Test Bank for Environmental Geology 3rd Reichard

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Chapter 02 Test Bank: Earth from a Larger Perspective

Multiple Choice Questions

1. Which of the following best describes Uranus?

A. asteroid
B. gas giant planet
C. terrestrial planet
D. coronal body
E. supernova

2. In addition to Earth, which other planet has relatively few impact craters due to weathering and erosion processes on the surface?

A. Mars
B. Mercury
C. Earth is the only planet where weathering and erosion have occurred, erasing evidence of impacts.
D. Venus

3. Which of the following best describes what happened to the dinosaurs about 65 million years ago?

A. A massive volcanic eruption resulted in global cooling, which killed the dinosaurs.
B. A large asteroid impact resulted in global climatic change and the death of the dinosaurs.
C. A large solar flare quickly raised Earth's temperature to the point where dinosaurs couldn't survive.
D. More intelligent mammals began to evolve and competed for limited food resources, ultimately causing dinosaurs to go extinct
E. The extinction of the dinosaurs 65 million years ago remains a great mystery to scientists.

4. What is the primary nuclear reaction that takes place within the sun?

A. Nucleation
B. Radiation
C. Solar wind
D. Fusion
E. Fission

5. Which statement best describes the four outer planets in our solar system?

A. They orbit the Sun much more quickly than the inner planets.
B. They are all the same in size, type of atmosphere, and density.
C. They all have plate tectonics similar to the Earth.
D. They are large and made of rock.
E. They are large and made of gas.

6. The four inner planets are collectively referred to as what?

A. Venetian Planets
B. Jovian Planets
C. Habitable Planets
D. Terrestrial Planets
E. Mercurian Planets

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7. What is the name of the hypothesis proposed for the formation of the solar system?

A. Nebular hypothesis
B. Electromagnetic hypothesis
C. Heliocentric hypothesis
D. Andromeda hypothesis
E. Coronal hypothesis

8. Venus is the only planet in the solar system that rotates clockwise, or opposite the other planets. Which of the following is the most accepted scientific explanation for this?

A. Early in the history of the solar system, Earth and Venus were so close to each other that their gravitational attraction caused them to spin in opposing directions.
B. Early in the history of the solar system there was a large impact that reversed the direction of Venus' spin.
C. Venus did not form with the rest of the planets, but was a stray asteroid that was captured by the Sun's gravitational field.
D. Venus lacks a moon, which causes it to behave differently from the other planets.
E. Venus is denser than the other planets, which causes it to rotate in an opposing direction.

9. Which of the following is most true regarding the Big Bang Theory?

A. It resulted from the ignition of an enormous concentration of hydrogen gas.
B. The theory applies only to the Milky Way Galaxy.
C. The theory has been disproved in recent years.
D. All of the matter in the universe was created in an instant.
E. The universe began expanding from a single point about 14 billion years ago.

10. Which of the following refers to the massive and sudden loss of plants and animals relative to the number of new species being added?

A. Mass extinction
B. Catastrophism
C. Fossil depletion
D. Great death
E. All of the answers listed here

11. In 1994, scientists witnessed a major impact on a planet, which was a sober reminder that Earth-crossing comets and asteroids pose a serious threat to life on Earth. On which of the following planets did this impact occur?

A. Saturn
B. Neptune
C. Mars
D. Pluto
E. Jupiter

12. Which term is used to describe the relatively small area around a star where surface temperatures would allow liquid water to exist?

A. Hydrosphere
B. Potential Biotic Area
C. Biosphere
D. Terrestrial Region
E. Habitable Zone

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13. Which of the following statements best describes the first life-forms on Earth, which existed about 3.6 billion years ago?

A. The first microbial life forms were restricted to what is now the Middle East.
B. Microbial life began at the same time the Earth turned into a solid.
C. Microbial life began at a time when the planet's atmosphere and climate were very different from today.
D. Microbial life evolved rapidly into more complex life forms in only a few hundred million years.
E. Evidence for the first microbial life forms is found in igneous rocks.

