IMPORTANT: In the PDF Print box, be sure to select Actual Size, Print on both sides of paper, and Flip on short edge. See screenshot below.

Page Sizing & Handling ⓘ

- ○ Fit
- ● Actual size
- ○ Shrink oversized pages
- ○ Custom Scale:
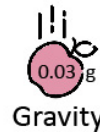- ☐ Choose paper source by PDF page size

☑ Print on both sides of paper
- ○ Flip on long edge
- ● Flip on short edge

Orientation:
- ○ Auto
- ○ Portrait
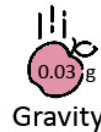- ● Landscape

Ariel
Moon of Uranus

0.03 g
Gravity   Rock   Ice

Ariel
Moon of Uranus

0.03 g
Gravity   Rock   Ice

Callisto
A moon of Jupiter

0.13 g
Gravity   Rock   Ice

Callisto
A moon of Jupiter

0.13 g
Gravity   Rock   Ice
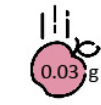
Ceres
Dwarf planet and
Main Belt Asteroid
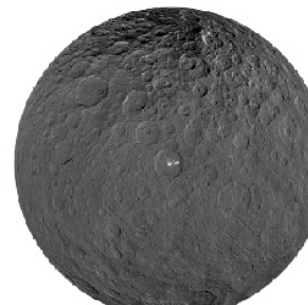
0.03 g
Gravity   Rock   Ice

Charon
A moon of Pluto

0.03 g
Gravity   Rock   Ice

Water in Extreme Environments Planetary Cards 1 (page 1 of 4) Note: What appears to be duplicates are not; they are the fronts of more than 1 card.

SURFACE

15

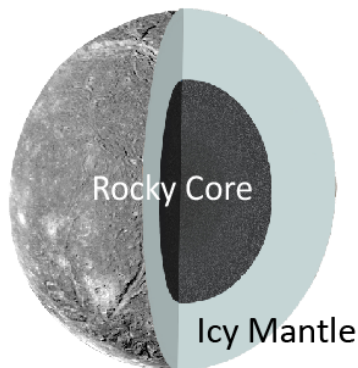Ariel's surface is made of water ice and carbon dioxide ice.

Canyons and craters on Ariel's surface imaged by the Voyager 2 spacecraft.

SUBSURFACE

133

Ariel is made of about half rock and half water ice.
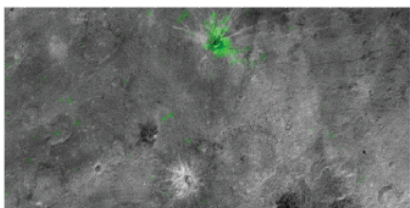

Rocky Core

Icy Mantle

Model of Ariel's interior

SUBSURFACE

137

Charon has water ice in its subsurface that may once have been liquid.
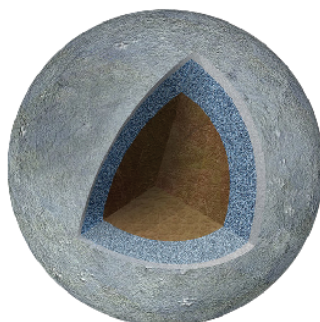

The New Horizons spacecraft imaged water ice in craters on Charon.

SUBSURFACE

124

Ceres may contain a thin outer layer of dust and rock over a deeper layer of salty water ice.

Model of the interior of Ceres.

SURFACE

27

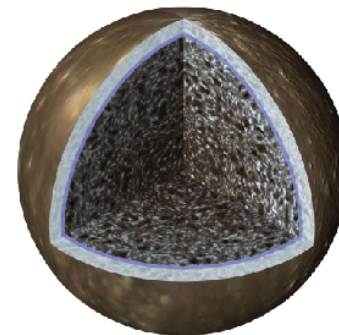The surface of Callisto is made up of a mixture of water ice and rock.

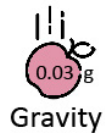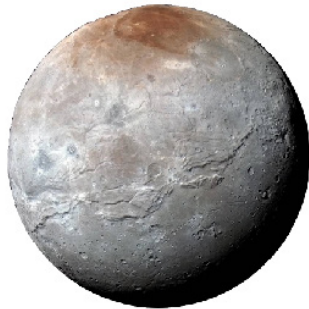The surface of Callisto observed by the Galileo spacecraft.

SUBSURFACE

244

Callisto may have an underground ocean of salty liquid water.

Model of the interior of Callisto.

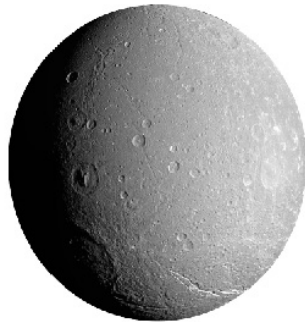Water in Extreme Environments Planetary Cards 1 (page 2 of 4) Note: What appears to be duplicates are not; they are the fronts of more than 1 card.

