

SUN EARTH
UNIVERSE



SOL TIERRA
UNIVERSO



Signage and Graphics

8. Signage and Graphics

Contents

(please see Chapter 1 - List of Host Resources for complete table of contents)


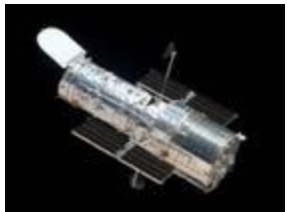
Contents	1
Signage graphics packet	2
Image credits and sources	2
Acknowledgements	23
Appendix - Signage graphics packet	23

Signage graphics packet


Please see the attached graphics packet.
Full scale print-quality PDFs are available for re-printing.

Image credits and sources


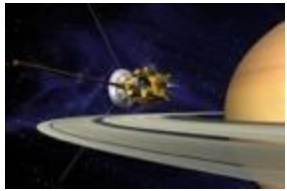
We ask questions about the universe - Exterior panel

Image	Credit	Permission	Source
	NASA and The Hubble Heritage Team (STScI/AURA)	Creative Commons Attribution 4.0 International license	http://www.spacetelescope.org/images/opo0328a/
	NASA	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://www.nasa.gov/mission_pages/hubble/story/index.html

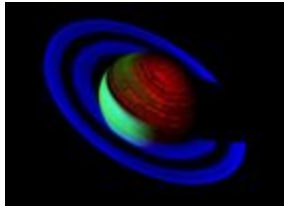
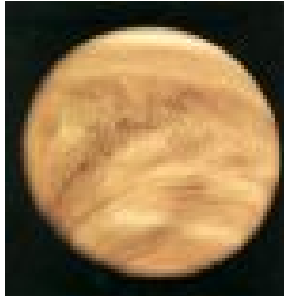
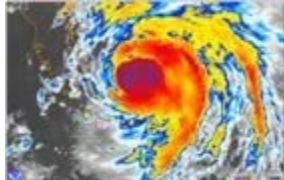
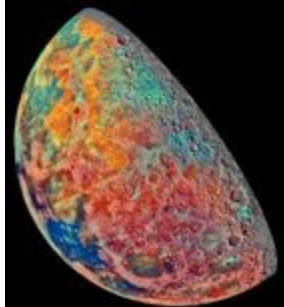
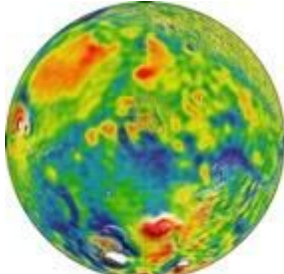
We ask questions about the universe - Interior panel


Image	Credit	Permission	Source
	NASA, ESA, S.Beckwith (STScI) and the HUDF Team	Creative Commons Attribution 4.0 International license	https://www.spacetelescope.org/images/heic0406a/

We ask questions about the solar system - Exterior panel

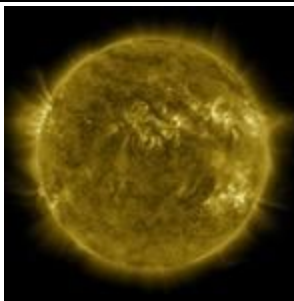
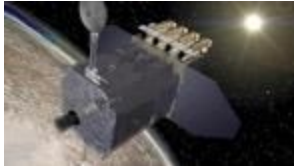
Image	Credit	Permission	Source
	Cassini Imaging Team, SSI, JPL, ESA, NASA	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://apod.nasa.gov/apod/ap090628.html Geyser plumes: Artist's conception
	NASA/JPL	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://photojournal.jpl.nasa.gov/catalog/PIA03883