14. Which of the following statements regarding the Moon is true?

A. It had an atmosphere at one time that shielded it from asteroid impacts.
B. It has reduced the wobble in Earth's axis, thereby helping to stabilize Earth's climate.
C. All of the answers listed here.
D. It has a large magnetic field which that shields the Earth from solar radiation.
E. Its surface is covered mostly with sedimentary rocks.

15. Which of the following statements is NOT true regarding Earth’s ozone layer?

A. It has been damaged by the use of CFCs (chlorofluorocarbons).
B. It is responsible for the greenhouse effect.
C. It naturally absorbs much of the incoming ultraviolet radiation from the sun.
D. The hole in the ozone layer is slowing repairing itself.
E. It is a thin layer of oxygen molecules (O_3), called ozone, found in the Earth's upper atmosphere.

16. Evidence for the nebular hypothesis includes which of the following?

A. Radiometric dating has shown that the Earth, Moon, and asteroids all solidified at approximately the same time.
B. Visual evidence from Hubble shows that accretion and planetary development is occurring in other parts of the universe.
C. The heavily cratered surfaces we see on some planets and moons, which indicates a period of intense bombardment associated with accretion.
D. All of the answers listed here.
E. Visual evidence from Hubble shows that new stars are forming in other parts of the universe.

17. Which of the following assumptions are inherent in the concept of habitable zones?

A. All life-forms require liquid water.
B. The size and energy output of stars with habitable zones will remain constant.
C. A planet’s gravity must be similar to that of the Earth’s.
D. Life is present everywhere in the universe.
E. Water is present, in some form, on all planets.

True / False Questions

18. It is now feasible for scientists and engineers to change the trajectory of an Earth-crossing asteroid such that it will not impact our planet.

True / False

19. Nuclear reactions within the sun release electromagnetic radiation.

True / False

20. Comets are composed primarily of rocky and metallic materials.

True / False

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Multiple Choice Questions

21. Important astronomical forces affecting Earth include all of the following except

A. the Sun radiates energy which warms our planet and drives global climate.
B. volcanoes produce the Earth's oceans.
C. the Moon's gravitational field produces tide currents which carry nutrients.
D. the Earth is occasionally impacted by comets and meteorites.

22. What are the main chemical components of the Sun?

A. Hydrogen and oxygen
B. Hydrogen and helium
C. Helium and oxygen
D. None of these choices are correct

23. What is the source of energy inside the Sun?

A. Nuclear fission
B. Nuclear fusion
C. Radioactive decay
D. None of these choices are correct

24. All of the following are terrestrial planets except

A. Mars.
B. Mercury.
C. Earth.
D. Jupiter.

25. What is the source of a comet's tail?

A. Melting ice
B. Small volcanic eruptions
C. Rock smoking as it melts
D. Large concentrations of radioactive elements

26. Where is the main asteroid belt located?

A. Between the Earth and the Moon
B. Between Mars and Jupiter
C. Between Earth and Mars
D. Between Earth and Venus

27. How large is a meteorite?

A. Smaller than a planet or asteroid
B. Larger than a planet or asteroid
C. Smaller than a planet but larger than an asteroid
D. Usually microscopic

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28. Based on radiometric dating, how old is the solar system?

A. 45,000 47,000 years
B. 4.5 4.7 million years
C. 4.5 4.7 billion years
D. 4.5 4.7 trillion years

29. What is a nebula?

A. A very large solar flare
B. Material ejected from a meteor crater
C. A type of ancient volcanic eruption
D. A rotating cloud of cosmic dust and gas

30. What are planetesimals?

A. Very small planets
B. Very large planets
C. Proto-planets formed by accretion
D. Asteroids too small to be planets

31. When was the Moon formed?

A. A long time before the Earth
B. A short time before the Earth
C. Only a few thousand years ago
D. During the heavy bombardment period

32. What is the direct evidence for intense bombardment associated with accretion?

A. The large number of volcanoes on the Earth
B. The large number of meteor craters preserved on the Moon and Venus
C. The large number of earthquakes occurring on the Earth
D. The absence of Moonquakes

