Example Items

Astronomy

Astronomy Example Items are a **representative set** of items for the ACP. Teachers may use this set of items along with the test blueprint as guides to prepare students for the ACP. On the last page, the correct answer, content SE and SE justification are listed for each item.

The specific part of an SE that an Example Item measures is NOT necessarily the only part of the SE that is assessed on the ACP. None of these Example Items will appear on the ACP.

Teachers may provide feedback regarding Example Items.

(1) Download the Example Feedback Form and email it. The form is located on the homepage of the Assessment website (assessment.dallasisd.org).

OR

(2) To submit directly: Login to the Assessment website. Under "News" in the left-hand column, click on "Sem 2 Example Items Download." Above the subjects, click on "Example Feedback Form."

Second Semester
2017–2018
Code #: 3311

EXAMPLE ITEMS Astronomy, Sem 2

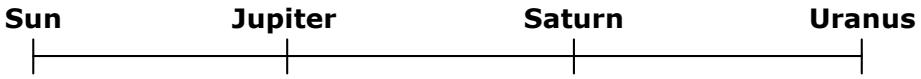
Use the table to answer the next question.

Solar System Distance-Diameter Table

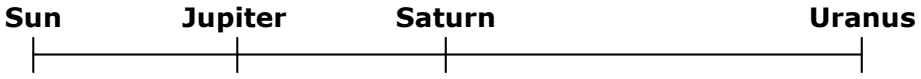
Planet	Distance from the Sun	Diameter
Mercury	57,910,000 km	4,800 km
Venus	108,200,000 km	12,100 km
Earth	149,600,000 km	12,700 km
Mars	227,940,000 km	6,800 km
Jupiter	778,330,000 km	142,800 km
Saturn	1,424,600,000 km	120,660 km
Uranus	2,873,550,000 km	51,800 km
Neptune	4,501,000,000 km	49,500 km

1 Which diagram represents a scale model of part of the Solar System?

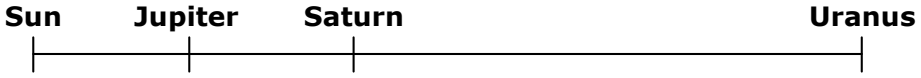
A



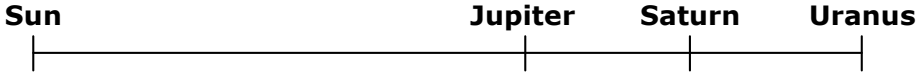
B



C



D



2 The Sun has the greatest concentration of which element?

A Hydrogen

B Helium

C Oxygen

D Nitrogen

EXAMPLE ITEMS Astronomy, Sem 2

3 If a coronal mass ejection from the Sun reaches the Earth's magnetosphere, it can disrupt communication and power generation on Earth. At what point in the solar cycle are these coronal mass ejections most frequent and why?

A During maximum sunspot activity, because a sunspot is the same thing as a coronal mass ejection

B During minimum sunspot activity, because the magnetic field of a sunspot prevents the ejection

C During minimum sunspot activity, because sunspots are too cool to eject coronal mass

D During maximum sunspot activity, because the high magnetic fields in sunspots give rise to solar flares

4 What is the primary reason that scientists do not believe life exists on Venus?

A The atmosphere does not contain enough carbon dioxide.

B The atmosphere does not contain enough oxygen.

C The temperature is too high.

D The temperature is too low.

5 In the Solar System, some planets are composed mostly of gas and liquid, and some planets are composed mostly of solid rock. Which statement about these two kinds of planets and their relative size and distance from the Sun is correct?

A The planets closer to the Sun have a gas and liquid composition.

B The larger planets have a solid rock composition.

C The planets with a gas and liquid composition are farther from the Sun.

D There is no general rule relating planet composition, size, and distance from the Sun.

