

## Earth Science Ch. 5 Practice Test

### Multiple Choice

Identify the choice that best completes the statement or answers the question.

\_\_\_\_ 1. Stress that pushes a mass of rock in two opposite directions is called

a.	shearing.
b.	tension.
c.	compression.
d.	deformation.

\_\_\_\_ 2. The Earth's crust at Owens Valley in California is under tension, resulting in

a.	compression faults.
b.	normal faults.
c.	reverse faults.
d.	strike-slip faults.

\_\_\_\_ 3. A force that acts on rock to change its shape or volume is called

a.	an aftershock.
b.	friction.
c.	liquefaction.
d.	stress.

\_\_\_\_ 4. In a normal fault, the part of the fault that lies below the other part is called the

a.	hanging wall.
b.	reverse fault.
c.	footwall.
d.	anticline.

\_\_\_\_ 5. Which type of stress force produces reverse faults?

a.	shearing
b.	tension
c.	compression
d.	deformation

\_\_\_\_ 6. In a strike-slip fault, the rocks on either side of the fault slip past each other sideways with little

a.	noise.
b.	shaking.
c.	up-or-down motion.
d.	movement.

\_\_\_\_ 7. The land between two normal faults moves upward to form a

a.	fold.
b.	syncline.
c.	hanging wall.
d.	fault-block mountain.

\_\_\_\_ 8. A fold in rock that bends upward into an arch is called a(n)

a.	anticline.
b.	syncline.
c.	plateau.
d.	canyon.

\_\_\_\_ 9. A large area of flat land elevated high above sea level is called a

a.	syncline.
b.	plateau.
c.	canyon.
d.	fault.

\_\_\_\_ 10. The point beneath Earth's surface where rock breaks under stress and triggers an earthquake is called the

a.	syncline.
b.	footwall.
c.	epicenter.
d.	focus.

\_\_\_\_\_ 11. The type of seismic waves that arrive at the surface first and move by compressing and expanding the ground like an accordion are called

a.	S waves.
b.	P waves.
c.	Surface waves.
d.	Mercalli waves.

\_\_\_\_\_ 12. S waves are also known as

a.	primary waves.
b.	secondary waves.
c.	surface waves.
d.	focus waves.

\_\_\_\_\_ 13. Compared to P waves and S waves, surface waves move

a.	faster.
b.	slower.
c.	at the same rate.
d.	farther from the epicenter.

\_\_\_\_\_ 14. In what direction do seismic waves carry the energy of an earthquake?

a.	away from the focus
b.	toward the focus
c.	from the surface to the interior
d.	through the mantle only

\_\_\_\_\_ 15. What type of earthquake wave can travel through both liquids and solids?

a.	P waves
b.	S waves
c.	focus waves
d.	surface waves

\_\_\_\_\_ 16. Which scale would most likely be used to tell how much earthquake damage was done to homes and other buildings?

a.	the Richter scale
b.	the Mercalli scale
c.	the moment magnitude scale
d.	the seismic scale

\_\_\_\_\_ 17. The rating system that estimates the total energy released by an earthquake is called the

a.	Richter scale.
b.	moment magnitude scale.
c.	mechanical seismograph scale.
d.	Mercalli scale.

\_\_\_\_\_ 18. What does a seismograph record?

a.	the Mercalli scale rating for an earthquake
b.	the speed of seismic waves
c.	the ground movements caused by seismic waves
d.	the location of the epicenter

\_\_\_\_\_ 19. A device that uses wire stretched across a fault to measure horizontal movement of the ground is called a

a.	creep meter.
b.	laser-ranging device.
c.	tiltmeter.
d.	satellite.

\_\_\_\_\_ 20. Which of the following monitors both vertical and horizontal movements along a

fault?

a.	laser-ranging device
b.	GPS satellite system
c.	tiltmeter
d.	creep meter

21. Which type of fault-monitoring device is most like a carpenter's level?

a.	tiltmeter
b.	laser-ranging device
c.	creep meter
d.	satellite

22. What happens when friction between the opposite sides of a fault is high?

a.	A plateau may form on one side of the fault.
b.	The fault locks, and stress builds up until an earthquake occurs.
c.	Folding of the crust may occur.
d.	The rocks on both sides of the fault easily slide past each other.

