

# SPARK 101: Fruit Fly Surveillance

10-15 minute video to share your passion and expertise with millions of students!

## Video Segment I Problem/Motivation (5-8 min.)

- Introduction to ISS research
- Jane introduces self and Sanjoy at Ames
- Sanjoy introduces lab and how engineering must meet the scientific constraints
- Sanjoy then goes through the constraints
- Problem as a question solvable in 45-90 minutes (How would you design the experiment?)
- 6 constraints described
- Students challenged to solve the problem

## Video Segment II Solving the Problem (3-4 min.)

- Jane explains we'll go over the solution
- Sanjoy does chalk talk going over the solution
- Jane asks them how their solution compares

## Video Segment III Future Impact/Meaning (2-3 min.)

- Jane interviews Sanjoy about his educational background
- She asks him about advice for students wanting to pursue engineering and for those who want to work at NASA
- Jane then encourages students to participate in other engineering design challenges with NASA

Inspired  
Students and  
Educators

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## Introduction

- Provided by Spark 101
- Start of every video
- 10-20 seconds

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## Making Connections

- Prior to start of video:
- Connecting to prior student knowledge
  - Teachers will have the Fruit fly lab Fact sheet and will be encouraged to go through it with students to give them background

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## Problem Solving/ Processing

- Video paused
- Strategies focused on solving the presented problem/ challenge
- Students engage in problem solving using engineering design process

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## Evaluating/ Processing

- Video paused
- Strategies focused on evaluating the solutions and comparing them to the presenter(s) solutions.
- Students engage in critical thinking

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## Reflecting/ Decision Making

- Video end
- Strategies focused on what students will do differently (college majors, course selection, career development and planning)
- Discuss other engineering design challenges students can get involved with.

Sparking student interest in Science, Technology, Engineering, Mathematics (STEM)