

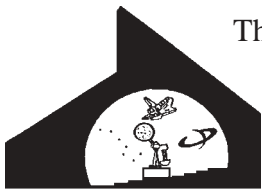
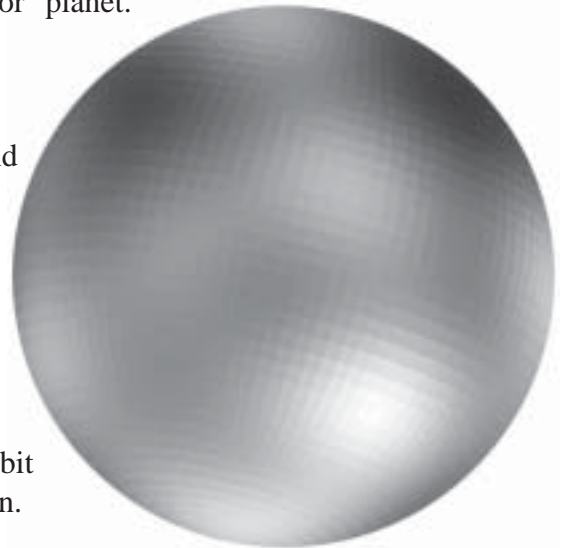
# Pluto Not a Planet!

August 2006 - The International Astronomical Union, the group responsible for categorizing and naming objects in space recently made a definition for “planet.”

Under the planet definition an object must meet three criteria:

1. It must orbit the Sun,
2. It must be big enough that gravity has pulled it into a round shape,
3. It must have cleared the neighborhood around its orbit of similar objects.

Under the definition Pluto will no longer be counted as a planet of our Solar System. We now only have eight planets; a number of satellites; an asteroid belt of small rocky bodies mainly between Mars and Jupiter; a belt of icy bodies called the Kuiper Belt, out past the orbit of Neptune; and various smaller objects of ice or rock orbiting the Sun.



The Paulucci Space Theatre has incorporated the latest discoveries and rulings in its production called, “Destination: Pluto.” It is just one of the show options available for your class field trips this year.

## Reservation Policy/Prices

Teachers can make a reservation for their class by calling the Paulucci Space Theatre at **218-262-6720**. We are open during regular business hours Monday - Friday 8:00 A.M. to 5:00 P.M. and later during evenings of public show performances. If we are not in please leave us a message.

The first school program or activity is \$2 each per student with a minimum charge of \$50. Additional programs are \$1 per student with a minimum charge of \$30. One adult is admitted free for every 10 children. Our theatre has a seating capacity of 61.

Want a planetarium program but can't afford our minimum group rates or district busing fees? Here are a few options:

- I. The Paulucci Space Theatre offers programs on the first and third Tuesdays of the month at 10:00 A.M. for \$2 per person, no minimum required. To find out what's playing or to book your group call the Paulucci Space Theatre at 218-262-6720.
- II. Call the Paulucci Space Theatre and get matched up with other small groups.
- III. Book us to come to you! Portable planetarium programs are \$50 for first presentation, \$30 for additional presentations. Assembly presentations are \$1 per student - \$50 minimum. Add \$.50 per mile based on a round trip as an additional driving cost.

## Directions

The Paulucci Space Theatre is located on the campus of Hibbing Community College on the corner of Highway 169 and 23<sup>rd</sup> Street in Hibbing, MN. Our address is 1502 East 23rd Street; Hibbing, MN 55746.

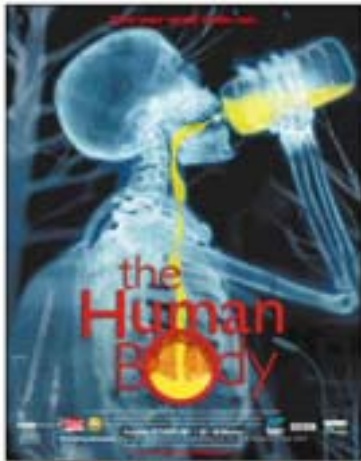
## For More Information

**Call:** Lobby/Showline (218) 262-6720 - Main Office (218) 262-6718 **Website:** <http://www.spacetheatre.hibbing.edu>

# Large Format Films!

## Jane Goodall's Wild Chimpanzees

"Jane Goodall's Wild Chimpanzees" is a giant screen journey into the hearts, minds and world of wild chimpanzees with the world's most famous field researcher, Dr. Jane Goodall. The film chronicles Dr. Goodall's more than 40 years of legendary work among the chimps at Gombe Park on Lake Tanganyika in Africa. Viewers will be led by Dr. Goodall, as well as the new generation of young researchers, into the daily lives of the now famous Gombe chimp families; Fifi and sons Freud and the turbulent alpha male Frodo, along with Gremlin, Gaia and the endearing Galahad. Information and teachers' guide at: [www.discoverchimpanzees.org](http://www.discoverchimpanzees.org)



## The Human Body

The most interesting voyage that could be charted - and the one which science can tell us so much about - has just been made, the voyage into the human body itself. "The Human Body" tells the incredible story of a single day in the lifetime of the you and me. From morning to night we live through many miracles - from the moment we first open our eyes - burning cells from the surface of our retinas and giving us, each morning, a fresh set of sensors with which to view the day - to the last rumblings of our evening meal late at night as it is turned into the raw materials with which we will face tomorrow. In astonishing detail, we explore the daily biological processes that go on without our control and often without our even noticing.



## Wonderful World of Water

How we use it, why it's important - water.

## Larry, Cat in Space



See the world, and the Moon, from the perspective of Larry, as he follows his human friend to the Moon.

