**Outline**

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| Outline | Notes to instructor  |
| 1. Begin class discussion
	1. Talk about wind up planes
	2. What makes a rubber band powered plane unique

What should you consider when designing your plane? | Teacher instigates class discussion over planes and what factors should be considered when designing a rubber band plane. |
| 1. Challenge 1
	1. Begin PowerPoint presentation
	2. Walk students through presentation

Have students begin designing their planes | Teacher presents Airplane DesignPowerPoint for lesson. |
| . Challenge 1 Test1. Have students complete their planes
2. Begin testing student's planes
3. Record which ones traveled the farthest

Why did the plane fly straight and far? | Teacher will supervise testing to make sure of no foul play. Take note of distances traveled by each plane. |
| 1. Class Discussion
	1. Have best plane's individual/team give a presentation of why it flew well.
	2. What factors contributed to its performance?
	3. Examine other planes and compare the Differences.
	4. Have students write up a report on why their plane performed the way it did.
	5. Then have them write a paragraph about what they would do differently if they were given another chance.

H. Then have students write a hypothesis about what part of the plane is the biggest factor in how far it traveled. (balance, wings, etc.) - no wrong answer as long as students have legitimate reason to assume | Teacher leads a class discussion. Have students write down why planes did well/bad, what factors are most important, and what students would do differently if given the same challenge again. |
| 1. Conclusion
	1. Have students turn in papers.
	2. If there is leftover time, have students begin Challenge 2 (loop and spiral planes).
 | Teacher states there is no wrong answer as long as students have data and evidence to support their assumptions and reasoning. |