23. Geologists cannot yet predict earthquakes because

a.	they have too much data.
b.	they can't be sure when and where stress will be released along a fault.
c.	they need to know where all past earthquakes occurred.
d.	there are too many faults to monitor.

24. Geologists know that wherever plate movement stores energy in the rock along faults,

a.	earthquakes are not likely.
b.	earthquakes are likely.
c.	an earthquake is occurring.
d.	an earthquake could never occur.

25. The risk of earthquakes is high along the Pacific coast of the United States because

a.	there have been no earthquakes there lately.
b.	serious earthquakes are rare east of the Rockies.
c.	satellites have detected increasing elevation of the ground surface.
d.	that's where the Pacific and North American plates meet.

26. Which of the following can cause damage days or months after a large earthquake?

a.	the arrival of surface waves.
b.	liquefaction.
c.	a tsunami.
d.	an aftershock.

27. If the Coast Guard warns of a giant wave of water approaching the shore as a result of a major earthquake, they are warning of

a.	an aftershock.
b.	liquefaction.
c.	a tsunami.
d.	landslides.

28. A building designed to reduce the amount of energy that reaches the building during an earthquake is called a

a.	fixed-base building.
b.	wood-frame building.
c.	base-isolated building.
d.	brick building.

29. The best way to protect yourself in an earthquake is to

a.	run as fast as you can.
b.	drop, cover, and hold.

c.	go into the basement.
d.	stand under a tree.
30. Most earthquake-related deaths and injuries result from	
a.	tsunamis.
b.	damage to buildings or other structures.
c.	liquefaction.
d.	P waves.

### Modified True/False

Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

- \_\_\_\_ 31. The squeezing together of rocks by stress is called shearing.
- \_\_\_\_ 32. In a strike-slip fault, the rocks on either side of the fault slip past each other sideways.
- \_\_\_\_ 33. An upward fold in a rock is called a plateau.
- \_\_\_\_ 34. When an earthquake occurs, S waves are the first seismic waves to arrive at a given location.
- \_\_\_\_ 35. During an earthquake, seismic waves move outward from the focus in all directions.
- \_\_\_\_ 36. The Richter scale describes the effects of an earthquake on people, buildings, and land at a given location.
- \_\_\_\_ 37. Geologists use a creep meter to measure the horizontal movement along a fault.
- \_\_\_\_ 38. With the range of data available, geologists cannot predict exactly where and when earthquakes will occur.
- \_\_\_\_ 39. An earthquake on the ocean floor can produce a tsunami, which may grow into a huge wave as it approaches the shore.
- \_\_\_\_ 40. A type of building that absorbs the energy of seismic waves is a fixed-base building.

### Completion

Complete each statement.

41. The stress force that pulls on the crust where two plates are moving apart is called \_\_\_\_\_.
42. The stress force that causes a mass of rock to pull or twist in opposite directions is called \_\_\_\_\_.
43. The Klamath Mountains in California were produced by a(n) \_\_\_\_\_ fault, which is formed when compression causes the hanging wall to move over the footwall.
44. The block of rock that lies above a fault is called the \_\_\_\_\_.
45. Shearing creates \_\_\_\_\_ faults, like the San Andreas fault in California.
46. The Sierra Nevada is a(n) \_\_\_\_\_ mountain range, formed when a block of rock was pushed upward by normal faults.
47. Layers of rock that bend can produce a downward fold known as a(n) \_\_\_\_\_.

