

Fall or Glide?

Developed by: Linda Fenton

Discipline / Subject: Science

Topic: Aviation

Grade Level: 3, 4, 5

Resources / References / Materials Teacher Needs:

Data Sheet

Timers

2 Sheets of Paper

Lesson Summary:

Students will discover surface area by comparing how paper falls to the ground.

Standard's Addressed: (Local, State, or National)

Common Core Standards Science (Draft) Interaction of Forces

1. Investigate the motion of objects to determine observable and measurable patterns to predict future motions.
2. Investigate the motion of objects by comparing the relative sizes and direction of forces on an object at rest to the forces on an object whose motion is changing.

Structure, Properties, and Interactions of Matter

1. Measure and compare the physical properties of objects.

<p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Learn term Surface Area. 2. Students observe and discover how items with larger surface area take longer to drop. 	<p>Method of assessment for learning</p> <p>Teacher observation. Grade Data Sheet</p>
<p>Procedural Activities</p> <ol style="list-style-type: none"> 1. With a partner get a timer and 2 sheets of paper. 2. Crunch one of the sheets of paper into a ball – keep the other one flat. 3. Stand on a chair and hold the balled up paper in front of one student. The timer says “3 – 2 – 1 – Go” and student drops paper. Mark time. 4. Same person should stand on the chair and drop the flat sheet using the same procedure. Mark the time. 5. Answer the questions with partners. 6. Mark the time for each group and compare times. 7. Discuss why one falls to the ground. 8. Introduce the term “Surface Area” and discuss how it can be used in flight. 	
<p>Materials Students Need:</p> <p>Timers 2 Pieces of Paper Data Sheet</p>	
<p>Technology Utilized to Enhance Learning: Teacher can use Exel Spreadsheet to mark everyone’s time.</p>	
<p>Other Information: Lesson Plan modified from Experimental Aircraft Association (EAA) education curriculum.</p>	
<p>Modifications for Special Learners/ Enrichment Opportunities: Students with special needs can work with paraprofessional.</p>	

Data Collection

Fall or Glide?

Name _____ Date _____

Fill in the chart.

Type of Paper	First Time (in seconds)	Second Time (in seconds)	Slowest Time (in seconds)
Ball			
Sheet			

Answer the following questions.

1. How were the 2 pieces of paper the same? How were they different?

2. Which type of paper took longer to reach the ground? Why do you think this happened?
