

Strand Map Resources for Grades 3-5

Science Literacy Strand Maps are a tool for finding NASA resources that relate to specific science and math concepts, among other things. These strands illustrate connections between concepts as well as how concepts build upon one another across grade levels. The concepts have been identified by the American Association for the Advancement of Science as key benchmarks in the development of a child's scientific understanding. The supplemental links below are listed in NASAWavelength as relevant to the various benchmarks that are addressed by these lessons.

For more information: <http://nasawavelength.org/strandmaps#sthash.DgmPui51.dpuf>

Lesson 1

Distance to the Moon

<http://ares.jsc.nasa.gov/ares/Education/Program/ExpMoon/DistanceMoon.pdf>

Solar System Trading Cards

<http://amazing-space.stsci.edu/resources/explorations/trading/>

Discovery and New Frontiers Space Thrills Posters

<http://discovery.nasa.gov/posterForm.cfm>

What Makes Day and Night

http://eyeonthesky.org/lessonplans/05sun_daynight.html

My Place in Space

http://phoenix.lpl.arizona.edu/pdf/lesson_1.pdf

Lesson 2

Mars Lithograph

<http://amazing-space.stsci.edu/resources/print/lithos/marslitho.pdf>

Using Earth for Planetary Comparisons

<http://ares.jsc.nasa.gov/ares/eeab/BMM.cfm>

KWL Mars

http://phoenix.lpl.arizona.edu/pdf/lesson_2.pdf

History of Mars Exploration

http://phoenix.lpl.arizona.edu/pdf/lesson_4.pdf

Mars Match Game

http://phoenix.lpl.arizona.edu/pdf/lesson_6.pdf

Lesson 3

Blind Mice

http://phoenix.lpl.arizona.edu/pdf/lesson_8.pdf

Lesson 4

Where is the Oldest Surface on Mars

<http://astrosociety.org/wp-content/uploads/2012/09/C-15001.pdf>

Touchdown Mars

http://phoenix.lpl.arizona.edu/pdf/lesson_7.pdf

Clouds: A Multi-Disciplinary Study

http://scool.larc.nasa.gov/cgi-bin/view_lessonplan.cgi?id=37

Exploring Ice in the Solar System: Ice in the Shadows

http://www.messenger-education.org/library/pdf/ice_shadows.pdf

Cold, Clouds and Snowflakes

http://mynasadata.larc.nasa.gov/lesson-plans/?page_id=474?&passid=96

Exploring Ice in the Solar System: Ice Is Water: Water Is Ice

http://www.messenger-education.org/library/pdf/ice_melts.pdf

Exploring Meteorite Mysteries: Crater Hunters

<http://ares.isc.nasa.gov/ares/education/program/expmetmys/LESSON7.pdf>

Plate Tectonics and Volcanism

<http://astroventure.arc.nasa.gov/teachers/pdf/AV-Geolesson-5.pdf>

Lesson 5

The History of Mars Exploration

http://phoenix.lpl.arizona.edu/pdf/lesson_4.pdf

Let's Go to Mars!

<http://spaceplace.nasa.gov/mars-adventure>

Lesson 6

KWL Robotics

http://phoenix.lpl.arizona.edu/pdf/lesson_9.pdf

Independent Investigations

http://stargazers.gsfc.nasa.gov/pdf/activities/in_a_different_light/lesson6_student.pdf

Put on Your Scientific Inquiry Hats!

http://www.images-press.com/files/lessonPlan_marsby.pdf

Lesson 7

Surface Color and Effect on Temperature Change: A Confirmation-Verification Activity

http://www.nasa.gov/centers/langley/pdf/245894main_MeteorologyTeacherRes-Ch3.r3.pdf

Atmospheric Science Mission

<http://astroventure.arc.nasa.gov/teachers/pdf/AV-Atmoslesson-9.pdf>

Barometer Basics: A Structured-Inquiry Activity

http://www.nasa.gov/centers/langley/pdf/245896main_MeteorologyTeacherRes-Ch5.r3.pdf

Constructing a Barometer: A Structured Inquiry Activity

http://www.nasa.gov/centers/langley/pdf/245897main_MeteorologyTeacherRes-Ch6.r3.pdf

Tour of the Electromagnetic Spectrum

http://missionscience.nasa.gov/ems/TourOfEMS_Booklet_Print.pdf

Lesson 8

The Phoenix Mission: Uncovering Martian Water

http://phoenix.lpl.arizona.edu/pdf/lesson_12.pdf

Mission Moon

http://www.lpi.usra.edu/education/explore/LRO/activities/mission_moon/

Using Earth for Planetary Comparisons

<http://ares.jsc.nasa.gov/ares/eeab/BMM.cfm>

Interpreting Satellite Images

<http://science.hq.nasa.gov/kids/imagers/teachersite/RS5.htm>

Astronomical Society to the Pacific

<http://astrosociety.org/education/the-universe-at-your-fingertips-2-0/>

Lesson 9

Engineer a Satellite

<http://aura.gsfc.nasa.gov/outreach/engineerAsatellite.html>

Deep Space Network Poster

<http://deepspace.jpl.nasa.gov/dsn/educ/poster.html>

My Place in Space

http://phoenix.lpl.arizona.edu/pdf/lesson_1.pdf

Program It!

http://phoenix.lpl.arizona.edu/pdf/lesson_11.pdf

What are Satellites?

<http://science.hq.nasa.gov/kids/imagers/teachersite/RS2.html>

Chabot Space and Science Center

<http://www.chabotspace.org/assets/teacher/touch-the-sun.pdf#page=137>

Lesson 10

Lander Design

http://phoenix.lpl.arizona.edu/pdf/lesson_14.pdf

How Clear is Water?

<http://genesission.jpl.nasa.gov/educate/scimodule/CleanRoom/pdfs/HowClearIsTheWaterTG.pdf>

Phoenix's Robotic Arm

http://phoenix.lpl.arizona.edu/pdf/lesson_13.pdf

Lesson 11

Deep Impact

<http://deepimpact.umd.edu/educ/Collaborative.html>

Lander Design

http://phoenix.lpl.arizona.edu/pdf/lesson_14.pdf

Lesson 13

Geology Educator Guide

<http://astroventure.arc.nasa.gov/teachers/pdf/AV-Geolesson-8.pdf>

Touchdown Mars!

http://phoenix.lpl.arizona.edu/pdf/lesson_7.pdf