Charon
A moon of Pluto

0.03 g

Gravity   Rock   Ice

Dione
A moon of Saturn

0.02 g

Gravity   Rock   Ice

Dione
A moon of Saturn

0.02 g
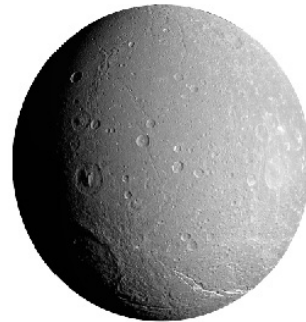
Gravity   Rock   Ice

Earth
The third planet from the Sun

1.00 g

Gravity   Rock

Earth
The third planet from the Sun

1.00 g

Gravity   Rock
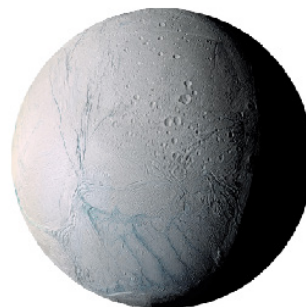
Earth
The third planet from the Sun

1.00 g

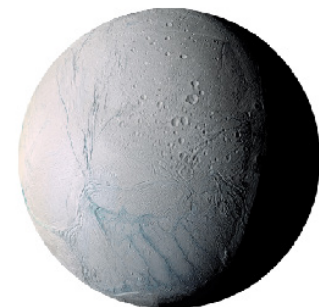Gravity   Rock

Enceladus
A moon of Saturn

0.01 g

Gravity   Rock   Ice

Enceladus
A moon of Saturn

0.01 g

Gravity   Rock   Ice

Water in Extreme Environments Planetary Cards 1 (page 3 of 4) Note: What appears to be duplicates are not; they are the fronts of more than 1 card.

SUBSURFACE
14

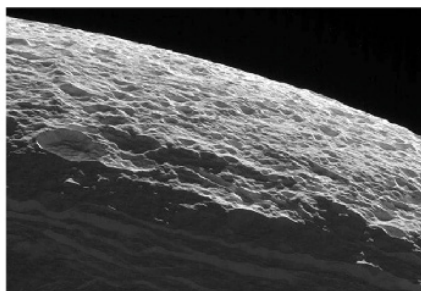On Earth, water is held underground as liquid water and ice.

Groundwater exposed by digging a hole in the sand.

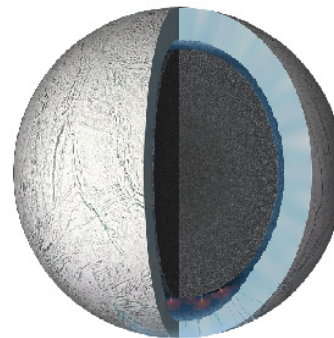## SURFACE
14

Dione has a mostly water ice surface.

The surface of Dione observed by the Cassini spacecraft.

SUBSURFACE
129

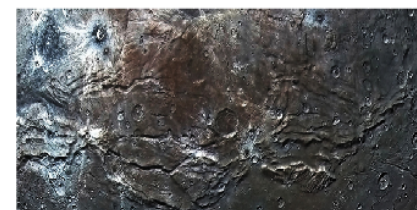Dione may contain a deep subsurface ocean of liquid water.

Model of the interior of Dione.

SURFACE
15

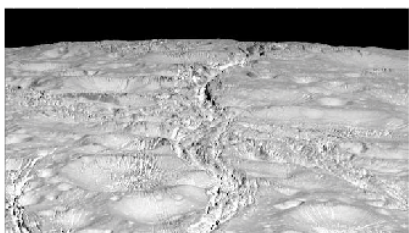The surface of Charon is a mixture of ices, including water ice.

The New Horizons spacecraft discovered a long, deep canyon that encircles Charon.

SURFACE
9
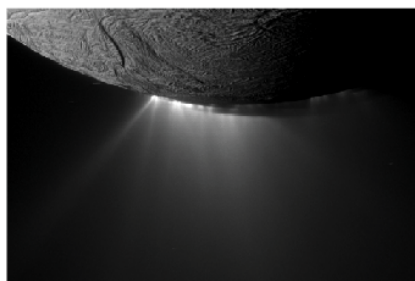
The surface of Enceladus is covered in water ice.

View of the north pole of Enceladus observed by the Cassini spacecraft.

SUBSURFACE
81

Enceladus may contain a subsurface ocean of liquid water.

Plumes of water vapor and ice erupting from fractures were detected by the Cassini spacecraft.

ATMOSPHERE
3

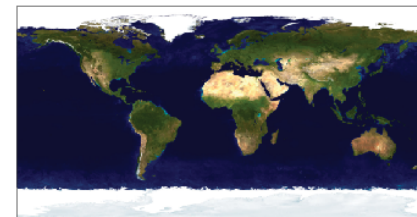On average, Earth's atmosphere contains 0.4% water vapor.

Earth's atmosphere observed from the International Space Station.

SURFACE
155

Surface water is present on Earth in the form of oceans, rivers, and glaciers.

True color mosaic of the Earth, based on images from an Earth-observing satellite.

Water in Extreme Environments Planetary Cards 1 (page 4 of 4) Note: What appears to be duplicates are not; they are the fronts of more than 1 card.