Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Unit 7- Astronomy**

Vocabulary (Chapter 24)

Define on a separate sheet of paper

* Electromagnetic Spectrum
* Photon
* Spectroscopy
* Continuous Spectrum
* Absorption spectrum
* Emissions spectrum
* Doppler effect
* Photosphere
* Chromosphere
* Corona
* Solar wind
* Sunspot
* Prominence
* Solar flare
* Aurora
* Nuclear fission

**The Sun Webquest**

**Directions**: Go to the following website <http://solar.physics.montana.edu/ypop/Spotlight/Tour/>



Click the at the bottom of the page to begin the webquest.

**What is our sun anyway?**

1) True or False – Our sun is the same as any other star in the sky.

Click where it says “Sun is an ordinary star” and read the page

2) Name some jobs of the sun: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3) About how many star are in our galaxy? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4) The sun is a yellow \_\_\_\_\_\_\_\_\_\_\_\_\_\_ star.

5) What is a light year? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Click the button at the bottom of the page,

Then click the to go to the next page.

**What color is sunlight?**

6) What are the 6 examples of sunlight you CANNOT see? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7) What are the colors of light that you can see?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



**What’s our sun like on the inside?**

Click the word “Photosphere” and read the page

8) What is the photosphere? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9) What will happen to you if you look at the sun? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Click the word “Sunspot” and read the page

10) What is a sunspot? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Click the button at the bottom of the page, then click it again to return to the original page titled “What’s our sun like on the inside”

Click the word “Chromosphere” and read the page

11) What is the chromosphere? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Click the word “Corona” and read the page

12) What is the corona? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13) When are we able to observe the corona? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Click the image at the bottom of the page to see an image of the layers of the sun.



**What’s the strangest thing about our sun**

14) What is the mystery about the corona that scientists cannot explain? \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



**Does our sun spin like the earth?**

15) Yes or No – Does our sun spin like the earth?

16) How long does it take the sun to rotate once? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Click the to see a video of the sun in both visible and invisible light



**Does our sun always look the same?**

17) How far apart are active periods and quiet periods? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

18) Describe what an active period with the sun is like. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

19) Describe what a quiet period with the sun is like. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Sun, Earth and Moon Webquest**

**Vocabulary (Chapter 22)**

Define on a separate sheet of paper

* Astronomy
* Geocentric
* Heliocentric
* Retrograde motion
* Ellipse
* AU
* Rotation
* Revolution
* Precession
* Perihelion
* Aphelion
* Perigee
* Apogee
* Phases of the moon
* Solar eclipse lunar eclipse
* Crater
* Ray mare
* Rille
* Lunar regolith

**Directions**: Go to the following website (<http://www.earthsunmoon.co.uk/>)

**Part 1** *Flying through the asteroid Belt* – Once you log onto the website, type in your name and Fly through the asteroid belt. Try not to hit any asteroids.

**Part 2** *Exploring the Sun, Earth and Moon*– Now you will explore the Sun, the Earth and the Moon.

**Click on the Sun**

1) Drag your mouse across the sun to see the solar flares.

2) What is another name for solar flares? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -->

3) What is the name of the Sun’s atmosphere? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4) How hot is the surface of the Sun? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5) How hot is the center of the Sun? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -------------->

6) What would happen if the Sun’s reaction stopped? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -->

7) How many Earth’s can fit inside the Sun? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -->

8) True or False – All stars are suns for other solar systems. -------------------->

**Click on the Earth**

9) Drag your mouse across the Earth.

10) What percent of the Earth is water? \_\_\_\_\_\_\_\_\_\_\_\_\_

11) What does the atmosphere do for the Earth? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -->

12) Hit the Red Alert Button ( )

13) What happens to most asteroids that hit the Earth? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14) True or False – The side of the Earth that faces the sun is daytime? -------->

15) How many days does it take the Earth to orbit the Sun? \_\_\_\_\_\_\_\_\_\_\_ ----->

16) True or False – The Earth’s axis is straight up and down. ---------------------->

17) True or False – In summer the northern hemisphere gets more sunlight

than the southern hemisphere. --------------------------------->

**Click on the Moon**

18) What are the light patches on the moon called? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

19) What are the dark patches on the moon called? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

20) True or False – The Seas of the moon have water in them.