We ask questions about the solar system - Interior panel


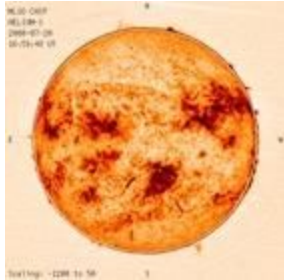
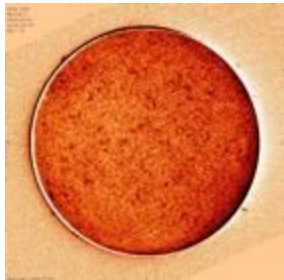
Image	Credit	Permission	Source
	NASA Jet Propulsion Laboratory/University of Arizona	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://photojournal.jpl.nasa.gov/catalog/PIA09212
	NASA	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://nssdc.gsfc.nasa.gov/photo_gallery/photogallery-venus.html
	NOAA / public domain	Public domain http://www.photolib.noaa.gov/about.html	https://www.ncdc.noaa.gov/wct/mediars/index.php
	NASA Jet Propulsion Laboratory	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://photojournal.jpl.nasa.gov/catalog/PIA00131
	MIT/UMBC-CRESST/ NASA Goddard Space Flight Center	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://www.nasa.gov/feature/goddard/2016/mars-gravity-map



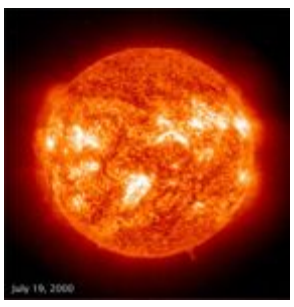

	NASA Jet Propulsion Laboratory	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://www.jpl.nasa.gov/spaceimages/details.php?id=PIA00057
---	--------------------------------	---	---


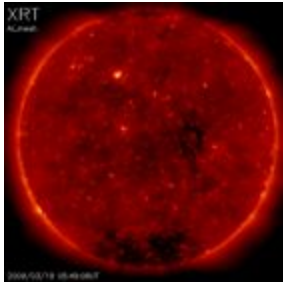
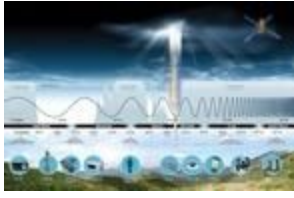
We ask questions about the Sun - Exterior panel

Image	Credit	Permission	Source
	NASA/Goddard Space Flight Center, Scientific Visualization Studio	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://svs.gsfc.nasa.gov/3839
	NASA/Goddard Space Flight Center, Conceptual Image Lab	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://www.jpl.nasa.gov/spaceimages/details.php?id=PIA18169

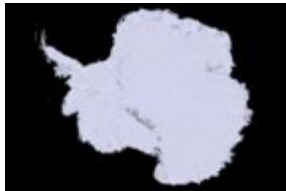

We ask questions about the Sun - Interior panel

Image	Credit	Permission	Source
	NASA/SDO	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://svs.gsfc.nasa.gov/cgi-bin/details.cgi?aid=11473
Infrared maximum 	Courtesy of the Mauna Loa Solar Observatory, operated by the High Altitude Observatory, as part of the National Center for Atmospheric Research (NCAR)> NCAR is supported by the National Science Foundation.	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	http://mlso.hao.ucar.edu/cgi-bin/mlso_animate_disk_Drup.cgi?year=2000&mon=07&day=20&inst=CHIP&quality=ALL&basedir=/hao/acos/lowres/&res=512&type=chp.hsh.jpg
Infrared minimum 	Courtesy of the Mauna Loa Solar Observatory, operated by the High Altitude Observatory, as part of the National Center for Atmospheric Research (NCAR)> NCAR is supported by the National Science Foundation.	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	http://mlso.hao.ucar.edu/cgi-bin/mlso_animate_disk_Drup.cgi?year=2009&mon=03&day=20&inst=CHIP&quality=ALL&basedir=/hao/acos/fullres/&res=1024&type=chp.hsh.jpg


