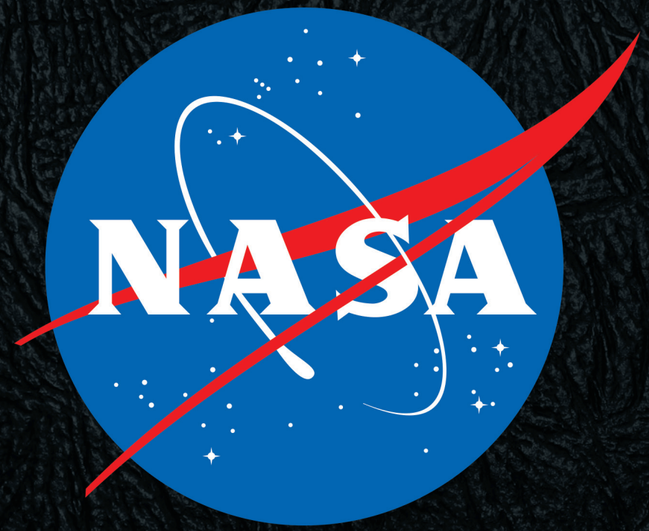

NASA Headquarters
300 E Street SW
Washington, DC 20546
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Modern Figures Toolkit

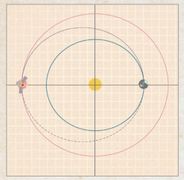
NASA EDUCATION

STEM Is the Future—How Will You Get Involved?

Inspire Engage, Educate, Employ.

Modern Figures Activities

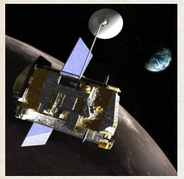
Locate lesson plans and articles by topic and grade level related to Katherine Johnson and her fellow Human Computers below.



Let's Go to Mars: Calculating Launch Windows

Topic: Math Grades: 9-12
NGSS: HS-ESS1-4
CCSS: Math.Content.HSG.GPE.A.3 , Math.Content.HSG.C.A

Students use planetary-position data and algebraic computations to determine a launch opportunity to Mars.
http://go.nasa.gov/2glXzFi



What is an Orbit?

Topic: Science Grades: 4-8
NGSS: MS-ESS-1-2
CCSS: ELA-Literacy.RST.6-8

Students learn about the shape of an orbit, the effect of gravity on an orbit, and where satellites orbit the Earth.
http://go.nasa.gov/2glUBRn

Rover Races

Topics: Engineering/Programming Grades: 3-12
NGSS: 3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3, MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4
CCSS: ELA-Literacy 3.1 - 11.12.1

Students simulate operating a rover on Mars by providing directions to navigate the Martian terrain.
http://go.nasa.gov/2glX3qX

NASA Langley & Human Computers

Topic: History Grades: 9-12
CCSS: ELA-Literacy.RH.9-12.1, ELA-Literacy.RH.9-10.3, ELA-Literacy.RH.11-12.7, ELA-Literacy.RH.11-12.9

Students explore the social impact of human computers at NASA Langley during the 20th century.
http://go.nasa.gov/2glXEsI

Gravity: It's What Keeps Us Together

Topic: Math Grades: 6-12
NGSS: MS-ESS-1-2, MS-ESS-2-4 CCSS: Math.Content.HSG.GPE.A.3, Math.Content.HSG.C.A

Students solve 10 gravity-related problems using the distance, rate and time formula; evaluating functions; analyzing graphs; and using mathematical modeling.
http://go.nasa.gov/2glXCRN

Moon Phases

Topic: Science Grades: 1-6
NGSS: MS-ESS-1, 1-ESS1-1

Students learn about the phases of the moon by acting them out. In 30 minutes, they will act out one complete, 30-day, moon cycle.
http://go.nasa.gov/2glV2v3

Touchdown

Topics: Engineering/Programming Grades: 3-8
NGSS: MS-ETS1-1, MS-PS3-1, 3-5-ETS1-2
CCSS: ELA-Literacy 3.1 - 11.12.1

Students use their knowledge of gravity, motion, and forces to design and build a shock-absorbing system.
http://go.nasa.gov/2glX03j

Modern Figures

Topic: History Grades: 3-12
CCSS: ELA-Literacy.RH.6-12.1, ELA-Literacy.RH.6-12.2

Students review a series of articles and resources related to Katherine Johnson and the Human Computers.
http://go.nasa.gov/2glYo0G

Modern Figures Resources

Discover videos, historical references, and STEM materials through the links below. Each title includes the appropriate topic and grade level to inspire and educate students.

