

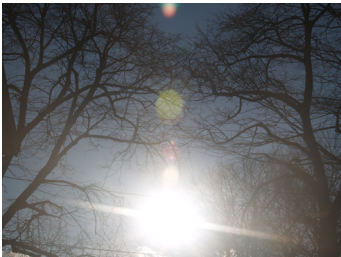


Traveling EduTariumSM Visit Planner

Brought to you by [The Sky Connection](#)

June, 2011

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Instructions		
	<p>This Visit Planner will help you select the best subject matter and program schedule for your group. A Visit Considerations and Requirements Guide appears at the end of this document for guidance about the many factors contributing to a successful visit including the space required to safely accommodate the equipment. Always contact The Sky Connection for a no-obligation quotation and to confirm visit details.</p> <p>Use Program Content to choose appropriate subject(s) for an EduTarium visit, and then refer to Program Scheduling to estimate how many sessions may be required for this visit. Contact us for other topics or custom programs and about multiple program content per visit.</p>	
Program Content (Code)	Description	Comments
Culture in the Sky (+CS)		
	<p>Explores the interpretation of star patterns called constellations as seen by ancient and modern cultures and civilizations. Focus is on introductory Native American starlore and Greek Mythology. Students (and teachers) are amazed to find almost identical characters in star patterns even though the civilizations were separated by thousands of years and thousands of miles. Some of the stories and myths behind these cosmic icons are discussed to explore the way these peoples lived and how they understood the world around them.</p>	<p>Suitable for all ages. Content is adapted to the age group. Music can be played that complements the content and enriches the learning experience. Students are able to identify some of the symbols in the sky and their behaviors.</p>
Reasons for the Seasons (+RS)		
	<p>Actively engages students in following the annual movement of the Sun by observing and plotting sunrise and sunset and position in the sky at noon. They and their teachers are provided with reference material to further reinforce the real reason for the seasons, which they can discuss in the classroom. Older students are challenged to understand how this annual cycle occurs elsewhere on Earth and on other planets.</p>	<p>Can be an observation exercise for 2nd through 3rd grades with additional data recording and prediction activities for 4th through 8th grades. Content is not suitable for younger grades.</p>
Math to the Rescue (+MR)		
<p>Scale: 40 miles/inch Measurement: 50 inches Distance: 2,000 miles Rate range: 2 to 6 miles/day Average: 4 miles/day Time = $D \div \text{Rate}_{\text{avg}}$ t = 500 days</p>	<p>Integrates the use of the superb EduTarium hemispherical scale model with measurements and their conversions to a sea rescue mission exercise involving a low-tech message in a bottle. Ocean current speeds are averaged and applied to calculate likely rescue times. Team cooperation and critical thinking may be incorporated with this program.</p>	<p>Suitable for grades that have had or are studying measurements, averaging, rate as a function of distance and time, and basic mathematical operations.</p>

Contact information:

The Sky Connection, P.O. Box 93, Dedham, MA 02027-0093

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• 1.781.326.1823

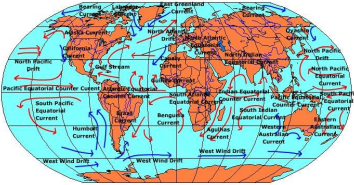
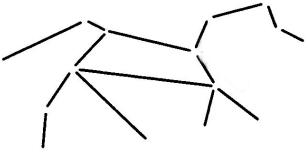

