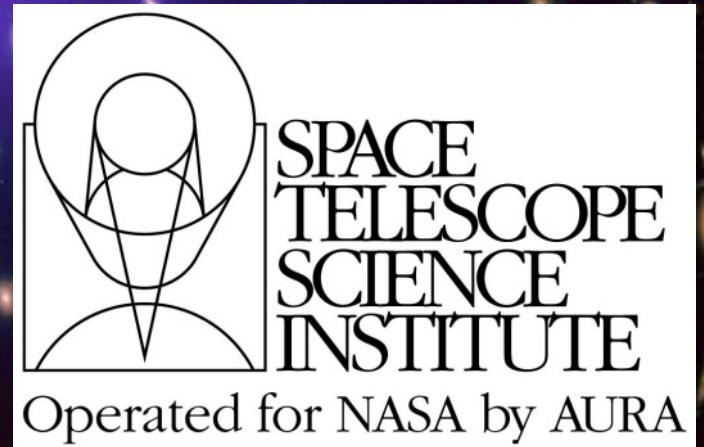




Using Hubble Education Program Resources

SEPA Conference, June 21-25, 2011

**Lucy Albert
Carolyn Slivinski**
Office of Public Outreach



The Hubble Education Program

Bringing the universe to formal and informal education communities, and engaging educators and students in the adventure of scientific discovery.

★ *Amazing Space:*

- ★ standards-based curriculum support tools through the website



Amazing Space

★ *HubbleSOURCE:*

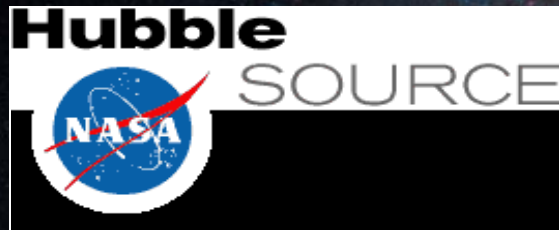
- ★ professional development for formal and informal educators
- ★ exhibit components



HubbleSOURCE

The Hubble Education Program

Informal Education



Kiosk Software



Hubble Science Briefings



Immersive Dome
Visualizations

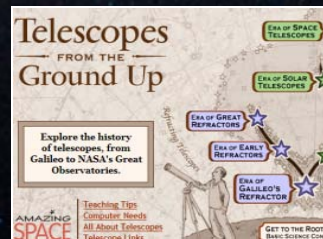


Astronomy Lecture Webcasts

Formal Education



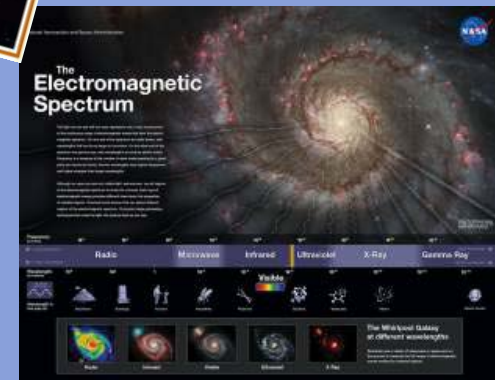
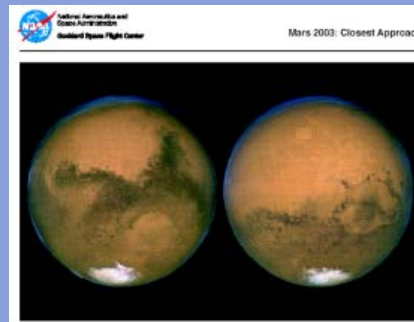
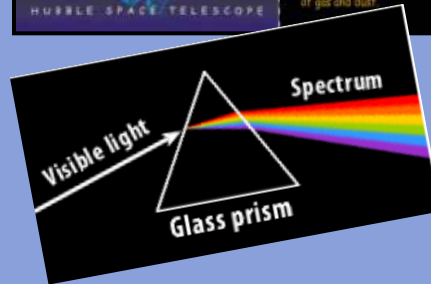
Online Explorations