33. What is a galaxy?

A. A very long distance measured by the speed of light
B. An area of a planet with a large concentration of meteor craters
C. A long chain of active volcanoes
D. A large grouping or cluster of stars

34. What does the Big Bang Theory explain?

A. The origin of the Milky Way Galaxy
B. The origin of the universe
C. The origin of the Moon
D. The source of red color on Mars

35. What is the significance of extremophile bacteria?

A. They may account for the origin of the ozone layer.
B. They may represent the earliest form of life on Earth.
C. They may account for the presence of oxygen on Earth.
D. They may account for the presence of water on Earth.

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36. What is meant by the habitable zone in other solar systems?

A. A narrow zone around a star where liquid water can exist
B. A zone with abundant plant growth
C. A zone where oxygen is present
D. A zone defined by abundant sunlight

37. The idea that complex animal life similar to that on Earth is exceedingly rare in our universe is known as the

A. theory of the ice age.
B. continental drift hypothesis.
C. theory of evolution.
D. rare Earth hypothesis.

38. Extraterrestrial hazards include all of the following except

A. ultraviolet electromagnetic radiation.
B. build up of ozone in the atmosphere.
C. gamma-ray burst.
D. asteroid impact.

39. What shows up in the geologic record coincident with the end of the heavy bombardment period 3.6 billion years ago?

A. The first dinosaurs
B. The first plant life on land
C. The first volcanoes
D. The first appearance of microbial life

40. Where is the impact crater that possibly formed the iridium layer located?

A. Yucatan Peninsula of Mexico
B. Meteor Crater, Arizona
C. In the Mediterranean Sea
D. Beneath the Arctic ice cap

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Chapter 02 Test Bank: Earth from a Larger Perspective Key

Multiple Choice Questions

1. Which of the following best describes Uranus?

A. asteroid
B. gas giant planet
C. terrestrial planet
D. coronal body
E. supernova

Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.01 Our Solar System
Topic: Geology of the Solar System

2. In addition to Earth, which other planet has relatively few impact craters due to weathering and erosion processes on the surface?

A. Mars
B. Mercury
C. Earth is the only planet where weathering and erosion have occurred, erasing evidence of impacts.
D. Venus

Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.02 Origin of the Solar System
Topic: Geology of the Solar System

3. Which of the following best describes what happened to the dinosaurs about 65 million years ago?

A. A massive volcanic eruption resulted in global cooling, which killed the dinosaurs.
B. A large asteroid impact resulted in global climatic change and the death of the dinosaurs.
C. A large solar flare quickly raised Earth's temperature to the point where dinosaurs couldn't survive.
D. More intelligent mammals began to evolve and competed for limited food resources, ultimately causing dinosaurs to go extinct
E. The extinction of the dinosaurs 65 million years ago remains a great mystery to scientists.

Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.05 Explain what mass extinctions are and be able to name some of their possible triggering mechanisms.
Learning Outcome: 02.06 Understand how scientists came to appreciate the serious nature of comet and asteroid impacts and the steps being taken to reduce the risk.
Section: 02.05 Solar System Hazards
Topic: Investigating Geologic Questions

4. What is the primary nuclear reaction that takes place within the sun?

A. Nucleation
B. Radiation
C. Solar wind
D. Fusion
E. Fission

Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.01 Our Solar System
Topic: Geology of the Solar System

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5. Which statement best describes the four outer planets in our solar system?

A. They orbit the Sun much more quickly than the inner planets.
B. They are all the same in size, type of atmosphere, and density.
C. They all have plate tectonics similar to the Earth.
D. They are large and made of rock.
E. They are large and made of gas.

