# TECH: Flight Simulator 02 (Trans) Module

# Summary

New...2008 pdf. update! This is presented as a module activity. Students fly a simulated airplane using Microsoft's Flight Simulator 2002. The students fly from Ogden-Hinkley(KOGD)airport and land at SLC International (KSLC) in a Cessna 172SP Skyhawk. The actual flight time is about 12 minutes and students use a joystick to control the plane. The curriculum has activities for a pilot and a copilot. This update was prompted after the closing of Meigs field (in the real world)during the spring of 2003. Flight Simulator X was released and a new curriculum has been written to eventually replace this one. The new curriculum has the same basic design only directions for the pilot and co-pilot are seperated and each gets them with their own kneeboard. Directions are also available for the use of several propellor planes and eliminating all jet planes if the teacher wanted in the Flight Sim X curriculum.

#### Time Frame

3 class periods of 60 minutes each

Group Size

Pairs

#### Life Skills

Thinking & Reasoning, Communication, Social & Civic Responsibility, Employability

### Materials

Computer: Microsoft® Windows® 98/Me/XP/2000 PC with 450 MHz equivalent or higher processor 128 MB of system RAM 1.8 GB available hard disk space 4x speed or faster CD-ROM drive 8 MB video card required Sound card, speakers or headphones required for audio Microsoft® Flight Simulator 2002 (preferred by author) or 2004 Software Microsoft® SideWinder Force Feedback 2 Joystick and electrical outlet. The joystick is no longer being marketed by Microsoft. It can be bought used through Amazon.com which carries both items. Links are provided below to view the items and the cost at Amazon. There are many other 3rd party joysticks or flight controllers which will work. CH products has a good flight yoke that many teachers like. These 3rd party input devices will also work with this curriculum.

# **Background for Teachers**

Teachers need to know the basic operation of a computer and how to connect USB devices once the software is installed. The images on this document come from a variety of sources. They are either public domain, royalty fee, created by the author, or used by arrangement with the copyright holders. No permission is granted for the copying or re-use of any images used in this document, copyrighted or otherwise. Flight Simulator© Mike Breen - Author of document. USOE has purchased rights to the document which gives individual teachers within the state of Utah rights to print this document for use in their classes.

# Student Prior Knowledge

Students need to be able to read and write. Students need to know how to use a joystick and click on a computer program to open it.

Intended Learning Outcomes

Students will fly a simulated airplane. Students will make observations and read data. Students will analyze the data and synthesize the information to become a successful virtual pilot. Students will recognize the importance of communication and cooperation in flying an airplane. Students will understand basic concepts of flight.

### Instructional Procedures

Teachers will need to make sure that the CD 1 (of 3) is in the CD ROM drive before students come to use the computer with FS 2002. FS 2004 requires CD #4. They will also need to make sure the joystick is plugged in. Students sit down and read and follow directions.

# Strategies for Diverse Learners

The settings can be changed to accommodate any student. Teachers can set the settings in the software to be harder or easier than what has been suggested here.

### Extensions

Math - students used 2.2 gallons of fuel in 12 minutes of flight. They have 48.2 gallons left. Approximately, how much longer could they fly without running out of fuel? Geography - Have the students use a map and determine what direction they have to fly from Ogden to go to a certain city..antelope island etc. Let them see what compass heading they think will be correct and see if they can find the city/geographic landmark with the plane.

### Assessment Plan

Students will fill out the worksheet in the PDF file. Students will read gauges and equipment to successfully navigate to SLC. The teacher will visually check this to see that they are on task.

# Bibliography

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