<p>Visible maximum</p>  <p>July 19, 2000</p>	<p>Courtesy SOHO, the EIT Consortium, and the MDI Team.</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://earthobservatory.nasa.gov/IOTD/view.php?id=37575</p>
<p>Visible minimum</p>  <p>March 18, 2009</p>	<p>Courtesy SOHO, the EIT Consortium, and the MDI Team.</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://earthobservatory.nasa.gov/IOTD/view.php?id=37575</p>
<p>Ultraviolet maximum</p>  <p>July 19, 2000</p>	<p>Courtesy SOHO, the EIT Consortium, and the MDI Team.</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://earthobservatory.nasa.gov/IOTD/view.php?id=37575</p>
<p>Ultraviolet minimum</p>  <p>March 18, 2009</p>	<p>Courtesy SOHO, the EIT Consortium, and the MDI Team.</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://earthobservatory.nasa.gov/IOTD/view.php?id=37575</p>



<p>X-ray maximum</p> 	<p>NASA, Yohkoh SXT instrument</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>http://solar.nro.nao.ac.jp/solar_basic/cuspp.png</p>
<p>X-ray minimum</p> 	<p>NASA, Hinode X-ray instrument</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>http://solar.physics.montana.edu/HINODE/XRT/SCIA/daily_pages/2009/20090318_SYN.html</p>
	<p>NASA</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://science.nasa.gov/ems/01_intro</p>






We ask questions about the Earth - Exterior panel


Image	Credit	Permission	Source
	USGS, NASA, National Science Foundation, and the British Antarctic Survey.	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://visibleearth.nasa.gov/view.php?id=78592
	NASA	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://landsat.gsfc.nasa.gov/landsat-data-continuity-mission/

We ask questions about the Earth - Interior panel



Image	Credit	Permission	Source
	NASA Goddard Space Flight Center. Image by Reto Stöckli (land surface, shallow water, clouds). Enhancements by Robert Simmon (ocean color, compositing, 3D globes, animation). Data and technical support: MODIS Land Group; MODIS Science Data Support Team; MODIS Atmosphere Group; MODIS Ocean Group Additional data:	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://earthobservatory.nasa.gov/Features/BlueMarble/BlueMarble_2002.php

	USGS EROS Data Center (topography); USGS Terrestrial Remote Sensing Flagstaff Field Center (Antarctica); Defense Meteorological Satellite Program (city lights).		
 <p>Artificial islands 2000</p>	<p>Images taken by the Enhanced Thematic Mapper Plus sensor onboard Landsat 7. Source: U.S. Geological Survey (USGS) Landsat Missions Gallery "Dubai's Islands," U.S. Department of the Interior / USGS and NASA.</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://climate.nasa.gov/images-of-change?id=467#467-artificial-islands-united-arab-emirates</p>
 <p>Artificial islands 2012</p>	<p>Images taken by the Enhanced Thematic Mapper Plus sensor onboard Landsat 7. Source: U.S. Geological Survey (USGS) Landsat Missions Gallery "Dubai's Islands," U.S. Department of the Interior / USGS and NASA.</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://climate.nasa.gov/images-of-change?id=467#467-artificial-islands-united-arab-emirates</p>


	Images taken by Landsat 5 and 8. Source: NASA Earth Observatory .	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://climate.nasa.gov/images-of-change?id=603#603-urban-expansion-in-shanghai-china
	Images taken by Landsat 5 and 8. Source: NASA Earth Observatory .	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://climate.nasa.gov/images-of-change?id=603#603-urban-expansion-in-shanghai-china
	Images by NASA Scientific Visualization Studio . Information sources: 2012: NASA Earth Observatory , 2013: NASA Earth Observatory , 2016: NASA Global Climate Change .	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://climate.nasa.gov/images-of-change?id=623#623-arctic-sea-ice-coverage-hits-record-low
	Images by NASA Scientific Visualization Studio . Information sources: 2012: NASA Earth Observatory , 2013: NASA Earth Observatory , 2016: NASA Global Climate Change .	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://climate.nasa.gov/images-of-change?id=623#623-arctic-sea-ice-coverage-hits-record-low
	Images taken by the Thematic Mapper onboard Landsat 5 and the Operational Land Imager onboard Landsat 8. Source:	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://climate.nasa.gov/images-of-change?id=585#585-open-pit-coal-mine-growth-in-powder-river-basin-wyoming

