

## Review Exam 3

### Chapter 7 Earth

#### Vocabulary

Crust	Mantle	Core
Lithosphere	Hydrosphere	Atmosphere
Magnetosphere	Troposphere	Stratosphere
Mesosphere	Ionosphere	Ozone Layer
Greenhouse Effect	Greenhouse Gases	Primary Atmosphere
Secondary Atmosphere	Seismic Waves	P-waves
S-waves	Differentiation	Continental Drift
Plate Tectonics	Magma	Lava
Igneous Rocks	Sedimentary Rocks	Metamorphic Rocks
Pangea	Van Allen Radiation Belts	Aurora
Dynamo Effect	Spring Tide	Neap Tide

#### Tidal Bulge

- ÿ Know the 3 basic regions of the Earth and how the density varies with each layer
- ÿ Know what makes up the lithosphere
- ÿ Know what makes up the hydrosphere and how much of the Earth this takes up
- ÿ Know the basic composition of the Earth's atmosphere
- ÿ Know the basic setup of the Earth's atmosphere from the Earth out
- ÿ Understand what drives the atmosphere in the troposphere
- ÿ Know what makes the ionosphere so special in communications
- ÿ Understand what makes the ozone layer so special and where you find it
- ÿ Know one of the main things that is breaking down the ozone
- ÿ Understand what is heating the Earth and why the greenhouse effect is so important to us
- ÿ Know the greenhouse gases
- ÿ Understand how we obtained our initial atmosphere
- ÿ Know the difference between the primary atmosphere and the secondary atmosphere
- ÿ Know why our atmosphere obtained oxygen
- ÿ Understand what is used to understand the interior of the Earth
- ÿ Know the difference between the P-waves and the S-waves
- ÿ Know how we know that part of the interior is liquid
- ÿ Know why the interior has such a high density (not just that it is metallic)
- ÿ Know how we know what the mantle is made up of
- ÿ Understand the idea of differentiation
- ÿ Know why it is thought the interior of the Earth is still molten
- ÿ Know what is meant by the term continental drift and plate tectonics
- ÿ Know the 4 different things that can happen at a plate boundary
- ÿ Know what moves the plates
- ÿ Know the difference between magma and lava
- ÿ Know the difference between igneous, sedimentary, and metamorphic rocks
- ÿ Know what Pangea was and when it went away
- ÿ Understand what the magnetosphere is
- ÿ Know what the van Allen radiation belts are and what they can cause

- ÿ Know what effect causes the magnetic field and how it happens
- ÿ Know what causes the tides
- ÿ Know the phases that cause the spring tides and the neap tides
- ÿ Understand how the tides slow down the rotation of the Earth

## Chapter 8 The Moon and Mercury

### Vocabulary

Maximum Elongation	Maria	Highlands
Craters	Synchronous Orbit	Tidally Locked
Spin-Orbit Resonance	Hot Longitudes	Meteoroids
Meteors	Ejecta Blanket	Regolith
Rilles	Intercrater Plains	Scarps

- ÿ Know the approximate distance that the Moon is from the Earth
- ÿ Know how far Mercury is from the Sun and how far away it appears from the Sun as seen from the Earth
- ÿ Know what is meant by the term maximum elongation
- ÿ Know what the angular size of the Moon is
- ÿ Know why the average density of Mercury is so much higher than the Moon
- ÿ Compare the pull of gravity on the Moon and Mercury with that of the Earth
- ÿ Know that there is no appreciable atmosphere on the Moon and Mercury
- ÿ Know how the temperatures on the Sun side and dark side compare on both the Moon and Mercury
- ÿ Know what the term maria means and what they really are
- ÿ Know what the highlands are
- ÿ Know what caused the craters on the Moon and Mercury
- ÿ Know how the rocks from the highlands and the maria compare
- ÿ Know that the Moon's rate of rotation and revolution are the same and what it means to us on the Earth
- ÿ Know how many spacecraft have gone to mercury and sent back pictures
- ÿ Know what is meant by a synchronous orbit and tidally locked
- ÿ Know the rotation rate and orbital period of Mercury
- ÿ Know what is meant by the term spin-orbit resonance
- ÿ Know why the spin-orbit resonance occurs
- ÿ Know why the Moon is so heavily cratered compared to the Earth
- ÿ Know how many times bigger the crater is than the piece of rock that makes it
- ÿ Know when it is thought that the major bombardment of the solar system stopped
- ÿ Know when the maria filled in with volcanic material
- ÿ Know that the Moon is covered by a layer of dust from the impacts
- ÿ Know what is thought about lunar ice and where it is
- ÿ Know what the rilles on the Moon are
- ÿ Know what the intercrater plains are on Mercury
- ÿ Know what the scarps are on Mercury and why they formed
- ÿ Understand the difference between the cores of Mercury and the Moon
- ÿ Understand the current model of how the Moon formed
- ÿ Know why Mercury has little of the lighter material in the solar system

