature, bad attitudes, past hurts and offenses. Opposition is everywhere it cannot be helped, you have to compensate...

- When we are too big, or too full of ourselves, there will always be drag. Imagine trying to get a railroad car to fly. The aerodynamics are all wrong, and is a perfect example of pride!
- The motion of the airplane through the air depends on the relative strength and direction of the forces shown above. If the forces are balanced, the aircraft cruises at constant velocity. If the forces are unbalanced, the aircraft accelerates in the direction of the largest force.



## Facts, Figures & Illustrations ~ Fearful Flyers

The majority of the people who step onto a commercial airliner have no knowledge of how this big capsule with wings can get off the ground. Naturally their greatest concern (especially for the fearful flyer) is "what if something goes wrong and we are 33,000 feet off the ground?"

*Probability of being killed in an airplane accident vs. other causes of death*

Your chances of being involved in an aircraft accident are about 1 in 11 million. On the other hand, your chances of being killed in an automobile accident are 1 in 5000. Statistically, you are at far greater risk *driving* to the airport than getting on an airplane. However, the *perception* is that you have more control over your fate when you are in your car than as a passenger traveling on an airplane. Experience shows otherwise, considering that over 50,000 people are killed on the highways every year.

An article in *Time* magazine (12/4/06) reminds us that "more than 500 times as many people die on U.S. roads as in airline accidents." The article "Why We Worry About the Things We Shouldn't" further goes on to give some startling statistics about the kind of accidents that kill Americans. The data is from 2003, the most recent year for which data is available. According to the article, if you're a bike rider, a dog lover, or a bath taker then you're at far greater risk of being killed in an accident than you are from riding in a commercial aircraft. Don't forget the other kinds of accidents that killed more people than aircraft crashes--stinging from bees/wasps, slipping on ice or snow, choking on food, or falling down stairs or off ladders. It's a dangerous world we live in! And please don't forget the 600 Americans who are killed every year from falling out of bed.

Source: <http://www.fearlessflight.com>



## Key Scriptures (From New King James Version, unless otherwise noted)

**Isaiah 40:31** ~ *But those who wait on the LORD shall renew their strength; they shall mount up with wings like eagles, they shall run and not be weary, they shall walk and not faint.*

**Jeremiah 20:9** ~ *Then I said, "I will not make mention of Him, nor speak anymore in His name." But His word was in my heart like a burning fire shut up in my bones; I was weary of holding it back, and I could not.*

**James 4:10** ~ *Humble yourselves in the sight of the Lord, and He will lift you up.*

**Hebrews 12:1** ~ *Therefore we also, since we are surrounded by so great a cloud of witnesses, let us lay aside every weight, and the sin which so easily ensnares us, and let us run with endurance the race that is set before us.*



## Discussion Questions

1. Chad discusses the 4 forces of flight: lift, gravity, thrust and drag. Discuss these 4 forces, and their spiritual counterpart. Which force for you is the most difficult to maintain or control?
2. Lift opposes gravity, thrust counteracts drag. Discuss these opposing forces, and how the strength of one counteracts the other (e.g. As you have more passion for God, the drag of this world isn't as strong, etc.).
3. As in the case of Chad and Chris attempting to fly the RC plane, why is it important to be patient and diligent in your attempts to "fly" with God?
4. Pray for each other, that God would strengthen you in those "forces" that you have the hardest time maintaining.



## Complimentary Story ~ Igor Sikorsky, Helicopter Pioneer

Igor Sikorsky (1889-1972) was born in Kiev, in Southern Russia. Igor grew up in a scientific atmosphere - his father was a professor of psychology and his mother was educated in medicine. His mother greatly admired Leonardo da Vinci and often told her son of the many accomplishments of the great artist, but da Vinci's flying machine designs made an indelible impression on the boy's mind, even though they were made 400 years before.

With this background, it was only natural that in 1908, when he read about the Wright brothers, he resolved to make flying his career. He remembered da Vinci's helicopter sketch, and this may have influenced him to work on a machine that would rise vertically.

After reading everything available, he realized he had to do more - he would have to learn first-hand about engines and airplanes - he would have to practice, work and practice. So in January 1909, with the financial aid of his sister, he went to Paris where they were experimenting with airplanes. He spent months at the flying fields talking to the experts, particularly Captain Ferber who offered him the following advice: "Don't waste your time on the helicopter - the airplane will be far more valuable." Another expert published an article on the helicopter entitled "The Wrong Way."

But young Sikorsky returned to Kiev with a lot of information, an engine, and a firm determination to build one. In the next two months he built an experimental machine, then the tests and real troubles began. The helicopter frame resembled a large rectangular box - the engine was on one side, the operator on the other. Many detail troubles were encountered and fixed, then the real difficulty showed up - the engine was too small. So he made a second design. A year later the new machine was completed - it would lift itself but not the operator - there were still many problems to be solved.

In the meantime, he also designed and built an airplane. This was ready for test in April, 1910, and although he had never flown a plane before, without hesitation he climbed into the pilot's seat and opened throttle. But he could get into the air only a few feet. Again it was a question of power. He was getting both practice and experience.

Both the helicopter and airplane furnished valuable scientific information but he had to choose now which one he would develop; and as the airplane seemed to offer greater possibilities at the time, he discontinued his helicopter experiments.

Sikorsky built a second airplane, adding more power, and on June 3, 1910 made his first successful flight. His practice was bearing fruit. New models followed - each larger and more powerful, until in 1913, he was ready to fly his latest - a four-engine ship weighing 9000 pounds called the "Grand."

Before the flight, some said that the plane was too heavy to rise from the ground. Others were sure that the plane was too large to be controlled. But regardless of these warnings, a successful trial flight was made. In 1931, after coming to America, he was still in favor of four-engine ships and launched the S-40, the first of the Clipper ships for ocean travel.

But in 1938 his thoughts turned again to the helicopter, for he realized, as is so often the case, his ideas of 1910 were far ahead of the materials and engineering possibilities of that time. Now things seemed to have caught up with the ideas and, in addition, many new developments had come into aviation. So he built the weird looking machine designated the VS-300. The old process began again - experiment, rebuild and adjust. Practice and more practice!

Sikorsky, in his day, went on to become a pioneer of developing the helicopter. Yet, it was not without much trial, error, and eventually success!

Source: [www.todayinsci.com](http://www.todayinsci.com) manuscript of Charles Kettering's 1940s radio broadcasts