48. A valley that dips between two parallel ranges of hills was formed by a downward fold in rock called a(n) \_\_\_\_\_.
49. The seismic waves that travel along Earth's surface and produce the most severe ground movements are called \_\_\_\_\_.
50. Vibrations that move through the ground carrying the energy released during an earthquake are called \_\_\_\_\_.
51. Earthquake waves that vibrate from side to side and up and down only through solids are known as \_\_\_\_\_.
52. The point beneath the surface where rock breaks and an earthquake starts is the \_\_\_\_\_.
53. The scale that measures the strength of an earthquake based on seismic waves and movement along a fault is called the \_\_\_\_\_ scale.
54. The \_\_\_\_\_ scale accurately rates the size of seismic waves only for small, nearby earthquakes.
55. Geologists use a(n) \_\_\_\_\_ to measure the tilting of the ground along a fault.
56. Laser-ranging devices can detect even tiny movements of the crust along a(n) \_\_\_\_\_.
57. Geologists determine earthquake risk by locating where \_\_\_\_\_ are active.
58. The process in which the violent shaking of an earthquake turns soft soil into liquid mud is called \_\_\_\_\_.
59. An earthquake that occurs shortly after a larger earthquake is a(n) \_\_\_\_\_.
60. Earthquake damage can be reduced by making buildings more \_\_\_\_\_ so that they twist and bend without breaking.

### **Short Answer**

*Use the diagram to answer each question.*

61. Describe the rock layers shown in Diagram A and any forces acting on the rock.
62. What caused the rock layers to take on the shape shown in diagram C?
63. Contrast the plate movements that cause the stresses in diagrams B and C.
64. Compare diagram B to diagram A. How is it different?
65. In diagram B, which type of fault will form if the stress force continues? Explain.
66. Will a normal fault result from the stresses being applied to the rock unit in diagram D? Explain.

*Use the diagram to answer each question.*

67. How do California and Nevada compare in possible severity of earthquake damage?
68. In which direction does the major earthquake risk zone in Idaho run?
69. In which part of Maine should you live if you want the least possible risk of damage from an earthquake? Explain.

70. What kind of risk is shown on the map and how is this risk determined?
71. According to the map, which part of the United States is least likely to suffer earthquake damage?
72. What earthquake damage is Texas likely to suffer?

### Essay

73. Compare and contrast a normal fault and a reverse fault.
74. What is a plateau and how can one form?
75. Distinguish between the focus and the epicenter of an earthquake.
76. Explain the difference between P and S waves in an earthquake.
77. How is the moment magnitude scale used to describe earthquakes?
78. Explain how GPS satellites are used to monitor faults.
79. Which is likely to experience more damage during an earthquake, a house built on a solid rock ledge or a nearby house built on a soil river bank? Explain your answer.
80. How does the design of base-isolated buildings reduce their risk of damage by earthquakes?

## Earth Science Ch. 5 Practice Test Answer Section

### MULTIPLE CHOICE

1. ANS: A PTS: 1 DIF: L1  
OBJ: CaES.5.1.1 Explain how stress in the crust changes Earth's surface.  
STA: S 6.1.e BLM: knowledge
2. ANS: B PTS: 1 DIF: L2  
OBJ: CaES.5.1.1 Explain how stress in the crust changes Earth's surface.  
STA: S 6.1.f BLM: application
3. ANS: D PTS: 1 DIF: L1  
OBJ: CaES.5.1.1 Explain how stress in the crust changes Earth's surface.  
STA: S 6.1.e BLM: knowledge
4. ANS: C PTS: 1 DIF: L2  
OBJ: CaES.5.1.2 Describe where faults are usually found and why they form.  
STA: S 6.1.d BLM: comprehension
5. ANS: C PTS: 1 DIF: L1  
OBJ: CaES.5.1.2 Describe where faults are usually found and why they form.  
STA: S 6.1.d BLM: knowledge
6. ANS: C PTS: 1 DIF: L1  
OBJ: CaES.5.1.2 Describe where faults are usually found and why they form.  
STA: S 6.1.d BLM: knowledge
7. ANS: D PTS: 1 DIF: L2  
OBJ: CaES.5.1.3 Identify the land features that result from plate movement.  
STA: S 6.1.e BLM: comprehension
8. ANS: A PTS: 1 DIF: L1  
OBJ: CaES.5.1.3 Identify the land features that result from plate movement.  
STA: S 6.1.e BLM: knowledge
9. ANS: B PTS: 1 DIF: L1  
OBJ: CaES.5.1.3 Identify the land features that result from plate movement.  
STA: S 6.1.e BLM: knowledge

