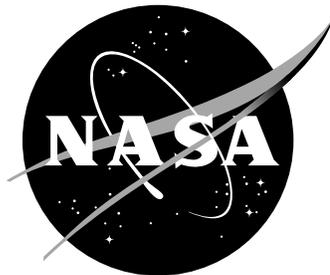


Aeronautics

An Educator's Guide with Activities in Science, Mathematics, and Technology Education

What pilot, astronaut, or aeronautical engineer
didn't start out with a toy glider?



National Aeronautics and Space Administration

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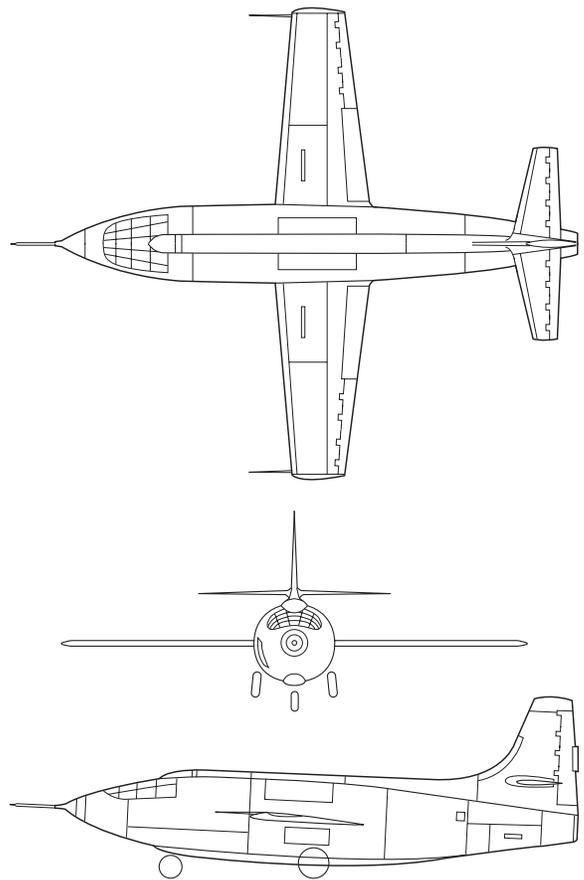
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**NACA X-1 Research Aircraft
1946**

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Preface

Welcome to the exciting world of aeronautics. The term aeronautics originated in France, and was derived from the Greek words for “air” and “to sail.” It is the study of flight and the operation of aircraft. This educator guide explains basic aeronautical concepts, provides a background in the history of aviation, and sets them within the context of the flight environment (atmosphere, airports, and navigation).

The activities in this guide are designed to be uncomplicated and fun. They have been developed by NASA Aerospace Education Services Program specialists, who have successfully used them in countless workshops and student programs around the United States. The activities encourage students to explore the nature of flight, and experience some real-life applications of mathematics, science, and technology.

The subject of flight has a wonderful power to inspire learning.

How to Use This Guide

This guide begins with education standards and skills matrices for the classroom activities, a description of the NASA aeronautics mission, and a brief history of aeronautics. The activities are divided into three chapters:

Air
Flight
We Can Fly, You and I

The activities are written for the educator. Each activity begins with (1) objectives, (2) education standards and skills, and (3) background material for the subject matter in the activity. The activity continues with by step-by-step instructions (and associated graphics) to help the educator guide students through the activity in the classroom. Each activity includes “student pages,” easily identified by this icon:



The student pages are as simple as a graphic of the activity, and as advanced as a work sheet. They are meant to supplement the educator’s presentation, serve as reminders, and inspire students to explore their own creativity. Activities requiring step-by-step assembly include student pages that present the project in a way that can be understood by pre-literate students.

Each chapter ends with a section listing suggested interdisciplinary activities.

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