## Chapter 9 Venus: Earth's Sister Planet

### Vocabulary

Lava Domes

Shield Volcanoes

Caldera

Coronae

Greenhouse Effect

### Runaway Greenhouse Effect

- ÿ Know what the maximum elongation of Venus is
- ÿ Know how reflective Venus is and why
- ÿ Know how the size and mass of Venus compares with the Earth
- ÿ Know what is special about the rotation rate of Venus and what may have caused it
- ÿ Know how the atmosphere on Venus compares to ours
- ÿ Know that Venus is the hottest planet in the solar system and why
- ÿ Know that the best images of Venus have come by radar imaging from the Magellan spacecraft
- ÿ Know the 2 continents on Venus
- ÿ Know that the surface of Venus is cracked and buckled and had repeated lava flows
- ÿ Know that there is no evidence for plate tectonics
- ÿ Know what the lava domes are on Venus
- ÿ Know that the volcanoes are mainly shield volcanoes and what the calderas are
- ÿ Know that the volcanoes are randomly spread across Venus
- ÿ Know what the coronae are
- ÿ Are the volcanoes still active on Venus? Know how we think we know
- ÿ Know why there are no small craters on Venus
- ÿ Know how far down into the atmosphere of Venus you need to go for it to be clear
- ÿ Know the basic content of the atmosphere on Venus
- ÿ Understand the greenhouse effect on Venus
- ÿ Know what is meant by the term runaway greenhouse effect and how it applies to Venus

## Chapter 10 Mars

### Vocabulary

Fluidized Ejecta

Permafrost

Catastrophic Flooding

Seasonal Cap

Residual Cap

Runoff Channel

### Outflow Channel

- ÿ Know which planet from the Sun Mars is
- ÿ Understand that Mars receives substantially more sunlight at perihelion than at aphelion
- ÿ Know why Mars appears dimmer to us even though we are closer to Mars than we get to Venus
- ÿ Know about how big Mars is and how much gravity Mars has
- ÿ Know how the density of Mars compares to other bodies in the solar system
- ÿ Know the 2 moons of Mars
- ÿ Know how Mars compares to the Earth in rotation and tilt
- ÿ Know what features are the most easily seen on Mars from the Earth

- ÿ Know what the polar ice caps are made up of
- ÿ Know that Mars has huge dust storms
- ÿ Know how the northern hemisphere and the southern hemisphere on Mars differ
- ÿ Know which hemisphere is thought to be older
- ÿ Know what Tharsis Bulge is
- ÿ Know that there doesn't appear to be any plate tectonics
- ÿ Know that Tharsis Bulge is much younger than the rest of Mars
- ÿ Know that on the opposite side of Mars from Tharsis Bulge there is an impact crater called Hellas Basin
- ÿ Know what Olympus Mons is and why it is important in the solar system
- ÿ Know that the large volcanoes on Mars are shield volcanoes
- ÿ Know why they are so tall
- ÿ Know why Mars has few craters that we can see smaller than 5 km
- ÿ Know what is meant by fluidized ejecta and where it is found
- ÿ Know what the permafrost is and where it is found
- ÿ Know that there are gullies that look like flash flood channels
- ÿ Know what Valles Marineris is and why it is an important feature in the solar system
- ÿ Know what formed Valles Marineris
- ÿ Know what evidence we have for water on Mars
- ÿ Understand the difference between runoff channels and outflow channels
- ÿ Know where scientists think water may be found on Mars now
- ÿ Know what the 2 parts of the polar ice caps are and how they differ from each other
- ÿ Know which ice cap is larger
- ÿ Know why the residual cap is made up of frozen water
- ÿ Know what the soil is made up of
- ÿ Know what the Martian atmosphere is made of and how it compares to the Earth's atmosphere
- ÿ Understand how the temperatures are on Mars
- ÿ Know when it is thought that Mars had water
- ÿ Understand what the runaway refrigerator effects is
- ÿ Know that Mars has a very small magnetic field
- ÿ Understand how it is thought that Mars may not have been molten through and completely differentiated
- ÿ Know which of Mars' 2 moons is larger
- ÿ Know that they keep the same side towards Mars as they go around
- ÿ Know how the moons densities compare to other bodies and why we study them