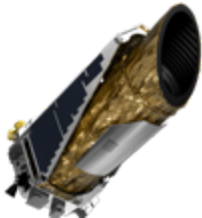



<p>Open pit coal mines 1987</p>	<p>U.S. Geological Survey (USGS) Landsat Missions Gallery; “Landsat Reveals Industrial Growth in Powder River Basin”; U.S. Department of the Interior / USGS and NASA.</p>		
 <p>Open pit coal mines 2016</p>	<p>Images taken by the Thematic Mapper onboard Landsat 5 and the Operational Land Imager onboard Landsat 8. Source: U.S. Geological Survey (USGS) Landsat Missions Gallery; “Landsat Reveals Industrial Growth in Powder River Basin”; U.S. Department of the Interior / USGS and NASA.</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://climate.nasa.gov/images-of-change?id=585#585-open-pit-coal-mine-growth-in-powder-river-basin-wyoming</p>



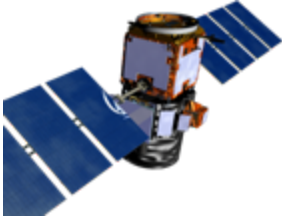

Use tools to detect the invisible

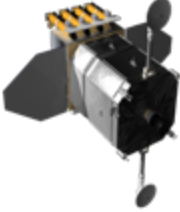

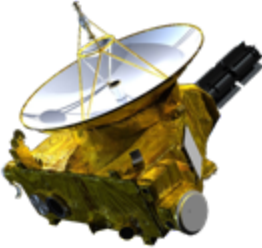

Image	Credit	Permission	Source
	NASA Jet Propulsion Laboratory-Caltech	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://commons.wikimedia.org/wiki/File:Juno_Transparent.png Derived from: https://photojournal.jpl.nasa.gov/catalog/PIA13746
	NASA/Jet Propulsion Laboratory/Space Science Institute	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://photojournal.jpl.nasa.gov/catalog/PIA04866


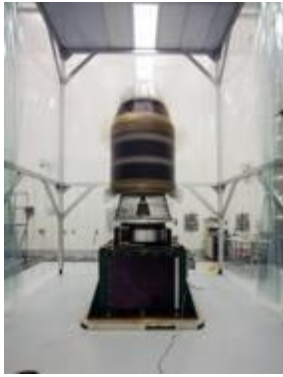

Design > Build > Test engineering activity

Image	Credit	Permission	Source
	Science Museum of Minnesota for the NISE Network	Creative Commons Attribution Non-Commercial Share Alike 3.0 United States (CC BY-NC-SA 3.0 US) https://creativecommons.org/licenses/by-nc-sa/3.0/us/	NISE Network image

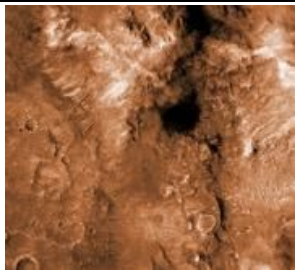
<p>Kepler</p> 	<p>NASA</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://science.nasa.gov/toolkits/spacecraft-icons</p>
	<p>Science Museum of Minnesota for the NISE Network</p>	<p>Creative Commons Attribution Non-Commercial Share Alike 3.0 United States (CC BY-NC-SA 3.0 US) https://creativecommons.org/licenses/by-nc-sa/3.0/us/</p>	<p>NISE Network image</p>
<p>Juno</p> 	<p>NASA/JPL-Caltech</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://commons.wikimedia.org/wiki/File:Juno_Transparent.png Derived from: https://photojournal.jpl.nasa.gov/catalog/PIA13746</p>
	<p>Science Museum of Minnesota for the NISE Network</p>	<p>Creative Commons Attribution Non-Commercial Share Alike 3.0 United States (CC BY-NC-SA 3.0 US) https://creativecommons.org/licenses/by-nc-sa/3.0/us/</p>	<p>NISE Network image</p>