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Program Content (Code)	Description	Comments
<p>Rivers in the Oceans (+RO)</p> 	<p>Examines the amazing ocean currents circulating massive amounts of water around our globe. Covers both so-called warm and cold streams with the motive force causing these. Reviews the Atlantic gyre with its implications upon all landmasses in proximity along its route. The Gulf Stream becomes the focus of this program with its many effects on life along the way as well as some historical insights that lead to its discovery and understanding of its value.</p>	<p>Best suited to fourth grade and up. It covers the major way in which energy and aquatic food supplies are distributed around the globe. It also shows some of the challenges early explorers and merchants had in plying the world's oceans.</p>
<p>Explore the Night Sky (+NS)</p> 	<p>Delivers a hands-on and minds-on journey around the visible cosmos with emphasis on identifying various star patterns seen as asterisms and constellations. Shows the role of the North star (Polaris) as well as how to locate direction and latitude by finding this special star. Discusses major circumpolar, seasonal, and zodiacal constellations. Introduces star map reading as a tool for finding objects in any part of the sky. Distinguishes the northern and southern hemispheres to understand what may be viewed from our location on Earth. Introduces terms such as zenith and horizon and reviews cardinal directions. Discusses the effect of the Moon on observing.</p>	<p>Suitable for grades that have good reading skills and who have learned how to read maps. It extends the map reading process, provides a rewarding way to study the night sky during the year, and shows how the sky changes as the Earth makes its annual journey around the Sun.</p>
<p>What is Climate Change? (+CC)</p> 	<p>This program contrasts the relevance of long-term changes in weather patterns which can impact life on Earth in many ways. Discusses seasonal temperature and water cycles along with factors that can change their averages over time. Covers the role ocean currents play in climate and how their disruption by glacial melt might affect large areas of the Earth's population. Reviews carbon dioxide as a greenhouse gas and its sources. Explores the effects of increased global warming on economics and disease.</p>	<p>Suitable for grade five and up. Content varies with grade levels participating. The complexity of climate is seen not only from the number of factors involved, but also the challenges of collecting and correlating data on a global scale. May involve activities inside and outside the EduTarium.</p>

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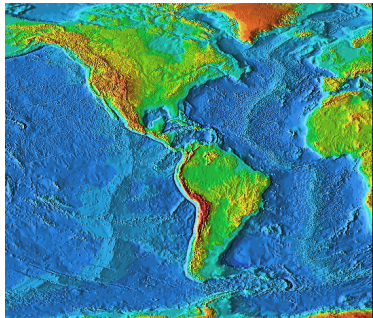
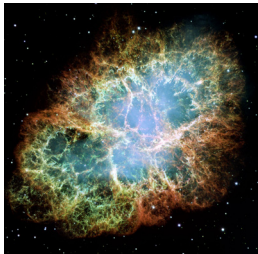

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Program Content (Code)	Description	Comments
<p>Geography Bee (+GB)</p> 	<p>Explore Earth's geography in a round-robin event based on latitude and longitude coordinates accompanied by music of the unknown country. Students may dress in ethnic costumes and clothing representative of the countries studied. Images of significant current and historical landmarks may also be presented as clues. Different grades may be exposed to selective components of this program theme. The focus is practice using the coordinates of latitude and longitude to locate geopolitical boundaries on Earth.</p>	<p>Suitable for grade levels that have studied or are studying geography. Key aspects of geography are also reviewed such as continents, oceans, rivers, coordinates, equator, prime meridian, international date line, and north and south poles and corresponding hemispheres.</p> <p>The EduTarium offers a unique hemispherical environment especially suited to studying the Earth without the distortion caused by maps.</p>
<p>We Are Stardust (+SD)</p> 	<p>Discover how previous generations of stars contributed elements that formed future stars, planets, and life, including us. Few of these elements existed in the beginning of the universe and we explore the birth-life-death cycle of stars that creates new elements.</p> <p>Earth formed 9 billion years after the formation of the universe providing ample time for the chemical enrichment process to take place.</p>	<p>Suitable for grade six and up. Involves simple chemistry concepts that are explained during the program. Students learn how fusion creates heavier elements and this process cascaded to create all the elements we have on Earth.</p>
<p>Phases of the Moon (+MP)</p> 	<p>Grasp the size of the Moon and its distance from Earth. See how one side of the Moon is always illuminated by the Sun. Discover how one side of the Moon always faces the Earth. Explore the cycle of varying light and shading on the Moon, known as phases, as the Moon revolves around Earth during one month. Confront the oft-asked, but little understood, question of why we do not have eclipses every month with every New and Full Moon phase. Advanced classes may explore the impact of the Moon on Earth's tides and how its apparent size varies with its distance throughout its elliptical orbit.</p>	<p>Can be adapted to grade two and up. We dispel the misconception that the phases are caused by the Moon moving into the Earth's shadow. We show why we do not have eclipses every month. May involve activities inside and outside the EduTarium.</p>

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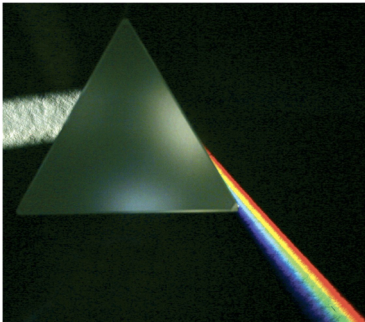
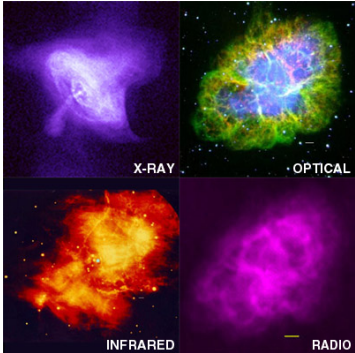

