

## Earth Science Ch. 3 Test; Erosion & Deposition

### Multiple Choice

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

\_\_\_\_ 1. The process by which natural forces move weathered rock and soil from one place to another is called

a.	soil conservation.
b.	deposition.
c.	abrasion.
d.	erosion.

\_\_\_\_ 2. Landslides, mudflows, slump, and creep are all examples of

a.	mechanical weathering.
b.	runoff.
c.	mass movement.
d.	soil formation.

\_\_\_\_ 3. Mass movement is caused by

a.	plucking and abrasion.
b.	gravity.
c.	chemical weathering.
d.	erosion and deposition.

\_\_\_\_ 4. Water erosion begins when runoff from rainfall flows in a thin layer over the land in a kind of erosion called

a.	mass erosion.
b.	sheet erosion.
c.	creep.
d.	gullying.

\_\_\_\_ 5. A stream or river that runs into another stream or river is called a

a.	tributary.
b.	meander.
c.	turbulent stream.
d.	gully.

\_\_\_\_ 6. A river flowing across a wide flood plain begins to form looplike bends called

a.	rills.
b.	meanders.
c.	outside curves.
d.	deltas.

\_\_\_\_ 7. Where a river flows from an area of harder rock to an area of softer rock, the softer rock may wear away, eventually forming a drop called a(n)

a.	oxbow lake.
b.	gully.
c.	waterfall.
d.	delta.

\_\_\_\_ 8. A wide sloping deposit of sediment formed where a stream leaves a mountain range is called a(n)

a.	divide.
b.	drainage basin.
c.	alluvial fan.
d.	slump.

\_\_\_\_ 9. Deltas are built up by

a.	deposition.
b.	leaching.
c.	abrasion.
d.	erosion.

_____	10.	As more water flows through a river, its speed will	
	a.	stay the same.	
	b.	increase.	
	c.	decrease.	
	d.	reduce friction between the water and the streambed.	
_____	11.	The volume of water that moves past a point on a river in a given time is called the river's	
	a.	flow.	
	b.	slope.	
	c.	load.	
	d.	turbulence.	
_____	12.	The energy that produces ocean waves comes from	
	a.	the rise and fall of the tides.	
	b.	rivers flowing into the ocean.	
	c.	wind blowing across the water's surface.	
	d.	rock falling into the ocean along the shore.	
_____	13.	As the energy of a wave moves through the water, what happens to the water particles themselves?	
	a.	They are carried away.	
	b.	They sink to the bottom.	
	c.	They move up and down, but do not move forward.	
	d.	They slowly move backward.	
_____	14.	If waves erode the soft rock along the base of a steep coast, the result may eventually be a landform called a	
	a.	spit.	
	b.	fiord.	
	c.	headland.	
	d.	wave-cut cliff.	
_____	15.	The process by which wind removes surface materials is called	
	a.	abrasion.	
	b.	plucking.	
	c.	deflation.	
	d.	inflation.	
_____	16.	In deserts, deflation can sometimes create an area of rock fragments called a	
	a.	sand dune.	
	b.	loess deposit.	
	c.	desert pavement.	
	d.	sand bar.	
_____	17.	Wind carrying sand grains deposits the sand when the wind	
	a.	speeds up.	
	b.	crosses a depression in the ground.	
	c.	slows down or hits an obstacle.	
	d.	cools after nightfall.	
_____	18.	Particles of clay and silt eroded and deposited by the wind are called	
	a.	till.	
	b.	loess.	
	c.	dust.	
	d.	sod.	
_____	19.	What is one main difference between continental glaciers and valley glaciers?	
	a.	Continental glaciers are much larger and thicker.	
	b.	Each type of glacier is made of different materials.	
	c.	Valley glaciers cause more erosion.	
	d.	Continental glaciers never melt.	
_____	20.	Glaciers can only form when	

a.	there is an ice age.
b.	there is a U-shaped valley in the mountains.
c.	the amount of snow exceeds the amount of rain.
d.	more snow falls than melts.

\_\_\_\_ 21. The process in which rock fragments freeze to the bottom of a glacier and then are carried away when the glacier moves is called

a.	plucking.
b.	surging.
c.	valley widening.
d.	abrasion.

\_\_\_\_ 22. Which of the following is evidence that an area was once covered by a glacier?

a.	loess deposits
b.	V-shaped valley
c.	U-shaped valley
d.	alluvial fan

\_\_\_\_ 23. After the last ice age, stranded ice blocks left behind by the continental glacier melted and formed

a.	kettles.
b.	cirques.
c.	drumlins.
d.	moraines.

\_\_\_\_ 24. A ridge of till located at the farthest point reached by a glacier is called a

a.	horn.
b.	fiord.
c.	terminal moraine.
d.	drumlin.