<p>RainCube</p> 	<p>NASA/JPL -Caltech</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://commons.wikimedia.org/wiki/File:Raincube.jpg</p>
	<p>Science Museum of Minnesota for the NISE Network</p>	<p>Creative Commons Attribution Non-Commercial Share Alike 3.0 United States (CC BY-NC-SA 3.0 US) https://creativecommons.org/licenses/by-nc-sa/3.0/us/</p>	<p>NISE Network image</p>
<p>Calipso</p> 	<p>NASA</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://science.nasa.gov/toolkits/spacecraft-aft-icons</p>
	<p>Science Museum of Minnesota for the NISE Network</p>	<p>Creative Commons Attribution Non-Commercial Share Alike 3.0 United States (CC BY-NC-SA 3.0 US) https://creativecommons.org/licenses/by-nc-sa/3.0/us/</p>	<p>NISE Network image</p>

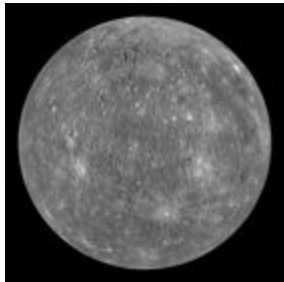

<p>Solar Dynamics Observatory</p> 	<p>NASA</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://science.nasa.gov/toolkits/spacecraft-icons</p>
	<p>Science Museum of Minnesota for the NISE Network</p>	<p>Creative Commons Attribution Non-Commercial Share Alike 3.0 United States (CC BY-NC-SA 3.0 US) https://creativecommons.org/licenses/by-nc-sa/3.0/us/</p>	<p>NISE Network image</p>
<p>New Horizons</p> 	<p>NASA</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://commons.wikimedia.org/wiki/File:New_Horizons_Transparent.png</p> <p>Derived from: https://www.nasa.gov/feature/new-horizons-color-images-reveal-two-distinct-faces-of-pluto-series-of-spots-that-fascinate</p>
	<p>Science Museum of Minnesota for the NISE Network</p>	<p>Creative Commons Attribution Non-Commercial Share Alike 3.0 United States (CC BY-NC-SA 3.0 US)</p>	<p>NISE Network image</p>


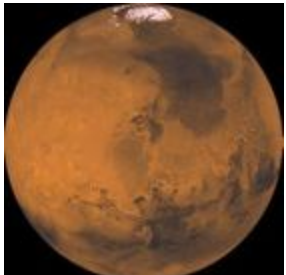


		https://creativecommons.org/licenses/by-nc-sa/3.0/us/	
	NASA Jet Propulsion Laboratory-Caltech	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://www.jpl.nasa.gov/spaceimages/details.php?id=PIA18573
	NASA	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://www.nasa.gov/content/ladee-spin-test
	Southwest Research Institute / All rights reserved	Image license agreement signed	Contact Southwest Research Institute for image and permission to use.



Mars landscape play table

Image	Credit	Permission	Source
	NASA Mars Trek / Jet Propulsion Laboratory	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	Contact Brian Day at NASA Ames Research Center for image.