Hubble Education Program Resources

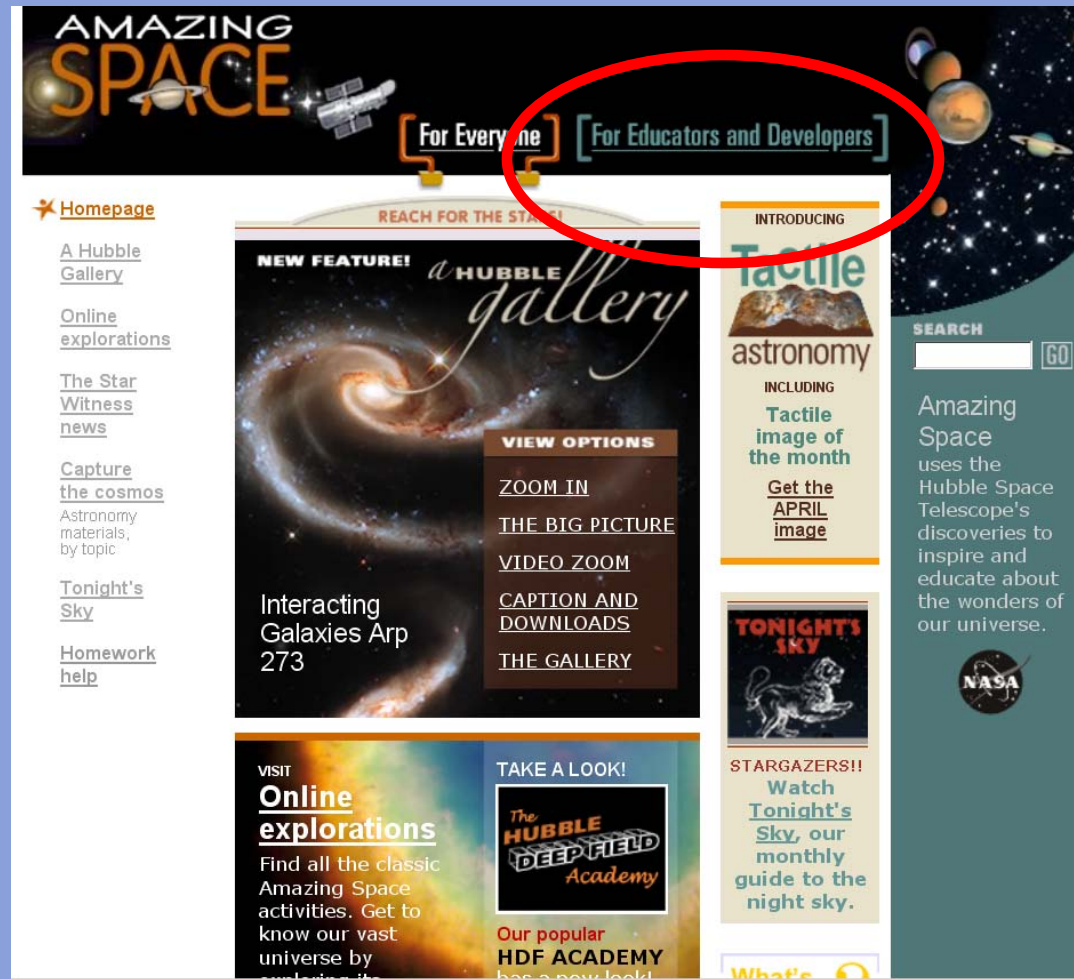


Spiral galaxies	Elliptical galaxies	Irregular galaxies
 <p>Top view: Spiral 1</p>  <p>Side view: Spiral 2</p>		
Huge; contain stars, gas, and dust	Huge; contain stars, gas, and dust	Huge; contain stars, gas, and dust
Held together by gravity	Held together by gravity	Held together by gravity
	Round-to-oval shape	No regular shape

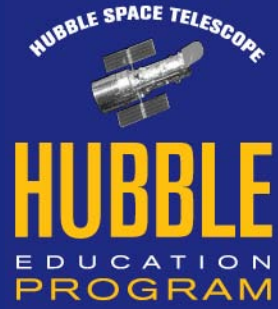


Teacher packets available on request!

Hubble Education Program Resource: Amazing Space website – Formal Education



<http://amazing-space.stsci.edu/>



Hubble Education Program Resource:

Amazing Space: Resources by Topic

- ✧ Black Holes
- ✧ Comets and Asteroids
- ✧ Solar System
- ✧ Electromagnetic Spectrum/Light & Color
- ✧ Galaxies
- ✧ Gravity
- ✧ History of Science
- ✧ Hubble Space Telescope
- ✧ Math: Estimating & Sampling
- ✧ Math: Statistics
- ✧ Stars & Stellar Evolution