21) How were craters formed on the moon? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -->

22) How many kilometers away from the Earth is the moon? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

23) How many days does it take the moon to go around the sun? \_\_\_\_\_\_\_\_\_\_\_

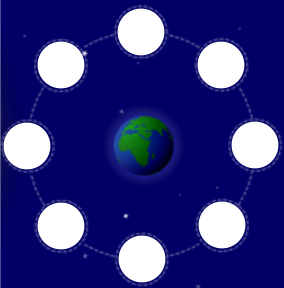
24) Hit the Red Alert Button ( )

25) The moon affects what on the Earth? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_----------->

26) Why does the moon shine? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -->

27) On the diagram below, put the letter where a moon would be for the following:

a) Full Moon b) New Moon c) New Crescent Moon d) Gibbous Moon



**Part 3** *Questionnaire Quiz* – Answer the following questions. They are the same as the questions on the computer. Be sure to answer them on the worksheet and on the computer. If you run out of time in class, you do not need to answer the questions on the computer; however you can answer the questions for homework.

\_\_\_\_ 1) Which of the following is our solar systems only natural light source?

a) Earth b) Sun c) Moon d) Light bulbs

\_\_\_\_ 2) Why does the moon shine at night?

a) because the sun is shining on it

b) because the Earth is shining on it

c) somebody turned it on

\_\_\_\_ 3) What happens to the Earth every 24 hours?

a) rotates once b) moon orbits Earth once

c)it orbits the sun once d) the seasons change

\_\_\_\_ 4) What happens to Earth every 365 days

a) the moon orbits Earth once b) it rotates once

c) the seasons change d) it orbits the sun once

\_\_\_\_ 5) The Earth rotates around a line that goes through it from the North Pole

to the South Pole. What do we call this line?

a) Orbit b) Daytime c) Earth’s Axis d) Equator

\_\_\_\_ 6) The Earth’s Axis is slightly tilted, what does this cause?

a) Day b) seasons c) Night d) a Year

\_\_\_\_ 7) If it is autumn in the northern hemisphere, what season is it in the

southern hemisphere?

a) Winter b) Spring c) Summer d) Autumn

\_\_\_\_ 8) Approximately how many days does it take the moon to orbit the earth?

a) 1 b) 365 c) 28 d) 7

\_\_\_\_ 9) Which of the following is closest to the earth?

a) The Moon b) The Sun

\_\_\_\_ 10) What is the line called that separates the northern and southern

hemispheres?

a) Earth Axis b) South Pole c) North Pole d) Equator

**Stars, Galaxies and Universe Webquest**

**Websites:**

1. <http://www.damtp.cam.ac.uk/user/gr/public/gal_home.html>
2. <http://seds.lpl.arizona.edu/MESSIER/galaxy.html>
3. <http://outreach.atnf.csiro.au/education/senior/cosmicengine/stars_types.html#startypeformation>
4. <http://aspire.cosmic-ray.org/labs/star_life/starlife_main.html>

**Vocabulary (Ch. 25)**

Define on a separate sheet of paper

* Constellation
* light year
* Red giant
* Supergiant
* Nova
* Nebulae
* Protostar
* Supernova
* White dwarf
* Neutron star
* Pulsar
* Black hole
* Galaxy
* Galaxy cluster
* Hubble’s law
* Big bang theory

**Questions:**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ galaxies are the 4th type of galaxy that we didn’t discuss in class.
2. The closest galaxy to our own galaxy, the Milky Way is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. What 2 things are spiral galaxies made out of? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. There are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ stars in the Milky Way, including our own, the sun.
2. What year did Edwin Hubble classify the different types of galaxies? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What are the 3 parts that a spiral galaxy is made of?

7) What type of star is our star, the Sun? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

8) A star switches from a main sequence star to a red giant star when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ runs out and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ stops.

9)White dwarfs make up \_\_\_\_\_\_ % of the stars in our universe.

10) Although our star, the Sun, rotates on its axis about once every month, how many times does a neutron star rotate on its own axis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11) What 2 gasses are a star made of? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_