Bloom's Level: 5. Evaluate
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.01 Our Solar System
Topic: Geology of the Solar System

6. The four inner planets are collectively referred to as what?

A. Venetian Planets
B. Jovian Planets
C. Habitable Planets
D. Terrestrial Planets
E. Mercurian Planets

Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.01 Our Solar System
Topic: Geology of the Solar System

7. What is the name of the hypothesis proposed for the formation of the solar system?

A. Nebular hypothesis
B. Electromagnetic hypothesis
C. Heliocentric hypothesis
D. Andromeda hypothesis
E. Coronal hypothesis

Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.01 Understand how the nebular hypothesis explains the formation of the solar system and how it accounts for the orbital characteristics of the planets and moons.
Section: 02.02 Origin of the Solar System
Topic: Geology of the Solar System

8. Venus is the only planet in the solar system that rotates clockwise, or opposite the other planets. Which of the following is the most accepted scientific explanation for this?

A. Early in the history of the solar system, Earth and Venus were so close to each other that their gravitational attraction caused them to spin in opposing directions.
B. Early in the history of the solar system there was a large impact that reversed the direction of Venus' spin.
C. Venus did not form with the rest of the planets, but was a stray asteroid that was captured by the Sun's gravitational field.
D. Venus lacks a moon, which causes it to behave differently from the other planets.
E. Venus is denser than the other planets, which causes it to rotate in an opposing direction.

Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.01 Understand how the nebular hypothesis explains the formation of the solar system and how it accounts for the orbital characteristics of the planets and moons.
Section: 02.02 Origin of the Solar System
Topic: Geology of the Solar System

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9. Which of the following is most true regarding the Big Bang Theory?

A. It resulted from the ignition of an enormous concentration of hydrogen gas.
B. The theory applies only to the Milky Way Galaxy.
C. The theory has been disproved in recent years.
D. All of the matter in the universe was created in an instant.
E. The universe began expanding from a single point about 14 billion years ago.

Bloom's Level: 2. Understand
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.03 Other Stars in the Universe
Topic: Geology of the Solar System

10. Which of the following refers to the massive and sudden loss of plants and animals relative to the number of new species being added?

A. Mass extinction
B. Catastrophism
C. Fossil depletion
D. Great death
E. All of the answers listed here

Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.05 Explain what mass extinctions are and be able to name some of their possible triggering mechanisms.
Learning Outcome: 02.06 Understand how scientists came to appreciate the serious nature of comet and asteroid impacts and the steps being taken to reduce the risk.
Section: 02.05 Solar System Hazards
Topic: Nature of Geology

11. In 1994, scientists witnessed a major impact on a planet, which was a sober reminder that Earth-crossing comets and asteroids pose a serious threat to life on Earth. On which of the following planets did this impact occur?

A. Saturn
B. Neptune
C. Mars
D. Pluto
E. Jupiter

Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.06 Understand how scientists came to appreciate the serious nature of comet and asteroid impacts and the steps being taken to reduce the risk.
Section: 02.05 Solar System Hazards
Topic: Geology of the Solar System

12. Which term is used to describe the relatively small area around a star where surface temperatures would allow liquid water to exist?

A. Hydrosphere
B. Potential Biotic Area
C. Biosphere
D. Terrestrial Region
E. Habitable Zone

Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.03 Explain how extremophile bacteria are related to the origin of life on Earth and how they relate to the extraterrestrial search for life.
Learning Outcome: 02.04 Understand the concept of habitable zones and why complex animal life that may exist elsewhere will likely be restricted to such zones.
Section: 02.04 Does Life Exist Beyond Earth
Topic: Geology of the Solar System

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13. Which of the following statements best describes the first life-forms on Earth, which existed about 3.6 billion years ago?

A. The first microbial life forms were restricted to what is now the Middle East.
B. Microbial life began at the same time the Earth turned into a solid.
C. Microbial life began at a time when the planet's atmosphere and climate were very different from today.
D. Microbial life evolved rapidly into more complex life forms in only a few hundred million years.
E. Evidence for the first microbial life forms is found in igneous rocks.