## Dinosaurs!/Maia

Learn about different types of dinosaurs, then follow the story of one dinosaur, Maia.

## Magnificent Whales

Get a close up look at these gentle giants.

## Penguins and the South Pole

Early South Pole exploration and the "little gentlemen of the ice" - penguins.

## Solar System Adventure

A trip to the planets of the Solar System.

## The Friendly Stars

Find out about the Sun and the stars we see at night.

# Great for Younger Kids

## Destination: Pluto (Updated)

A trip to the last planet.

## Sky Tellers

Traditional Native American Stories coupled with science stories explore astronomy subjects.

## The Little Star that Could

Find out about stars, the Sun, and the planets of the Solar System.

## In My Backyard

Seasons and things to do and see in the backyard and in the sky. Fun songs to sing along with.

## Zubi's Magical Sky

Make a little magic and find out about the Earth, Sun, Moon, and more.



# Activities

**Star Finder**  
**Make a Fossil**  
**Volcanoes**  
**Model Solar System**  
**Mars Lander (Egg Drop)**

# Live Presentations

Up to date information and pictures, done either in our planetarium, portable planetarium, or assembly.

**Solar System**  
**Sky Tour**  
**Meet Dr. Einstein**  
**The Moon (with Eclipses)**  
**Fourth from the Sun (Mars)**  
**International Space Station**  
**Hubble Space Telescope**

# For older students

**Wonderful World of Water (NEW)**  
**Destination: Pluto (Updated)**  
**Sky Tellers**  
**Ringworld**  
**Wright Way to Fly**  
**The Mars Show**  
**Northern Lights**  
**Seeing the Invisible Universe**  
**The Star Gazer**



**Explorers (Polynesian navigators)**  
**Explorers of Mauna Kea (Telescopes)**  
**Volcanoes**  
**Galaxies**  
**Season of Light**

(Holiday celebrations around the world)

**Out of the Darkness**

(Renaissance astronomers)

**Voyager Encounters (Outer planets)**  
**Cosmic Catastrophes**

# Portable Planetarium & Assembly Programs



Can't come to Hibbing? Let us come to you! A trained planetarium staffperson can come and set up a portable planetarium in your school's gymnasium or give an exciting live assembly presentation.

Portable planetarium requires approximately 20' x 25' free floor space and access to an electrical outlet. The portable planetarium can hold up to 30 people at a time.

For assembly presentations choose from the "Live Presentations" list, or arrange a special presentation with the planetarium presenter.

# To teachers...

Have a question about some new discovery made in space? Want to know something about the Solar System? Help is just a phone call or email away. Please feel free to use the planetarium as a resource to answer your questions. You do not have to book a program to get your questions answered, but we hope you will consider us this year.

This year we are pleased to present two new and fun large format film choices. This year we also have a new water program and an updated Pluto show available, along with our "classic" choices.

Book your group to come before December 31, 2006 and get in on a special discount - your first show or activity will be only \$1.50 per student with no minimum show charges, a savings of 25%! Mention the Pluto discount when booking your trip.

# Solar System Reference (Fall 2006)

	Diameter (Miles)	Diameter (Earth=1)	Dist. From Sun (AU)*	Mass (Earth=1)	Density (g/cm <sup>3</sup> )	Surface Gravity (Earth=1)	Axial Tilt	Sidereal Period**	Orbital Period***	Number Moons
<b>Sun</b>	864,000	109.01	————	332,950	1.408	28	7.25°	25.449 d	250million y****	—
<b>Mercury</b>	3,032	0.38	0.387	0.0553	5.427	0.378	0.01°	58.65 d	88d	0
<b>Venus</b>	7,521	0.95	0.723	0.815	5.423	0.907	177.36°	243 d	225d	0
<b>Earth</b>	7,926	1.00	1.000	1.00	5.515	1.00	23.45°	23h 56m	365.24d	1
<b>Mars</b>	4,222	0.53	1.524	0.107	3.933	0.377	25.19°	24h 37m	687d	2
<b>Jupiter</b>	88,840	11.21	5.203	317.83	1.326	2.364	3.13°	9h 50m	11.9 y	63
<b>Saturn</b>	74,900	9.45	9.555	95.159	0.687	0.916	26.73°	10.656h	29.46 y	56
<b>Uranus</b>	31,760	4.01	19.218	14.536	1.27	0.889	97.77°	17.24d	84.01 y	27
<b>Neptune</b>	30,780	3.88	30.110	17.147	1.638	1.12	28.32°	16h 7m	164.8 y	13
<b>Dwarf Planets*****:</b>										
<b>Ceres</b>	570	0.07	2.766	0.0001	2.08	0.028	4±5°	9.07h	4.60y	0
<b>Pluto</b>	1,429	0.18	39.545	0.0021	1.75	0.059	122.53°	6.39d	248.0 y	3
<b>Eris</b>	1,490	0.19	38 - 97	????	???	???	???	???	557 y	1

\* An "Astronomical Unit" (AU) is the average distance between Earth and Sun, about 93,000,000 miles.

\*\* A sidereal period (day) is how long it takes a world to spin 360° on its axis.

The Earth's sidereal period is 23h 56m but it takes an extra 4m for the Earth to point back towards the Sun.

This is a solar day.

\*\*\* An orbital period is how long it takes an object to revolve around the primary in a system.

h = hours, m = minutes, d = days, y = years.

\*\*\*\* It takes the Sun about 250 million years to go once around the center of the Milky Way Galaxy.

\*\*\*\*\* A dwarf planet meets the first two criteria of planet status but is not a major planet.