6 The asteroid belt between Mars and Jupiter is the result of —

A debris that never formed into a single planet

B a collision between Mars and a small rocky planet in the early Solar System

C an early planet exploding and leaving behind rocky debris

D moons that originally orbited Jupiter but escaped because of their small size

EXAMPLE ITEMS Astronomy, Sem 2

7 The reason that most scientists do not believe the universe has a closed geometry, which would cause it to collapse in the future, is that they do not believe there is/are enough —

A black holes

B dark matter

C galaxies

D gamma radiation

8 The Cassini-Huygens spacecraft has studied Saturn since arriving in 2004. One of its major achievements while orbiting Saturn was —

A the discovery that Saturn's rings are made of liquid water

B sending off a probe that landed on one of Saturn's moons

C the discovery that Saturn does not rotate on its axis

D flying through one of Saturn's rings

9 Which list has the end states in order from least to greatest mass of their main sequence star?

A White Dwarf, Neutron Star, Black Hole

B White Dwarf, Black Hole, Neutron Star

C Neutron Star, Black Hole, White Dwarf

D Neutron Star, White Dwarf, Black Hole

10 As a star is forming, what is the most significant characteristic that determines where it will be located on the Hertzsprung-Russell diagram?

A Composition

B Distance from the Sun

C Mass

D Shape

EXAMPLE ITEMS Astronomy, Sem 2

11 A significant difference between spiral and elliptical galaxies is the —

A ongoing star formation, common in spiral galaxies but not in elliptical galaxies

B high star density at the core of spiral galaxies but not elliptical galaxies

C presence of irregular galaxies within elliptical galaxies but not spiral galaxies

D relatively large percentage of new stars in elliptical galaxies but not in spiral galaxies

12 Sunspots are regions of —

A low temperature and weak magnetic fields

B high temperature and weak magnetic fields

C low temperature and strong magnetic fields

D high temperature and strong magnetic fields

13 The history of ***human*** space flight includes orbiting the Earth, as well as —

A orbiting Mars but not orbiting the Moon

B landing on Mars and landing on the Moon

C orbiting the Moon and orbiting Mars

D landing on the Moon but not landing on Mars

14 Compared to white dwarf stars, neutron stars are —

A more abundant

B smaller

C less dense

D older

15 The formation of new stars usually begins in —

A empty space

B the vicinity of another star

C a supernova remnant

D a molecular cloud

EXAMPLE ITEMS Astronomy Key, Sem 2

Item#	Key	SE	Process Skills	SE Justification
1	B	Astro.6B	2G	Compare and contrast the scale, size, and distance of objects in the solar system such as the Sun and planets through the use of data and modeling.
2	A	Astro.10A	--	Identify the approximate composition of the Sun.
3	D	Astro.4D	3A	Explain the contributions of modern astronomy to today's society, including Sun's effects on communication, navigation, and high-tech devices.
4	C	Astro.9A	3A, 3D	Compare and contrast the factors essential to life on Earth such as temperature, and gases to conditions on other planets.
5	C	Astro.9B	--	Compare the planets in terms of orbit, size, composition, and atmosphere.
6	A	Astro.9D	--	Explore the origins and significance of small solar system bodies, including asteroids.
7	B	Astro.13C	3D	Research and describe scientific hypotheses of the fate of the universe, including closed universes and the role of dark matter.
8	B	Astro.14B	3B	Recognize the advancement of knowledge in astronomy through robotic space flight.
9	A	Astro.11E	--	Compare how the mass of a main sequence star will determine its end state as a white dwarf, neutron star, or black hole.
10	C	Astro.11G	--	Use the Hertzsprung-Russell diagram to plot and examine the life cycle of stars from birth to death.
11	A	Astro.12C	--	Compare and contrast the different types of galaxies, including spiral, elliptical, and irregular.
12	C	Astro.10D	--	Analyze solar magnetic storm activity, including sunspots.
13	D	Astro.14A	--	Identify and explain the contributions of human space flight.
14	B	Astro.11D	--	Differentiate among the end states of stars, including white dwarfs, and neutron stars.
15	D	Astro.11B	--	Characterize star formation in stellar nurseries from giant molecular clouds.