Human Computers

Topic: History **Grades:** 6-12
http://go.nasa.gov/2glVnhf

Pi in the Sky

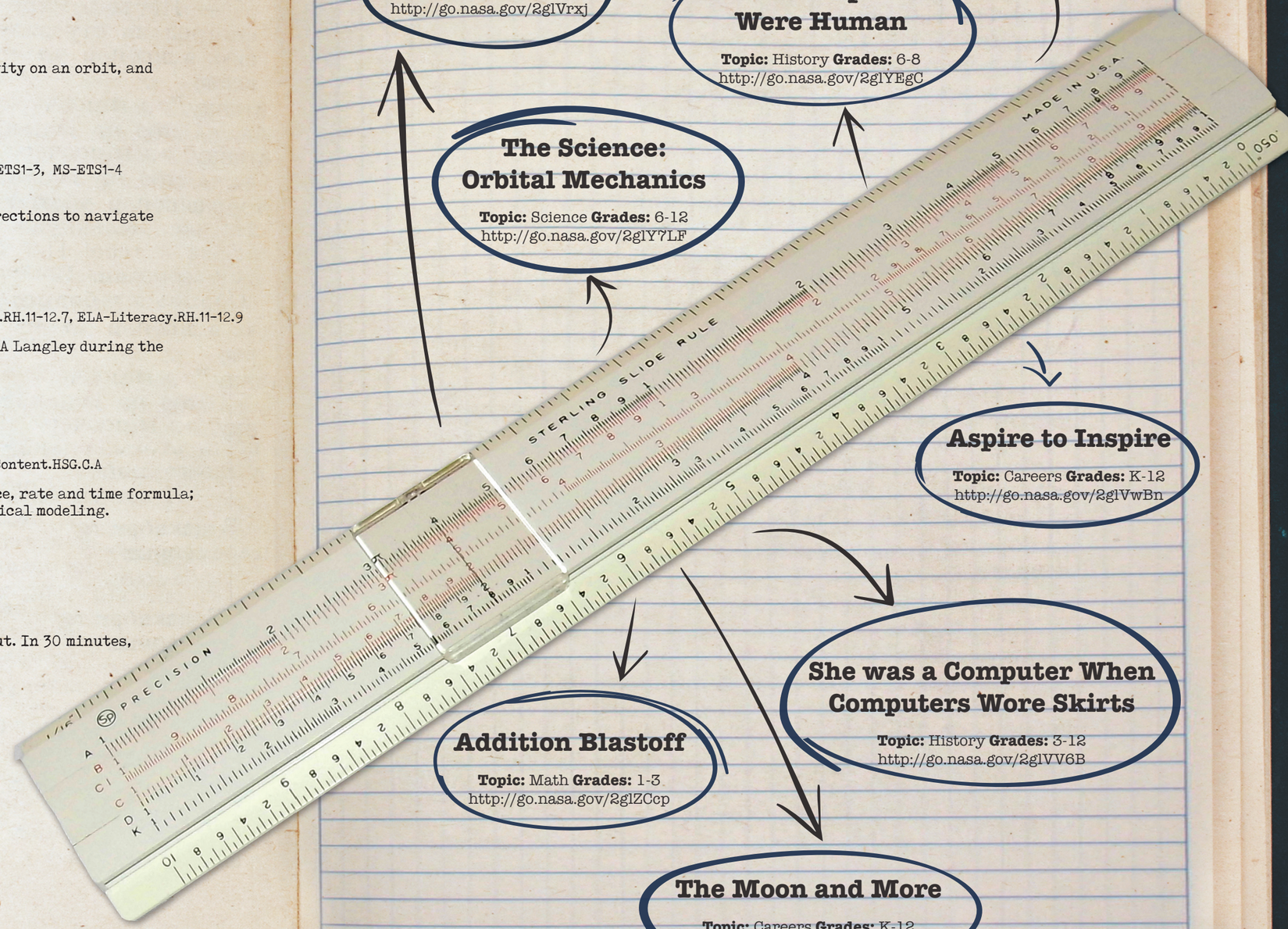
Topic: Math **Grades:** 4-12
http://go.nasa.gov/2glVrxj

When Computers Were Human

Topic: History **Grades:** 6-8
http://go.nasa.gov/2glYEgC

The Science: Orbital Mechanics

Topic: Science **Grades:** 6-12
http://go.nasa.gov/2glY7LF



Aspire to Inspire

Topic: Careers **Grades:** K-12
http://go.nasa.gov/2glVwBn

She was a Computer When Computers Wore Skirts

Topic: History **Grades:** 3-12
http://go.nasa.gov/2glVV6B

Addition Blastoff

Topic: Math **Grades:** 1-3
http://go.nasa.gov/2glZCcp

The Moon and More

Topic: Careers **Grades:** K-12
http://go.nasa.gov/2glYZj0