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Program Content (Code)	Description	Comments
<p>Light: the Messenger of the Universe (+LM)</p> <div style="text-align: center; margin-top: 20px;">  </div>	<p>Most of the information we have about the far-reaches of the universe comes from our analysis of light. This program explores how we can determine chemical composition of distant celestial objects like stars, motion of these objects and their temperatures, and even the presences of magnetic fields and how strong they are. We introduce the visible light spectrum as discovered by Newton, and then show how different patterns in the resultant colors can be interpreted against known element signatures on Earth to reveal what objects in outer space are made of including our Sun. When certain predictable distortions occur in these signatures, we learn how to infer the presences of magnetic fields. We demonstrate that we can then determine if very distant objects are moving toward or away from Earth and how fast! As another extension of our new knowledge, we explore how we can determine temperature using similar analytical techniques. Light is indeed a powerful messenger!</p>	<p>The content of this program is split into segments based on the grade level of the intended audience and time available. The earliest suggested grade is sixth. May involve activities inside and outside the EduTarium.</p> <p>Portions of this program involve the major historical contributions that led to our ability to apply light-based analytical techniques.</p> <p>Complements our “Seeing the Unseen” program content.</p>
<p>Seeing the Unseen (+SU)</p> <div style="text-align: center; margin-top: 20px;">  </div>	<p>Explore how light “tells” us so much about the universe. Visible light is but a small portion of the entire electro-magnetic spectrum. Modern technology allows us to delve into places invisible to the human eye. This broad range of data gives us further insight into the nature of the universe and helps us better understand what is really happening or has happened. We would be “in the dark” about the universe if it weren’t for our ability to see the unseen. In this program, we show how it is possible to explore above and below the range of the visible spectrum and what we can learn by doing so.</p>	<p>This program is suitable for sixth grade and up. It is divided into different segments based on the spectral region of interest to devote sufficient time for study. May involve activities inside and outside the EduTarium.</p> <p>Complements our “Light: the Messenger of the Universe” program content.</p>
<p>Custom (+CM)</p> <p>Your special program here!</p> <div style="text-align: center; margin-top: 20px;">  </div>	<p>Here are a few examples of what we mean by custom.</p> <p>Don’t see plate tectonics from Earth Sciences listed? We can offer a segment about this fascinating topic with our “Rivers in the Oceans” program content or as a standalone program.</p> <p>Don’t see a review for standardized state science tests such as MCAS? We can do an extended session special that jogs the brains of students who may not have seen this subject matter for awhile.</p>	<p>We can blend content from our standard programs as well as incorporate additional material to create a program tailored to specific educational needs. Please inquire about what you may have in mind. We try to accommodate all reasonable requests for custom programming.</p>

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Program Scheduling

Program Schedule Code (Combine with Program Content Code)	*Daytime weekdays except holidays	June, 2011	Page 5 of 7
		Description** – also see Notes below	
ET-SD	X	Three 45-minute sessions inclusive of dome entry and exit times conducted during a maximum of 3 continuous hours per day.	
ET-SDP	X	Four 45-minute sessions inclusive of dome entry and exit times conducted during a maximum of 4 continuous hours per day.	
ET-LD	X	Five 45-minute sessions inclusive of dome entry and exit times conducted during a maximum of 5 continuous hours per day.	
ET-LDP	X	Six 45-minute sessions inclusive of dome entry and exit times conducted during a maximum of 6 continuous hours per day.	
-JD	X	Use of jumbo dome instead of standard dome to accommodate larger groups and to minimize school scheduling challenges.	
-nTP	X	Prorated roundtrip travel premium for incremental mileage/time beyond included roundtrip mileage/time of 120 miles/120 minutes.	
-nXT	X	Extended visit time premium per hour beyond continuous hours maximum.	

How the codes are used by The Sky Connection as seen in quotations and final invoices:

ET-SDP-JD+RS is a four, 45- minute session program in the jumbo dome focusing on the “Reasons for the Seasons”.

ET-LD-1TP-1XT+MP+NS is a five, 45-minute session program in the standard dome with one additional travel premium and one extended hour focusing on “Moon Phases” for some sessions and “The Night Sky” for other sessions as agreed.