Hubble Education Program Resource: Amazing Space website – Formal Education

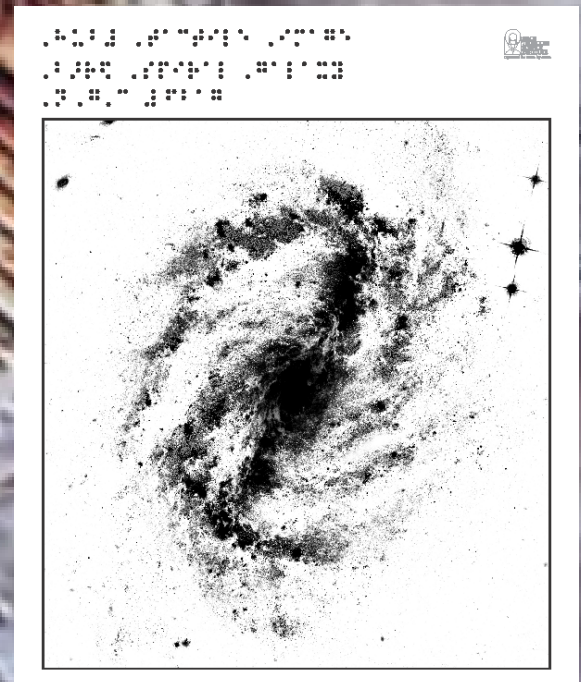


New! Tactile Astronomy

Downloadable files for thermal printers



Barred Spiral Galaxy



Thermal output

<http://amazing-space.stsci.edu/>

Hubble Education Program Resource: HubbleSOURCE

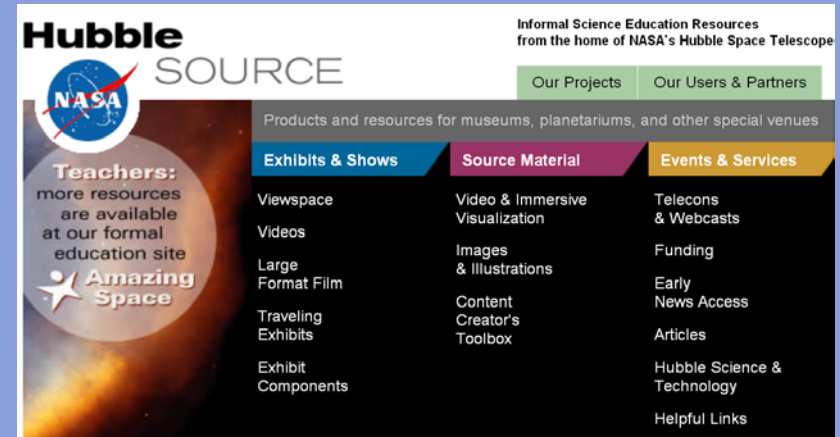
★ ViewSpace

★ Video documentaries

★ Immersive Dome Visualizations

★ Traveling Exhibits

★ Exhibit components

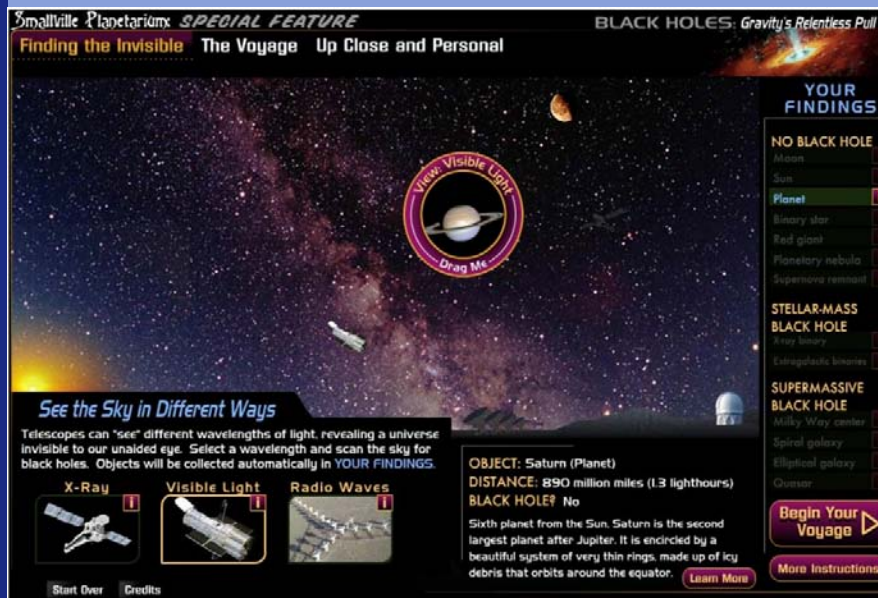


<http://hubblesource.stsci.edu>

Hubble Education Program Resource: HubbleSOURCE Exhibit Components

★ Black Holes: Gravity's Relentless Pull

(Kiosk Software available at no cost to informal education institutions!)



