

BANGLADESH INTERNATIONAL SCHOOL,(ES), RIYADH

Notes and worksheet on English Literature

The universe (Answer Key)

Name: _____ Grade7 _____ Date _____

Answer the questions in brief.

1. What are red giants?

Ans. When stars get older, they cool off, swell up one hundred times larger, and turn red. These aging stars are called red giants.

2. What is nebula?

Ans. A nebula is an interstellar cloud in outer space, made up of dust, hydrogen and helium gas, and plasma. It is formed when portions of the interstellar cloud collapse and clump together due to the gravitational attraction of the particles that comprise them.

Answer the questions in detail.

1. How do the scientists classify the galaxies? Elaborate.

Ans. The scientists classify the galaxies by their shapes. There are four main galaxies: spirals, elliptical, barred spirals, and irregular-shaped galaxies.

- a. Spirals are disk-shaped galaxies with older stars in the centre and the newer stars in the arms
- b. Elliptical galaxies are the most common and ball or egg-shaped galaxies
- c. Barred-spirals galaxies are spirals whose central stars form a bar
- d. Irregular-shaped galaxies are the rarest and do not fit in any known pattern

2. How are quasars related to black holes?

Ans. Quasars are single spots of light in the sky that are farther away than most of the galaxies we can detect. They are spewing out absolutely enormous amounts of energy. It is plausible that there exist galaxies with huge black holes at their centre, about a billion times more massive than the sun. In such cases, the black hole would suck in vast quantities of matter and cause matter to accelerate and heat up, emitting trillions of packets of electromagnetic energy and creating the spectacle that we see in the night sky and call quasars. Therefore it is widely believed at the moment that quasars are black holes, and appear as massive ones.

Learn the meanings of the words below and make sentences with them.

galaxy- n. any of the large systems of stars, etc, in outer space
Scientists are observing phenomena in nearby galaxies.

collapse- v. to fall down or fall in suddenly, often after breaking apart
The roof collapsed under the weight of snow.

clump – n. cluster of trees or plants
You have to clear the clump of bushes in order to get rid of snakes.

optimistic – adj. expecting good things to happen or something to be successful
She is not very optimistic about the outcome of the talk.

planetary – adj. relating to a planet or planets
Many of us are not aware of the planetary system.

eerie – adj. strange, mysterious and frightening: uncanny
I found the silence underwater really eerie.

compact - adj. closely and firmly packed together
The compact camera he bought recently is quite expensive.

collide - v. crash, bang into each other.
The car and the van collided head-on in thick fog.

particles - n. a very small part of something
There was not a particle of evidence to support the case.

elliptical – adj. oval, egg-shaped
We saw some elliptical shaped objects in the store.

Answer the following questions in a phrase.

1. Which is the strangest object in the universe?
The black hole
2. Who is the author of the expository text “The Universe?”
Seymour Simon
3. What do we use to gather information of the dark mysterious universe?
the Hubble Space Telescope
4. What is a light year?
A unit of distance light travels in one year
5. What do we call the gigantic-tadpole shaped gases?
Space pods
6. How old is a newly formed star inside the glowing disk?
One million years old
7. From Earth, what is the nearest after the sun?
Alpha Centauri
8. What is the name of a star mentioned in the text?
Sagittarius A*
9. What is called M-16?
Eagle Nebula
10. What is the speed of a spaceship?
Ten miles per second

Fill in the blanks with the appropriate words from the text.

1. The **Moon** is Earth’s neighbor in the space.
2. The central **galaxy** is much more crowded than our lonely part of space.
3. **Fornax A** is so huge that it is swallowing nearby galaxies.
4. The black hole contains more than one billion times the amount of **matter** in our sun.
5. **Quasars** are as mysterious as black holes.

Determine the statements below as true or false.

1. A black hole is a region of space where matter is squeezed together so tightly. T
2. With the Hubble Space Telescope and other methods of gathering information, we are at the end of a golden age of discovery. F
3. Looking at the distant galaxies in the universe with a telescope is like using a time machine to peer into the future. F
4. Many galaxies in space are so distant that their light fades out before it reaches the earth. T
5. All the stars we see in the night sky are in our imagination. F

Circle the best answer.

1. All stars are born within nebulas, which are eerie, dark clouds of _____.
 - a. Nitrogen gas and dust
 - b. Oxygen gas and dust
 - c. **Hydrogen gas and dust**
2. The photo of _____ also called M-16 was taken by the Hubble Space Telescope in 1995
 - a. **Eagle Nebula**
 - b. Planetary Disk
 - c. Red Giant
3. Alpha Centauri, the nearest star after the sun is a distance of _____.
 - a. 4.3 light years or twenty six trillion years
 - b. **4.3 light years or twenty five trillion years**
 - c. 4.3 light years or twenty seven trillion years
4. Our solar system is about _____ away from the centre of the Milky Way.
 - a. **Thirty thousand light years**
 - b. Thirty eight thousand light years
 - c. Thirty two thousand light years
5. The mysterious space-pods are gigantic tadpole-shaped clumps of gas, each several billion miles across _____.
 - a. Thrice the size of our solar system.
 - b. Once the size of our solar system
 - c. **Twice the size of our solar system**

Match the columns below.

| S.N | Column A | | Column B |
|-----|---|---|--|
| 1 | Usually each star grows at a different speed, | 2 | the hot core within the star makes the surrounding cloud of gases glow |
| 2 | When the red giant has shed its outer layers | 1 | and most clusters finally drift away. |
| 3 | The glow in the centre of each disk, | 4 | us than the moon is about ninety three million miles. |
| 4 | The sun, the closest star to us, is over four hundred times farther away from | 5 | are ten thousand times brighter than our sun is now. |
| 5 | Some of the young stars | 3 | is a newly formed star, about one million years old. |

The End