* Daytime weekdays program delivery window: 9 AM to 3 PM, exclusive of set-up and take-down times.

** Any 45-minute session may be divided into two 20-minute segments for pre-K through first grades.

Notes:

- 1) Please refer to our “Visit Considerations and Requirements Guide” at the end of this document for further information to assist your visit planning including the space required to safely accommodate the equipment..
- 2) Allow up to one hour each for set-up and takedown. All travel originates in the 02026 ZIP code, Dedham, MA.
- 3) The standard EduTarium dome accommodates about 25 participants on average depending on age mix. The actual number will be typically more for younger pupils and fewer for older pupils.
- 4) The standard dome requires a minimum indoor space of 25 feet by 25 feet with an unobstructed ceiling clearance of 11 feet and access to an AC outlet. The participants sit on the floor in the space where the dome is set up. The dome is handicap accessible.
- 5) The jumbo EduTarium dome accommodates about 50 participants on average depending on age mix. The actual number will be typically more for younger pupils and fewer for older pupils.
- 6) The jumbo dome requires a minimum indoor space of 35 feet by 35 feet with an unobstructed ceiling clearance of 14 feet and access to an AC outlet. The participants sit on the floor in the space where the dome is set up. The dome is handicap accessible.

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Notes continued:

- 7) Invoices are payable upon delivery of programs and are honored for the pricing in effect on the date they are issued. Invoice pricing is established only from an accepted quotation. Additional charges apply for unscheduled program sessions. A deposit may be requested for confirmed visits lasting more than one day or occurring over weekends or on holidays.
- 8) Special pricing applies to multiple programs conducted on sequential days at the same location and facility when equipment can be secured overnight in a set-up condition. Please contact us for more information and to make special arrangements.
- 9) Prices do not include meals and lodging, which are charged at cost, when overnight stays become necessary. These may be estimated for budgetary consideration.
- 10) Prices are subject to change without notice unless a quotation or invoice has been created.
- 11) Program session duration may be shortened or extended to achieve specific program objectives depending on age groups and schedule flexibility. Such changes must be agreed in advance of program confirmation and invoicing.
- 12) Please be prepared to provide the numbers of students in each grade level for all grades being considered for the program when requesting a quotation. It may be necessary to provide school hours and class scheduling information by grade including lunch and/or recess times to create a program schedule once a visit is booked.


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Criteria	Standard Dome	Jumbo Dome
Outdoor use	No	No
Floor Area	25 feet by 25 feet minimum	35 feet by 35 feet minimum
Ceiling Clearance	11 feet unobstructed	14 feet unobstructed
Audience capacity per session	20 to 30 depending on age mix of audience	40 to 60 depending on age mix of audience
Accessibility	Handicapped in wheel chair (limit 2 with mixed audiences)	Handicapped in wheel chair (limit 4 with mixed audiences)
Electricity	One 120 Vac, 15A or 20A duplex outlet nearby	
Floor surface	Flat and cleaned of dirt before visit; audience sits on floor	
Temperature/humidity	Same as room in which dome is inflated	
Total group size	Sessions are repeated to accommodate groups exceeding dome capacity	
Audience age levels	Schools and camps should separate large groups by age or grade levels	
Supervision	All children must be accompanied by one or more adults	
Noise	Not sound-proof so loud external sounds will be heard	
Multi-use spaces	External noise and foot traffic will be heard; sound barrier divided space preferred if no other option	
Emergency exit	The dome has two exits: the standard entry tube and by flipping the entire dome for rapid, mass evacuation	
Emergency lighting	Battery-powered for full dome illumination	
Other	Young children should go to the bathroom before entering the dome	
	Some young children may be uncomfortable entering or staying in dome	
	Some young children may be uncomfortable when the dome becomes dark	
	Some adults with claustrophobia may be uncomfortable in the dome	
	Air in dome is constantly circulated by blower which keeps dome inflated	
	Ambient light is normally not a problem as the dome is opaque	
	No food or beverage is allowed in the dome	
	Audiences are requested to remove their footwear before entering the dome	
	Visit schedules should allow time between sessions to move students in and out of the dome, typically 10 to 15 minutes for the small dome and 15 to 20 minutes for the jumbo dome	
	Custodial assistance may be requested to move the equipment in and out of building including use of a platform cart.	
	An EduTarium is a traveling classroom-in-a-classroom that enables audiences to visualize and interact with subject matter of all types, in ways that are impossible with traditional page and screen-based learning aids.	

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