\_\_\_\_ 25. How would a fast-flowing river be most likely to move sand-sized particles of sediment?

a.	It would lift them and carry them downstream.
b.	It would dissolve them completely in solution.
c.	It would roll or slide them along the streambed.
d.	It would deposit them on the streambed.

\_\_\_\_ 26. Where a coastline turns and interrupts longshore drift, sand may be deposited in a fingerlike landform called a

a.	spit.
b.	barrier beach.
c.	sandbar.
d.	headland.

\_\_\_\_ 27. A small depression that forms when a chunk of ice is left in glacial till is known as a (n)

a.	arête.
b.	cirque.
c.	fiord.
d.	kettle.

\_\_\_\_ 28. The Silver Strand Beach in California is an example of a

a.	barrier beach.
b.	sea cave.
c.	spit.
d.	wave-cut cliff.

\_\_\_\_ 29. The Mojave Desert's desert pavement was created through the process known as

a.	abrasion.
b.	deflation.
c.	deposition.
d.	erosion.

\_\_\_\_ 30. During sheet erosion, runoff forms tiny groves in the soil called

a.	deltas.
b.	gullies.
c.	rills.
d.	streams.

### 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 process that lays down sediment in a new location is erosion.

\_\_\_\_ 32. Creep is very slow movement of sediment down a slope.

\_\_\_\_ 33. An alluvial fan may form where a stream flows out of a narrow mountain valley, slows down, and deposits sediment. \_\_\_\_\_

\_\_\_\_ 34. As a river's slope increases, the power of the river to cause erosion usually decreases.

\_\_\_\_ 35. The stronger the wind, the larger the particles it erodes.

\_\_\_\_ 36. A valley glacier spreads out over a large island or continent.

\_\_\_\_ 37. Once the depth of snow and ice reaches more than 30 to 40 meters, the force of friction begins to pull a glacier downhill. \_\_\_\_\_

\_\_\_\_ 38. In a process called plucking, the rocks dragged by glaciers produce grooves and scratches in bedrock. \_\_\_\_\_

\_\_\_\_ 39. Many of the highest peaks in the Sierra Nevadas contain small continental glaciers.

\_\_\_\_ 40. A(n) stream is full of water only after a rainstorm.

### Completion

Complete each statement.

41. Wind and water are agents of \_\_\_\_\_ that move sediment from one location to another.

42. The force that moves sediment in a landslide or mudflow is \_\_\_\_\_.

43. A mass movement called a(n) \_\_\_\_\_ occurs when sediment suddenly slips downhill in one large mass.

44. The major agent of erosion that shapes Earth's land surface is moving \_\_\_\_\_.

45. Through erosion, rivers form \_\_\_\_\_, which are wide, flat areas covered by water during floods.

46. Sediment deposited where a river flows into an ocean or lake is called a(n) \_\_\_\_\_.

47. A streambed's shape affects the amount of \_\_\_\_\_ between the water and the streambed.

48. Ocean waves contain energy that is transferred to them by \_\_\_\_\_ moving across the surface.

49. The two processes by which waves erode the land are impact and \_\_\_\_\_.
50. The main way that the wind erodes the land is by the process of \_\_\_\_\_.
51. Loess is sediment made up of fine particles of silt that have been deposited far from their source by \_\_\_\_\_.
52. A kind of glacier called a(n) \_\_\_\_\_ forms when ice and snow build up in a mountain valley.
53. The times in the past when continental glaciers covered large parts of Earth's land surface were the \_\_\_\_\_.
54. The mixture of sediments deposited directly by a glacier is called \_\_\_\_\_.
55. The process in which a glacier loosens and picks up rock as it moves is called \_\_\_\_\_.
56. As the water in a river moves downstream, the water's \_\_\_\_\_ does work by moving sediment.
57. Boulders can become smaller as they are moved down a stream bed. This is an example of the process of \_\_\_\_\_, the wearing away of rock by grinding action.
58. As waves repeatedly hit a beach, some of the beach sediment moves down the beach with the current, in a process called \_\_\_\_\_.
59. A(n) \_\_\_\_\_ results in a valley glacier flowing up to 6 kilometers per year.
60. \_\_\_\_\_, which consists of pieces of rock or remains of plants and animals, is produced by weathering and erosion.

### Short Answer

*Use the diagram to answer each question.*

61. What is stream B in relation to the river into which it flows?
62. Name and define the area enclosed by the dashed line labeled C.
63. What is feature D, and how does it form?
64. What is feature E, and how does it form?
65. What is feature F, and how does it form?
66. What is feature A, and how does it form?