10.           ANS: D           PTS: 1           DIF: L2  
 OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth.  
 STA: S 6.1.d       BLM: comprehension

11.           ANS: B           PTS: 1           DIF: L2  
 OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth.  
 STA: S 6.1.g       BLM: comprehension

12.           ANS: B           PTS: 1           DIF: L1  
 OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth.  
 STA: S 6.1.d       BLM: knowledge

13.           ANS: B           PTS: 1           DIF: L1  
 OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth.  
 STA: S 6.1.d       BLM: knowledge

14.           ANS: A           PTS: 1           DIF: L1  
 OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth.  
 STA: S 6.1.g       BLM: knowledge

15.           ANS: A           PTS: 1           DIF: L1  
 OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth.  
 STA: S 6.1.d       BLM: knowledge

16.           ANS: B           PTS: 1           DIF: L2  
 OBJ: CaES.5.2.2 Identify the scales used to measure the strength of an earthquake.  
 STA: S 6.1.g       BLM: application

17.           ANS: B           PTS: 1           DIF: L1  
 OBJ: CaES.5.2.2 Identify the scales used to measure the strength of an earthquake.  
 STA: S 6.1.g       BLM: knowledge

18.           ANS: C           PTS: 1           DIF: L2  
 OBJ: CaES.5.3.1 Explain how seismographs work.                           STA: S 6.1.g  
 BLM: application

19.           ANS: A           PTS: 1           DIF: L1  
 OBJ: CaES.5.3.2 Describe how geologists monitor faults.                   STA: S 6.1.g  
 BLM: knowledge

20.           ANS: B           PTS: 1           DIF: L1  
 OBJ: CaES.5.3.2 Describe how geologists monitor faults.                   STA: S 6.1.g  
 BLM: knowledge

21.           ANS: A           PTS: 1           DIF: L2  
 OBJ: CaES.5.3.2 Describe how geologists monitor faults.                   STA: S 6.1.g  
 BLM: comprehension

22.           ANS: B           PTS: 1           DIF: L2  
 OBJ: CaES.5.3.3 Explain how seismographic data are used.               STA: S 6.1.d  
 BLM: comprehension

23.           ANS: B           PTS: 1           DIF: L2  
 OBJ: CaES.5.3.3 Explain how seismographic data are used.               STA: S 6.1.d  
 BLM: comprehension

24.           ANS: B           PTS: 1           DIF: L2  
 OBJ: CaES.5.4.1 Explain how geologists determine earthquake risk.  
 STA: S 6.1.d       BLM: comprehension

25.           ANS: D           PTS: 1           DIF: L2  
 OBJ: CaES.5.4.1 Explain how geologists determine earthquake risk.  
 STA: S 6.1.d       BLM: application

26.           ANS: D           PTS: 1           DIF: L2  
 OBJ: CaES.5.4.2 Identify the kinds of damage an earthquake can cause.  
 STA: S 6.1.g       BLM: comprehension

27.           ANS: C           PTS: 1           DIF: L2  
 OBJ: CaES.5.4.2 Identify the kinds of damage an earthquake can cause.  
 STA: S 6.1.g       BLM: application

28.           ANS: C           PTS: 1           DIF: L1  
 OBJ: CaES.5.4.3 Provide suggestions to increase earthquake safety and reduce earthquake damage.

STA: S 6.1.g      BLM: knowledge  
29.      ANS: B      PTS: 1      DIF: L1  
OBJ: CaES.5.4.3 Provide suggestions to increase earthquake safety and reduce earthquake damage.  
STA: S 6.1.g      BLM: knowledge  
30.      ANS: B      PTS: 1      DIF: L1  
OBJ: CaES.5.4.3 Provide suggestions to increase earthquake safety and reduce earthquake damage.  
STA: S 6.1.g      BLM: knowledge

