Please switch cell phones OFF!
(…. and anything else that goes beep…..)
Which planet or moon is this?
ERTH 1: The Planets
http://topex.ucsd.edu/erth01

- When, where, attendance, in-class etiquette
- Who’s who & how to contact us
- Web site, syllabus, text, notes
- Homework - when, grading, working together, web
- In-class participation: H-ITT software
- In-class: Question of the Day
- Exams: mid-terms, final, reviews, hand-written sheet
- Grading

Class Notes

= notes provided

http://topex.ucsd.edu/erth01

H-ITT (Hyper-Interactive Teaching Technology) System

1) Why?
Student participation through interactive questions
Use to assess learning (yours) and teaching (ours)

2) How does it work?
Multiple-choice style question. Answer using remotes
Receivers in classroom, software on instructors’ computer
Anonymous, but can see when your answer has been received
Allows in-class display of responses and discussion of answers

3) How does it count toward my grade?
25% total - 15% participation; 10% quiz questions
Weeks 1 and 2 - trial runs. 1 remote / student
Why Study The Planets?

- Risky
- Expensive... ~ $1 billion +
Why Study The Planets?

• Risky
• Expensive
• Boring (even NASA says so)
  – “...Moon is ...scientifically uninteresting”, Ed Weiler (2001)

Why Study The Planets?

• Risky
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• Irrelevant

Why Study The Planets?

• Risky
• Expensive
• Boring
• Irrelevant
• Complicated
Risks of space exploration

PEOPLE: 21 astronauts & cosmonauts killed since 1967
122 DUI-related deaths in San Diego County, 2002

MONEY: e.g., NASA & Mars exploration…
   Mars Observer ($900m)
   Mars Climate Orbiter ($125m)
   Mars Polar Lander ($165m)

ENVIRONMENT: nuclear power & potential accidents
11,000,000 gallons crude oil from EXXON Valdez,
March 1989, spread 500 miles. Clean-up: 3 yrs, $2.1b

Cost ($s) of space exploration

MISSIONS:
   Old-style (Apollo) ~ $1b per mission
   Discovery Missions $350m cost cap
   New Frontiers $700m cost cap

Compare:
   Mars Pathfinder Mission at $170m (July 4, 1997)
   Hollywood’s “Waterworld” at $200m (December, 1997)
   Lunar Prospector at $60m (1998)

Irrelevant / Too Complicated?

• Practical developments: e.g., velcro!
• Technological developments
• Learning about other planets helps us understand the Earth
  – Venus and greenhouse gases
  – Mars, Europa and studying life in extreme terrestrial environments
Boring space exploration...?

Apollo: 1969 - 1972
Magellan: 1989-1994
Galileo: 1989-2003
Mars Pathfinder, 1997

Boring space exploration...?

Mars Exploration Rovers: January 2004 -> present

Boring space exploration...?

Cassini-Huygens: NOW
Mars Express: NOW
MESSENGER: En route
Goals of This Class

1. Understand Earth (its place & processes) better by learning about the solar system as a whole

2. Appreciate science and planetary exploration