*Use the diagram to answer each question.*

67. Identify landform A, describe how it forms, and tell whether it is the result of erosion or deposition.
68. Identify landform B, explain how it forms, and tell whether it is the result of erosion or deposition.
69. Identify landform C, explain how it forms, and tell whether it is the result of erosion or deposition.
70. Identify landform D, explain how it forms, and tell whether it is the result of erosion

or deposition.

71. Identify landform E, explain how it forms, and tell whether it is the result of erosion or deposition.

72. Landform F is a headland. Describe the effect of waves on the headland and predict how it will change over time.

### Essay

73. Compare and contrast landslides and mudflows.

74. Explain the formation and movement of sand dunes.

75. Two property owners flatten the steep slope of their yards and plant more grass and shrubs. Describe two ways in which these changes will affect runoff and erosion in the yards.

76. Compare and contrast the features of a river near its source and far down along its course.

77. Explain how the shape of a river's stream bed can affect the river's speed and its power to cause erosion.

78. Describe what a moraine is made of and explain how this glacial feature forms.

79. Explain what is meant by a river's load, and describe how the load is carried.

80. Describe the geologic cycle.

## Earth Science Ch. 3 Test; Erosion & Deposition

### Answer Section

#### MULTIPLE CHOICE

1.           ANS: D                   PTS: 1                   DIF: L1  
OBJ: CaES.3.1.1 Describe the processes that wear down and build up Earth's surface.  
STA: S 6.2.b           BLM: knowledge
2.           ANS: C                   PTS: 1                   DIF: L2  
OBJ: CaES.3.1.2 Identify the causes of the different types of mass movement.  
STA: S 6.2           BLM: comprehension
3.           ANS: B                   PTS: 1                   DIF: L1  
OBJ: CaES.3.1.2 Identify the causes of the different types of mass movement.  
STA: S 6.2           BLM: knowledge
4.           ANS: B                   PTS: 1                   DIF: L1  
OBJ: CaES.3.2.1 Explain how water erosion is mainly responsible for shaping the surface of the land.  
STA: S 6.2.b BLM: knowledge
5.           ANS: A                   PTS: 1                   DIF: L1  
OBJ: CaES.3.2.1 Explain how water erosion is mainly responsible for shaping the surface of the land.  
STA: S 6.2.b BLM: knowledge
6.           ANS: B                   PTS: 1                   DIF: L1  
OBJ: CaES.3.2.2 Describe some of the land features that are formed by water erosion and deposition.  
STA: S 6.2.b           BLM: knowledge
7.           ANS: C                   PTS: 1                   DIF: L2  
OBJ: CaES.3.2.2 Describe some of the land features that are formed by water erosion and deposition.  
STA: S 6.2.a | S 6.2.b           BLM: comprehension
8.           ANS: C                   PTS: 1                   DIF: L1  
OBJ: CaES.3.2.2 Describe some of the land features that are formed by water erosion and deposition.  
STA: S 6.2.b           BLM: knowledge
9.           ANS: A                   PTS: 1                   DIF: L1  
OBJ: CaES.3.2.2 Describe some of the land features that are formed by water erosion and