### MODIFIED TRUE/FALSE

31.      ANS: F, compression  
  
PTS: 1      DIF: L1  
OBJ: CaES.5.1.1 Explain how stress in the crust changes Earth's surface.  
STA: S 6.1.e      BLM: knowledge  
32.      ANS: T      PTS: 1      DIF: L1  
OBJ: CaES.5.1.2 Describe where faults are usually found and why they form.  
STA: S 6.1.d      BLM: knowledge  
33.      ANS: F, anticline  
  
PTS: 1      DIF: L1  
OBJ: CaES.5.1.3 Identify the land features that result from plate movement.  
STA: S 6.1.e      BLM: knowledge  
34.      ANS: F, P waves  
  
PTS: 1      DIF: L1  
OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth.  
STA: S 6.1.g      BLM: knowledge  
35.      ANS: T      PTS: 1      DIF: L2  
OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth.  
STA: S 6.1.g      BLM: comprehension  
36.      ANS: F, Mercalli  
  
PTS: 1      DIF: L2  
OBJ: CaES.5.2.2 Identify the scales used to measure the strength of an earthquake.  
STA: S 6.1.g      BLM: application  
37.      ANS: T      PTS: 1      DIF: L1  
OBJ: CaES.5.3.2 Describe how geologists monitor faults.      STA: S 6.1.g  
BLM: knowledge  
38.      ANS: T      PTS: 1      DIF: L1  
OBJ: CaES.5.3.3 Explain how seismographic data are used.      STA: S 6.1.d  
BLM: knowledge  
39.      ANS: T      PTS: 1      DIF: L2  
OBJ: CaES.5.4.2 Identify the kinds of damage an earthquake can cause.  
STA: S 6.1.g      BLM: comprehension  
40.      ANS: F  
base-isolated  
base isolated  
  
PTS: 1      DIF: L2  
OBJ: CaES.5.4.3 Provide suggestions to increase earthquake safety and reduce earthquake damage.  
STA: S 6.1.g      BLM: comprehension

### COMPLETION



41.           ANS: tension

PTS: 1           DIF: L1

OBJ: CaES.5.1.1 Explain how stress in the crust changes Earth's surface.

STA: S 6.1.e       BLM: knowledge

42.           ANS: shearing

PTS: 1           DIF: L1

OBJ: CaES.5.1.1 Explain how stress in the crust changes Earth's surface.

STA: S 6.1.e       BLM: knowledge

43.           ANS: reverse

PTS: 1           DIF: L2

OBJ: CaES.5.1.2 Describe where faults are usually found and why they form.

STA: S 6.1.f       BLM: application

44.           ANS: hanging wall

PTS: 1           DIF: L1

OBJ: CaES.5.1.2 Describe where faults are usually found and why they form.

STA: S 6.1.e       BLM: knowledge

45.           ANS:

strike-slip

strike slip

PTS: 1           DIF: L2

OBJ: CaES.5.1.2 Describe where faults are usually found and why they form.

STA: S 6.1.f       BLM: comprehension

46.           ANS:

fault-block

fault block

PTS: 1           DIF: L2

OBJ: CaES.5.1.3 Identify the land features that result from plate movement.

STA: S 6.1.f       BLM: comprehension

47.           ANS: syncline

PTS: 1           DIF: L2

OBJ: CaES.5.1.3 Identify the land features that result from plate movement.

STA: S 6.1.e       BLM: comprehension

48.           ANS: syncline

PTS: 1           DIF: L2

OBJ: CaES.5.1.3 Identify the land features that result from plate movement.

STA: S 6.1.e       BLM: application

49.           ANS: surface waves

PTS: 1           DIF: L2

OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth.

STA: S 6.1.g       BLM: comprehension

50.           ANS: seismic waves

PTS: 1           DIF: L2

OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth.

