

# Difference Engines: Mechanical Brains

## PROGRAM DESCRIPTION

Before the digital era, engineers and tradespeople built elegant engines of logic, both grand and modest, to aid in their everyday calculations. Visit a world where bones, cogs and tubes are the cutting edge of computation and learn how they can inspire your arithmetic and literary inventiveness. Lots of hands-on activities with vintage computing machines and artifacts await!

Visit [STEMpunkED.com/Programs](http://STEMpunkED.com/Programs) for more details

## LOGISTICS, FEE & DELIVERY REQUIREMENTS

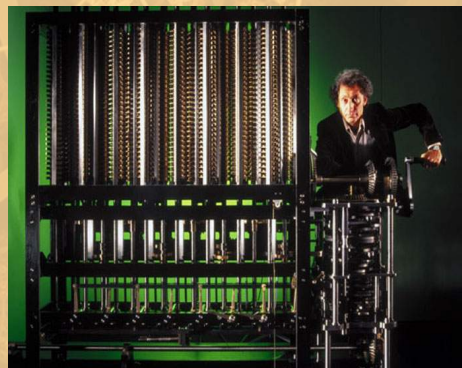
**Duration:** 2.5 hour interactive program | **Age Range:** 9/10-Adult | **Participants:** 10-30  
**Cost:** See Website | **Requirements:** Video Projector with HDMI port and speakers ; 1 large table for presenter's items ; 10 medium tables with chairs for hands-on stations ; 1.0 hour setup and breakdown times ; additional travel charges may apply.

### CORE TOPICS & GOALS

▲ Analyze historical periods, patterns, and key figures of change in computing over time as well as within and across nations and cultures

▲ Demonstrate how key mathematical, mechanical, and social developments impact present day digital computing

▲ Explore how coding was performed using mechanical, physical, and logical processes prior to modern computer languages



### CORE TOPICS & GOALS

▲ Follow written procedures to complete tasks related to using vintage computing machines and artifacts

▲ Illustrate how basic mathematical concepts and processes are reflected in the designs of early and modern computers

▲ Establish a chronology to organize and study cause-and-effect relationships of computing advances across time