Bloom's Level: 5. Evaluate
Gradable: automatic
Learning Outcome: 02.03 Explain how extremophile bacteria are related to the origin of life on Earth and how they relate to the extraterrestrial search for life.
Learning Outcome: 02.04 Understand the concept of habitable zones and why complex animal life that may exist elsewhere will likely be restricted to such zones.
Section: 02.04 Does Life Exist Beyond Earth
Topic: Geologic Time

14. Which of the following statements regarding the Moon is true?

A. It had an atmosphere at one time that shielded it from asteroid impacts.
B. It has reduced the wobble in Earth's axis, thereby helping to stabilize Earth's climate.
C. All of the answers listed here.
D. It has a large magnetic field which that shields the Earth from solar radiation.
E. Its surface is covered mostly with sedimentary rocks.

Bloom's Level: 5. Evaluate
Gradable: automatic
Learning Outcome: 02.03 Explain how extremophile bacteria are related to the origin of life on Earth and how they relate to the extraterrestrial search for life.
Learning Outcome: 02.04 Understand the concept of habitable zones and why complex animal life that may exist elsewhere will likely be restricted to such zones.
Section: 02.01 Our Solar System
Topic: Geology of the Solar System

15. Which of the following statements is NOT true regarding Earth’s ozone layer?

A. It has been damaged by the use of CFCs (chlorofluorocarbons).
B. It is responsible for the greenhouse effect.
C. It naturally absorbs much of the incoming ultraviolet radiation from the sun.
D. The hole in the ozone layer is slowing repairing itself.
E. It is a thin layer of oxygen molecules (O_3), called ozone, found in the Earth's upper atmosphere.

Bloom's Level: 2. Understand
Gradable: automatic
Learning Outcome: 02.05 Explain what mass extinctions are and be able to name some of their possible triggering mechanisms.
Section: 02.05 Solar System Hazards
Topic: Nature of Geology

16. Evidence for the nebular hypothesis includes which of the following?

A. Radiometric dating has shown that the Earth, Moon, and asteroids all solidified at approximately the same time.
B. Visual evidence from Hubble shows that accretion and planetary development is occurring in other parts of the universe.
C. The heavily cratered surfaces we see on some planets and moons, which indicates a period of intense bombardment associated with accretion.
D. All of the answers listed here.
E. Visual evidence from Hubble shows that new stars are forming in other parts of the universe.

Bloom's Level: 2. Understand
Gradable: automatic
Learning Outcome: 02.01 Understand how the nebular hypothesis explains the formation of the solar system and how it accounts for the orbital characteristics of the planets and moons.
Section: 02.02 Origin of the Solar System
Topic: Geology of the Solar System

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17. Which of the following assumptions are inherent in the concept of habitable zones?

A. All life-forms require liquid water.
B. The size and energy output of stars with habitable zones will remain constant.
C. A planet's gravity must be similar to that of the Earth's.
D. Life is present everywhere in the universe.
E. Water is present, in some form, on all planets.

Bloom's Level: 2. Understand
Gradable: automatic
Learning Outcome: 02.03 Explain how extremophile bacteria are related to the origin of life on Earth and how they relate to the extraterrestrial search for life.
Learning Outcome: 02.04 Understand the concept of habitable zones and why complex animal life that may exist elsewhere will likely be restricted to such zones.
Section: 02.04 Does Life Exist Beyond Earth
Topic: Geology of the Solar System

True / False Questions

18. It is now feasible for scientists and engineers to change the trajectory of an Earth-crossing asteroid such that it will not impact our planet.

TRUE

Both NASA and other international space agencies have been studying asteroids and comets to learn more about their composition in order to develop effective ways of altering their trajectory, thereby avoiding an impact with the Earth. In addition to a concerted effort to identify those objects whose may be on a collision course with the Earth, spacecraft have been sent to various asteroids to test our ability to intercept and deflect one should the need arise.

Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.05 Explain what mass extinctions are and be able to name some of their possible triggering mechanisms.
Learning Outcome: 02.06 Understand how scientists came to appreciate the serious nature of comet and asteroid impacts and the steps being taken to reduce the risk.
Section: 02.05 Solar System Hazards
Topic: Geology of the Solar System

19. Nuclear reactions within the sun release electromagnetic radiation.

TRUE

In addition to heat, nuclear reactions within the Sun release electromagnetic radiation, which is a type of energy that travels in the form of waves.

Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.01 Our Solar System
Topic: Geology of the Solar System

20. Comets are composed primarily of rocky and metallic materials.

FALSE

Comets are composed of small rocky fragments embedded in a mass of ice and frozen gases. Asteroids are composed primarily of rocky and metallic materials.

Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.01 Our Solar System
Topic: Geology of the Solar System

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Multiple Choice Questions

21. Important astronomical forces affecting Earth include all of the following except

A. the Sun radiates energy which warms our planet and drives global climate.
B. volcanoes produce the Earth's oceans.
C. the Moon's gravitational field produces tide currents which carry nutrients.
D. the Earth is occasionally impacted by comets and meteorites.

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.00 Introduction
Topic: Climate change
Topic: Geology of the Solar System

22. What are the main chemical components of the Sun?

A. Hydrogen and oxygen
B. Hydrogen and helium
C. Helium and oxygen
D. None of these choices are correct

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.01 Our Solar System
Topic: Electromagnetic Radiation
Topic: Geology of the Solar System

23. What is the source of energy inside the Sun?

A. Nuclear fission
B. Nuclear fusion
C. Radioactive decay
D. None of these choices are correct

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.01 Our Solar System
Topic: Electromagnetic Radiation
Topic: Geology of the Solar System

24. All of the following are terrestrial planets except

A. Mars.
B. Mercury.
C. Earth.
D. Jupiter.

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.01 Our Solar System
Topic: Geology of the Solar System

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25. What is the source of a comet's tail?

A. Melting ice
B. Small volcanic eruptions
C. Rock smoking as it melts
D. Large concentrations of radioactive elements

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Bloom's Level: 1. Remember
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Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.01 Our Solar System
Topic: Geology of the Solar System

26. Where is the main asteroid belt located?

A. Between the Earth and the Moon
B. Between Mars and Jupiter
C. Between Earth and Mars
D. Between Earth and Venus

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.01 Our Solar System
Topic: Geology of the Solar System

27. How large is a meteorite?

A. Smaller than a planet or asteroid
B. Larger than a planet or asteroid
C. Smaller than a planet but larger than an asteroid
D. Usually microscopic

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.01 Our Solar System
Topic: Geology of the Solar System

28. Based on radiometric dating, how old is the solar system?

A. 45,000 47,000 years
B. 4.5 4.7 million years
C. 4.5 4.7 billion years
D. 4.5 4.7 trillion years

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.01 Understand how the nebular hypothesis explains the formation of the solar system and how it accounts for the orbital characteristics of the planets and moons.
Section: 02.02 Origin of the Solar System
Topic: Geology of the Solar System

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29. What is a nebula?

A. A very large solar flare
B. Material ejected from a meteor crater
C. A type of ancient volcanic eruption
D. A rotating cloud of cosmic dust and gas

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.01 Understand how the nebular hypothesis explains the formation of the solar system and how it accounts for the orbital characteristics of the planets and moons.
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Topic: Geology of the Solar System

30. What are planetesimals?

A. Very small planets
B. Very large planets
C. Proto-planets formed by accretion
D. Asteroids too small to be planets

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.01 Understand how the nebular hypothesis explains the formation of the solar system and how it accounts for the orbital characteristics of the planets and moons.
Section: 02.02 Origin of the Solar System
Topic: Geology of the Solar System

31. When was the Moon formed?

A. A long time before the Earth
B. A short time before the Earth
C. Only a few thousand years ago
D. During the heavy bombardment period

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.01 Understand how the nebular hypothesis explains the formation of the solar system and how it accounts for the orbital characteristics of the planets and moons.
Section: 02.02 Origin of the Solar System
Topic: Geology of the Solar System

32. What is the direct evidence for intense bombardment associated with accretion?

A. The large number of volcanoes on the Earth
B. The large number of meteor craters preserved on the Moon and Venus
C. The large number of earthquakes occurring on the Earth
D. The absence of Moonquakes

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.01 Understand how the nebular hypothesis explains the formation of the solar system and how it accounts for the orbital characteristics of the planets and moons.
Section: 02.02 Origin of the Solar System
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33. What is a galaxy?