STA: S 6.1.d       BLM: comprehension

51.           ANS: S waves

PTS: 1           DIF: L1

OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth.  
STA: S 6.1.d BLM: knowledge  
52. ANS: focus

PTS: 1 DIF: L1  
OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth.  
STA: S 6.1.g BLM: knowledge  
53. ANS: Richter

PTS: 1 DIF: L2  
OBJ: CaES.5.2.2 Identify the scales used to measure the strength of an earthquake.  
STA: S 6.1.g BLM: application  
54. ANS: Richter

PTS: 1 DIF: L2  
OBJ: CaES.5.2.2 Identify the scales used to measure the strength of an earthquake.  
STA: S 6.1.g BLM: comprehension  
55. ANS: tiltmeter

PTS: 1 DIF: L2  
OBJ: CaES.5.3.2 Describe how geologists monitor faults. STA: S 6.1.g  
BLM: comprehension  
56. ANS: fault

PTS: 1 DIF: L2  
OBJ: CaES.5.3.2 Describe how geologists monitor faults. STA: S 6.1.g  
BLM: comprehension  
57. ANS: faults

PTS: 1 DIF: L1  
OBJ: CaES.5.4.1 Explain how geologists determine earthquake risk.  
STA: S 6.1.g BLM: knowledge  
58. ANS: liquefaction

PTS: 1 DIF: L1  
OBJ: CaES.5.4.2 Identify the kinds of damage an earthquake can cause.  
STA: S 6.1.g BLM: knowledge  
59. ANS: aftershock

PTS: 1 DIF: L1  
OBJ: CaES.5.4.2 Identify the kinds of damage an earthquake can cause.  
STA: S 6.1.g BLM: knowledge  
60. ANS: flexible

PTS: 1 DIF: L1  
OBJ: CaES.5.4.3 Provide suggestions to increase earthquake safety and reduce earthquake damage.  
STA: S 6.2.d BLM: knowledge

### SHORT ANSWER

61. ANS:

Diagram A shows a section of rock that contains three different layers. All layers are parallel and are equal in thickness. There are no forces being exerted on the rock layers.

PTS: 1 DIF: L2  
OBJ: CaES.5.1.1 Explain how stress in the crust changes Earth's surface.

STA: S 6.1.e      BLM: analysis  
62.      ANS:  
tension

PTS: 1      DIF: L2  
OBJ: CaES.5.1.1 Explain how stress in the crust changes Earth's surface.  
STA: S 6.1.e      BLM: analysis  
63.      ANS:

The compression in diagram B occurs when one plate pushes against another. The tension in diagram C occurs when two plates move apart.

PTS: 1      DIF: L2  
OBJ: CaES.5.1.1 Explain how stress in the crust changes Earth's surface.  
STA: S 6.1.e      BLM: analysis  
64.      ANS:

Diagram B shows how compression affects rock layers, causing the layers to bulge in the center and occupy a smaller horizontal area.

PTS: 1      DIF: L3  
OBJ: CaES.5.1.1 Explain how stress in the crust changes Earth's surface.  
STA: S 6.1.e      BLM: synthesis  
65.      ANS:

A reverse fault will form. Compression will squeeze the rock until a fault occurs in which the rock forming the hanging wall slides up and over the footwall.

PTS: 1      DIF: L3  
OBJ: CaES.5.1.2 Describe where faults are usually found and why they form.  
STA: S 6.1.e      BLM: synthesis  
66.      ANS:

No, because the stresses being applied will not push the rock unit up or down but sideways. A strike-slip fault rather than a normal fault will result.

PTS: 1      DIF: L3  
OBJ: CaES.5.1.2 Describe where faults are usually found and why they form.  
STA: S 6.1.e      BLM: synthesis  
67.      ANS:

Both states could suffer earthquakes causing moderate to major damage.

PTS: 1      DIF: L2  
OBJ: CaES.5.4.1 Explain how geologists determine earthquake risk.  
STA: S 6.1.g      BLM: analysis  
68.      ANS:  
north to south

PTS: 1      DIF: L2  
OBJ: CaES.5.4.1 Explain how geologists determine earthquake risk.  
STA: S 6.1.g      BLM: analysis  
69.      ANS:

You should live in the eastern part of the state, which has a minor risk. The western part of the state has a greater, or moderate, risk.

PTS: 1      DIF: L3  
OBJ: CaES.5.4.1 Explain how geologists determine earthquake risk.  
STA: S 6.1.g      BLM: evaluation  
70.      ANS:

The map shows the risk of damage from earthquakes. Geologists determine earthquake risk by locating where faults are active and where past earthquakes have occurred.