★ Display Transparencies

*Access our digital files to create your own Kodak Duratrans transparency for
...backlit images*

Hubble Education Program Resource: HubbleSOURCE Source Materials

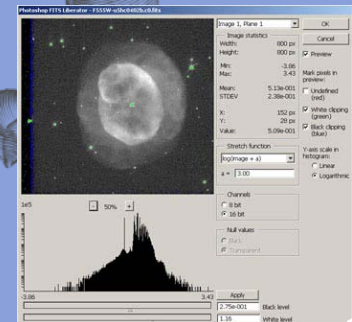
✧ Video clips & immersive
dome visualizations
(for planetariums)



✧ Images + illustrations



✧ Content creator's toolbox
*(for exhibit designers and media
producers)*



Articles



Hubble Education Program Resource: HubbleSOURCE Events and Services

Traveling Exhibits:

Visions of the Universe



Mapping the Cosmos: Images from the Hubble Space Telescope



Walters Art Museum, Baltimore MD

Hubble Education Program Resource: HubbleSOURCE Exhibits and Shows

ViewSpace

...an internet-fed, self-updating, permanent exhibit...

...the latest and most beautiful in astronomy and earth science



...delivered daily

How to support ViewSpace shows with Hubble Education Program Resources

ViewSpace

Long Ago & Far Away
A ViewSpace show about galaxies

Below is a sample of **free Curriculum Support Tools** from Amazing Space that can be used to support ViewSpace show content.

Online Explorations

fun, interactive ways to explore space science topics



Explore the history of telescope development



Use statistics to explore the Hubble Deep Fields



Learn about the three main types of Galaxies



Count and classify the galaxies in the Hubble Deep Field

Science Content Reading

Star Witness News:

The Hubble Space Telescope:
Time Machine to the Galaxies
(upper elementary to middle school)



Tales of ...






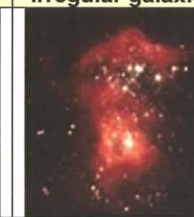
Finding one of the brightest and youngest galaxies in the early universe (high school)

Student Misconceptions

Myths vs realities: Galaxies



Graphic Organizer: Comparison of Spiral, Elliptical, & Irregular Galaxies

Spiral galaxies	Elliptical galaxies	Irregular galaxies
<p>Top view: Spiral 1</p>  <p>Side view: Spiral 2</p> 		
Pinwheel shape	Round-to-oval shape	No regular shape

Online Questions & Answers



Q &A: Galaxies

Lithograph:



The Hubble Ultra Deep Field
And Classroom Activity:
In Search of ... Galaxy Evolution

These and other



Curriculum Support Tools available at:

<http://amazing-space.stsci.edu/>



How can you use
our resources?

How Science Centers, Museums and Planetariums use Hubble Education Program Resources

*Resources from **Amazing Space** and **HubbleSOURCE** websites are:*

- ✧ Standards-based (Amazing Space)
- ✧ Used to support formal educator events and workshops
- ✧ Included on recommended classroom resources lists for formal educators
- ✧ Recommended for use as pre- and/or post-visit activities in K-12 classrooms
- ✧ Integrated into exhibits and cart-based activities
- ✧ Used for pre-engagement to on-site activities
- ✧ Used to support ViewSpace programming
- ✧ Used to provide background information for visitors

Want to
know more?

Hope you'll come see us in our
booth in the vendor hall!

Need
Materials?

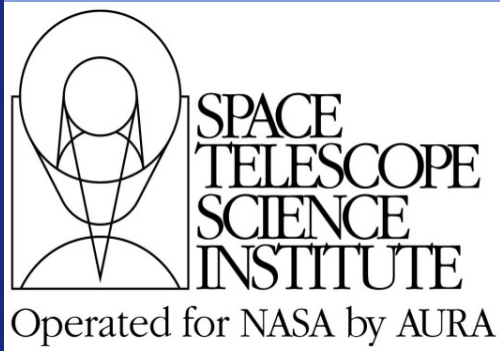


Amazing Space & HubbleSOURCE

For additional information about
Hubble Education Program
Materials:

Carolyn Slivinski

410-338-4883, slivinski@stsci.edu



For additional information about
ViewSpace and HubbleSOURCE
Services:

Lucy Albert

410-338-4857, lalbert@stsci.edu