

AIR-TROLLEY CONSTRUCTION

Title of Lesson: Air-Trolley Construction

Key Question: How far can an air-trolley glide?

Objective: Calculate the distance of each flight, then gather and graph data.



Materials: Jumbo straw, super jumbo straw, index card, propeller, hook, rubber band, meter tape, scissors, transparent tape, clear packing tape (2-inches wide), fishing line.

Engage: YouTube video: <http://www.youtube.com/watch?v=bPiwGbR2FWA>

Explore: Working in pairs, students construct their trolley and complete the *Air-Trolley Distance Graph*, page 9. Before the flights begin, discuss operational definition: a definition that very clearly states how a variable will be measured. (see worksheet *Flight Distance*, page 7) Identify the front and back of the trolley. Will you measure from the front or back of the trolley? Make sure students are clear on how to measure the distance travelled. Explain the necessity to measure consistently. The class should decide on how they will all measure so their data can be compared. Conduct experiment.

Explain: Compile class data. Analyze data. Find the class average, medium, mode, and mean. Talk about the variables and the reasons for the difference in the data.

Evaluate: Check data table and graph for accuracy. Write a paragraph explaining the class results. Explain how your data was like or unlike the class data and why.

Extension: Find out more about the air-trolley. Check the Internet for gondola lift, aerial lift, or aerial tramway. Find out how many gondola lifts there are in the United States and around the world. What are their uses?