

## Study Guide – ASTRONOMY Chapter 1

### Chapter 1 SECTION 1 - Earth in Space

#### TERMS:

Astronomy	Revolution	Equinox
Axis	Orbit	
Rotation	Solstice	

#### MAIN IDEAS:

- The Earth moves in space in two ways, rotation and revolution
- The Earth experiences seasons because of the tilt of the axis
- The Earth rotates in 24 hours and causes day and night
- The Earth revolves around the sun in one year
- If the Earth were not tipped on its axis, we would not have seasons.

#### KEY DIAGRAMS to study:

Figure 5 (pg. 11) The Seasons

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### Chapter 1 SECTION 2 - Gravity and Motion

#### TERMS:

Force	Weight
Gravity	Inertia
Law of universal gravitation	Newton's first law of motion
Mass	

#### MAIN IDEAS:

- Gravity attracts objects together
- Strength of gravity depends on mass and distance
- Inertia is the tendency to resist a change in motion
- There are scientific laws that apply to forces
- Weight is not the same as mass
- We measure gravity in Newtons

#### KEY DIAGRAMS to study:

Figure 7 Gravity, Mass and Distance

Figure 9 Gravity and Inertia

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### Chapter 1 Section 3 - Phases, Eclipses, and Tides

#### TERMS:

Phases	Penumbra	Neap tide
Solar eclipse	Lunar eclipse	
Umpbra	Spring tide	

#### MAIN IDEAS:

The phases of the moon appear because of the position of the moon and our perspective of it  
The moon rotates in a co-axial manner – revolving and rotating with the Earth once each month  
We never see the back side of the moon  
Phases are: new, waxing crescent, 1<sup>st</sup> quarter, waxing gibbous, full, waning gibbous, 3<sup>rd</sup> quarter, waning crescent and back to new.  
Eclipses occur when sunlight is blocked  
Lunar eclipses happen when Earth blocks light from hitting the moon (more common)  
Solar eclipses happen when the moon blocks light from hitting the earth  
Tides are caused by gravitational pull of the moon on the water  
Spring and Neap tides are caused by positions of the moon and sun

Key Diagrams:

Fig 11 (pg 22-23) Phases of the Moon  
Figure 12 (p.23) The Moon's orbit  
Figure 13 and 14 (p. 24-25) solar and lunar eclipse  
Figure 17 (p.27) Spring and Neap tides

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## Chapter 1 Section 4 – Earth's Moon

### TERMS:

Telescope	Craters
Maria	Meteoroids

### MAIN IDEAS:

The features of the moon's surface include craters, highlands, and maria  
The size of the moon is roughly the size of the USA  
The mass of the moon is about 1/8 that of Earth, like Earth's outer layers  
With very little atmosphere, the temperatures vary a lot  
There is ice near the poles, but no liquid water now.  
The moon likely formed when a planet sized object hit early Earth, sending debris into orbit around Earth, which eventually formed together into the moon.

### KEY Diagrams:

Figure 21 (p 33) Formation of the moon

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- Don't forget to look through your notebook and look back through your homework!
  - Study with a friend or get your family to quiz you
  - Make note cards for terms or key points
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- **You may make ONE 3x5 note card that you can bring with you to the test.**
  - This card may be covered with information, terms, and diagrams, whatever you want
  - You may not use anyone else's card, so it HAS to have YOUR name on it IN PEN