A. A very long distance measured by the speed of light
B. An area of a planet with a large concentration of meteor craters
C. A long chain of active volcanoes
D. A large grouping or cluster of stars

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.03 Other Stars in the Universe
Topic: Geology of the Solar System

34. What does the Big Bang Theory explain?

A. The origin of the Milky Way Galaxy
B. The origin of the universe
C. The origin of the Moon
D. The source of red color on Mars

Accessibility: Keyboard Navigation
Bloom's Level: 2. Understand
Gradable: automatic
Learning Outcome: 02.02 Describe our solar system and the size of the Earth relative to the size of the solar system as well as to the size of our galaxy and the universe.
Section: 02.03 Other Stars in the Universe
Topic: Geology of the Solar System

35. What is the significance of extremophile bacteria?

A. They may account for the origin of the ozone layer.
B. They may represent the earliest form of life on Earth.
C. They may account for the presence of oxygen on Earth.
D. They may account for the presence of water on Earth.

Accessibility: Keyboard Navigation
Bloom's Level: 2. Understand
Gradable: automatic
Learning Outcome: 02.03 Explain how extremophile bacteria are related to the origin of life on Earth and how they relate to the extraterrestrial search for life.
Section: 02.04 Does Life Exist Beyond Earth
Topic: Geology of the Solar System

36. What is meant by the habitable zone in other solar systems?

A. A narrow zone around a star where liquid water can exist
B. A zone with abundant plant growth
C. A zone where oxygen is present
D. A zone defined by abundant sunlight

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.04 Understand the concept of habitable zones and why complex animal life that may exist elsewhere will likely be restricted to such zones.
Section: 02.04 Does Life Exist Beyond Earth
Topic: Geology of the Solar System

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37. The idea that complex animal life similar to that on Earth is exceedingly rare in our universe is known as the

A. theory of the ice age.
B. continental drift hypothesis.
C. theory of evolution.
D. rare Earth hypothesis.

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.04 Understand the concept of habitable zones and why complex animal life that may exist elsewhere will likely be restricted to such zones.
Section: 02.04 Does Life Exist Beyond Earth
Topic: Geology of the Solar System

38. Extraterrestrial hazards include all of the following except

A. ultraviolet electromagnetic radiation.
B. build up of ozone in the atmosphere.
C. gamma-ray burst.
D. asteroid impact.

Accessibility: Keyboard Navigation
Bloom's Level: 2. Understand
Gradable: automatic
Learning Outcome: 02.05 Explain what mass extinctions are and be able to name some of their possible triggering mechanisms.
Section: 02.05 Solar System Hazards
Topic: Geology of the Solar System

39. What shows up in the geologic record coincident with the end of the heavy bombardment period 3.6 billion years ago?

A. The first dinosaurs
B. The first plant life on land
C. The first volcanoes
D. The first appearance of microbial life

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.03 Explain how extremophile bacteria are related to the origin of life on Earth and how they relate to the extraterrestrial search for life.
Section: 02.05 Solar System Hazards
Topic: Geology of the Solar System

40. Where is the impact crater that possibly formed the iridium layer located?

A. Yucatan Peninsula of Mexico
B. Meteor Crater, Arizona
C. In the Mediterranean Sea
D. Beneath the Arctic ice cap

Accessibility: Keyboard Navigation
Bloom's Level: 1. Remember
Gradable: automatic
Learning Outcome: 02.06 Understand how scientists came to appreciate the serious nature of comet and asteroid impacts and the steps being taken to reduce the risk.
Section: 02.05 Solar System Hazards
Topic: Geology of the Solar System

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Chapter 02 Test Bank: Earth from a Larger Perspective Summary

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Learning Outcome: 02.05 Explain what mass extinctions are and be able to name some of their possible triggering mechanisms.	5
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