PTS: 1 DIF: L2  
OBJ: CaES.5.4.1 Explain how geologists determine earthquake risk.  
STA: S 6.1.g BLM: analysis  
71. ANS:  
the southern part, including Texas, Mississippi, Alabama, and Florida

PTS: 1 DIF: L2  
OBJ: CaES.5.4.1 Explain how geologists determine earthquake risk.  
STA: S 6.1.g BLM: analysis  
72. ANS:  
No damage is likely to occur in the central part of the state. The northern part may suffer minor damage, and a portion of the southwestern part may suffer moderate damage.

PTS: 1 DIF: L2  
OBJ: CaES.5.4.1 Explain how geologists determine earthquake risk.  
STA: S 6.1.g BLM: analysis

## ESSAY

73. ANS:  
In both types of faults, movement of the crust occurs at an angle along a break called a fault. A normal fault results from tension, which causes the block of rock above the fault, called the hanging wall, to slip downward. A reverse fault results from compression, which causes the hanging wall to slide upward.

PTS: 1 DIF: L2  
OBJ: CaES.5.1.2 Describe where faults are usually found and why they form.  
STA: S 6.1.e BLM: analysis  
74. ANS:  
A plateau is a large, flat area of land elevated high above the surrounding land. Some plateaus form when flat blocks of rock get pushed up by vertical faults.

PTS: 1 DIF: L2  
OBJ: CaES.5.1.3 Identify the land features that result from plate movement.  
STA: S 6.1.e BLM: comprehension  
75. ANS:  
The focus is the point beneath Earth's surface where rock that is under stress breaks, triggering an earthquake. The epicenter is the point on the surface directly above the earthquake's focus.

PTS: 1 DIF: L2  
OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth. | CaES.5.2.3 Explain how scientists locate the epicenter of an earthquake. STA: S 6.1.g  
BLM: analysis  
76. ANS:  
P waves compress and expand the ground they travel through, whereas S waves thrust the ground from side to side and up and down. S waves are not as fast as P waves, and they cannot travel through liquids as P waves can.

PTS: 1 DIF: L2  
OBJ: CaES.5.2.1 Describe how the energy of an earthquake travels through Earth.  
STA: S 6.1.d | S 6.1.g BLM: analysis  
77. ANS:  
The moment magnitude scale is a rating system that is used to estimate the total energy released by an earthquake. Geologists rate earthquakes on the scale based on seismic wave data recorded by modern electronic seismographs. The higher the magnitude of an earthquake on the scale, the more energy released by the earthquake and the greater the destruction produced.

PTS: 1 DIF: L2

OBJ: CaES.5.2.2 Identify the scales used to measure the strength of an earthquake.

STA: S 6.1.g BLM: comprehension

78. ANS:

The Global Positioning System, or GPS, consists of a network of satellites that can be used to locate points on Earth's surface with great precision. This satellite network allows scientists to measure tiny movements of receivers placed on the ground on opposite sides of a fault. GPS satellites can be used to detect horizontal movements along a fault as well as vertical movements, like changes in elevation or tilting.

PTS: 1 DIF: L3

OBJ: CaES.5.3.2 Describe how geologists monitor faults. STA: S 6.1

BLM: synthesis

79. ANS:

The house built on soil will likely experience more earthquake damage. The energy transmitted by seismic waves to the ground causes loose soil to shake more violently than rock. As a result, a house built on soil will shake more than one built on rock.

PTS: 1 DIF: L3

OBJ: CaES.5.4.2 Identify the kinds of damage an earthquake can cause.

STA: S 6.1.g BLM: evaluation

80. ANS:

Base-isolated buildings rest on shock-absorbing pads or springs. During an earthquake, these pads or springs move back and forth gently rather than shaking violently, reducing the risk of damage.

PTS: 1 DIF: L2

OBJ: CaES.5.4.3 Provide suggestions to increase earthquake safety and reduce earthquake damage.

STA: S 6.1.g BLM: comprehension