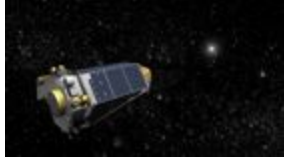


Solar system stools


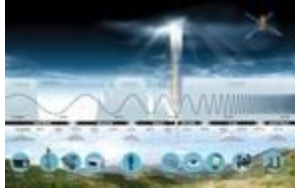
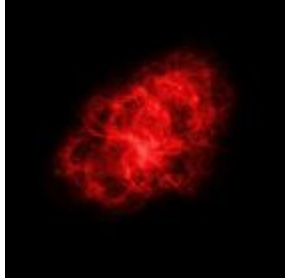
Image	Credit	Permission	Source
Mercury 	NASA/Johns Hopkins University Applied Physics Laboratory/Carnegie Institution of Washington	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://photojournal.jpl.nasa.gov/catalog/PIA15160
Venus 	NASA Jet Propulsion Laboratory	Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html	https://photojournal.jpl.nasa.gov/catalog/PIA00104

<p>Earth</p> 	<p>NASA images by Reto Stöckli, based on data from NASA and NOAA</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://earthobservatory.nasa.gov/IOTD/view.php?id=8108</p>
<p>Mars</p> 	<p>NASA/Jet Propulsion Laboratory/US Geological Survey</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://photojournal.jpl.nasa.gov/catalog/PIA00407</p>
<p>Jupiter</p> 	<p>NASA's Goddard Space Flight Center / Space Telescope Science Institute</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://svs.gsfc.nasa.gov/11921</p>
<p>Saturn</p> 	<p>NASA Jet Propulsion Laboratory/Space Science Institute</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://photojournal.jpl.nasa.gov/catalog/PIA11141</p>

<p>Uranus</p> 	<p>NASA Jet Propulsion Laboratory-Caltech</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://photojournal.jpl.nasa.gov/catalog/PIA18182</p>
<p>Neptune</p> 	<p>NASA Jet Propulsion Laboratory</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://photojournal.jpl.nasa.gov/catalog/PIA02245</p>

Reading cards

Image	Credit	Permission	Source
<p>Impressive at any scale</p> 	NASA/Jet Propulsion Laboratory-Caltech	<p>Subject to NASA Media Usage Guidelines</p> <p>https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://www.jpl.nasa.gov/spaceimages/details.php?id=PIA12114</p>
<p>The Sun and you</p> 	NASA/Steele Hill	<p>Subject to NASA Media Usage Guidelines</p> <p>https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://svs.gsfc.nasa.gov/11126</p>
<p>How to hunt for planets</p> 	NASA/Ames	<p>Subject to NASA Media Usage Guidelines</p> <p>https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://www.nasa.gov/feature/ames/kepler/mission-manager-update-k2-marches-on</p>
	NASA Goddard Space Flight Center	<p>Subject to NASA Media Usage Guidelines</p> <p>https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://visibleearth.nasa.gov/view.php?id=57723</p>
<p>Mission control</p> 	NASA/JPL-Caltech	<p>Subject to NASA Media Usage Guidelines</p> <p>https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://mars.nasa.gov/resources/7309/</p>

<p>Mission control</p> 	<p>NASA/JPL-Caltech</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>Contact Amelia Chapman at NASA's Museum Alliance for image.</p>
<p>The electromagnetic spectrum</p> 	<p>NASA</p>	<p>Subject to NASA Media Usage Guidelines https://www.nasa.gov/multimedia/guidelines/index.html</p>	<p>https://science.nasa.gov/ems/01_intro</p>
<p>The electromagnetic spectrum</p> 	<p>X-ray: NASA/CXC/SAO; Optical: NASA/STScI; Infrared: NASA/JPL/Caltech; Radio: NSF/NRAO/VLA; Ultraviolet: ESA/XMM-Newton</p>	<p>Subject to Image Usage Guidelines http://chandra.harvard.edu/photo/image_use.html</p>	<p>http://chandra.harvard.edu/photo/2017/crab/</p>

Acknowledgements

This material is based upon work supported by NASA under cooperative agreement award numbers NNX16AC67A and 80NSSC18M0061. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the view of the National Aeronautics and Space Administration (NASA).

Appendix - Signage graphics packet

Please see the attached graphics packet.
Full scale print-quality PDFs are available for re-printing.