deposition. STA: S 6.2.a | S 6.2.b BLM: knowledge  
10. ANS: B PTS: 1 DIF: L2  
OBJ: CaES.3.2.3 Identify factors that affect a river's ability to erode and carry sediment.  
STA: S 6.2.b BLM: comprehension  
11. ANS: A PTS: 1 DIF: L1  
OBJ: CaES.3.2.3 Identify factors that affect a river's ability to erode and carry sediment.  
STA: S 6.2.b BLM: knowledge  
12. ANS: C PTS: 1 DIF: L1  
OBJ: CaES.3.3.1 Identify what gives ocean waves their energy. STA: S 6.2.c  
BLM: knowledge  
13. ANS: C PTS: 1 DIF: L2  
OBJ: CaES.3.3.1 Identify what gives ocean waves their energy. STA: S 6.3.a  
BLM: comprehension  
14. ANS: D PTS: 1 DIF: L2  
OBJ: CaES.3.3.2 Describe how ocean waves erode a coast. STA: S 6.2.c  
BLM: comprehension  
15. ANS: C PTS: 1 DIF: L1  
OBJ: CaES.3.3.3 Explain the causes and effects of wind erosion.  
STA: S 6.2.a Framework BLM: knowledge  
16. ANS: C PTS: 1 DIF: L1  
OBJ: CaES.3.3.3 Explain the causes and effects of wind erosion.  
STA: S 6.2.a Framework BLM: knowledge  
17. ANS: C PTS: 1 DIF: L2  
OBJ: CaES.3.3.3 Explain the causes and effects of wind erosion.  
STA: S 6.2.a Framework BLM: comprehension  
18. ANS: B PTS: 1 DIF: L2  
OBJ: CaES.3.3.3 Explain the causes and effects of wind erosion.  
STA: S 6.2.a Framework BLM: comprehension  
19. ANS: A PTS: 1 DIF: L2  
OBJ: CaES.3.4.1 Identify the two kinds of glaciers. STA: S 6.2.a Framework  
BLM: analysis  
20. ANS: D PTS: 1 DIF: L1  
OBJ: CaES.3.4.2 Describe how a valley glacier forms and moves.  
STA: S 6.2.a Framework BLM: knowledge  
21. ANS: A PTS: 1 DIF: L2  
OBJ: CaES.3.4.3 Explain how glaciers cause erosion and deposition.  
STA: S 6.2.a Framework BLM: comprehension  
22. ANS: C PTS: 1 DIF: L2  
OBJ: CaES.3.4.3 Explain how glaciers cause erosion and deposition.  
STA: S 6.2.a Framework BLM: application  
23. ANS: A PTS: 1 DIF: L2  
OBJ: CaES.3.4.3 Explain how glaciers cause erosion and deposition.  
STA: S 6.2.a Framework BLM: comprehension  
24. ANS: C PTS: 1 DIF: L1  
OBJ: CaES.3.4.3 Explain how glaciers cause erosion and deposition.  
STA: S 6.2.a Framework BLM: knowledge  
25. ANS: A PTS: 1 DIF: L2  
OBJ: CaES.3.2.3 Identify factors that affect a river's ability to erode and carry sediment.  
STA: S 6.2.b BLM: application  
26. ANS: A PTS: 1 DIF: L2  
OBJ: CaES.3.3.2 Describe how ocean waves erode a coast. STA: S 6.2.c  
BLM: comprehension  
27. ANS: D PTS: 1 DIF: L1  
OBJ: CaES.3.4.3 Explain how glaciers cause erosion and deposition.  
STA: S 6.2.a Framework BLM: knowledge  
28. ANS: A PTS: 1 DIF: L2  
OBJ: CaES.3.3.2 Describe how ocean waves erode a coast. STA: S 6.2.c

BLM: application

29. ANS: B PTS: 1 DIF: L2

OBJ: CaES.3.3.3 Explain the causes and effects of wind erosion.

STA: S 6.2.a Framework BLM: application

30. ANS: C PTS: 1 DIF: L1

OBJ: CaES.3.2.1 Explain how water erosion is mainly responsible for shaping the surface of the

land. STA: S 6.2.b BLM: knowledge

### MODIFIED TRUE/FALSE

31. ANS: F, deposition

PTS: 1 DIF: L1

OBJ: CaES.3.1.1 Describe the processes that wear down and build up Earth's surface.

STA: S 6.2 BLM: knowledge

32. ANS: T PTS: 1 DIF: L2

OBJ: CaES.3.1.2 Identify the causes of the different types of mass movement.

STA: S 6.2 BLM: comprehension

33. ANS: T PTS: 1 DIF: L2

OBJ: CaES.3.2.2 Describe some of the land features that are formed by water erosion and deposition.

STA: S 6.2.b BLM: application

34. ANS: F, increases

PTS: 1 DIF: L1

OBJ: CaES.3.2.3 Identify factors that affect a river's ability to erode and carry sediment.

STA: S 6.2.b BLM: knowledge

35. ANS: T PTS: 1 DIF: L2

OBJ: CaES.3.3.3 Explain the causes and effects of wind erosion.

STA: S 6.2.a Framework BLM: application

36. ANS: F, continental

PTS: 1 DIF: L1

OBJ: CaES.3.4.1 Identify the two kinds of glaciers.

STA: S 6.2.a Framework BLM: knowledge

37. ANS: F, gravity

PTS: 1 DIF: L1

OBJ: CaES.3.4.2 Describe how a valley glacier forms and moves.

STA: S 6.2.a Framework BLM: knowledge

38. ANS: F, abrasion

PTS: 1 DIF: L2

OBJ: CaES.3.4.3 Explain how glaciers cause erosion and deposition.

STA: S 6.2.a Framework BLM: comprehension

39. ANS: F, valley

PTS: 1 DIF: L2

OBJ: CaES.3.4.1 Identify the two kinds of glaciers.

STA: S 6.2.a Framework BLM: comprehension

40. ANS: T, gully

PTS: 1 DIF: L2

OBJ: CaES.3.2.1 Explain how water erosion is mainly responsible for shaping the surface of the

land. STA: S 6.2.b BLM: comprehension

### COMPLETION

41. ANS: erosion



PTS: 1 DIF: L2  
 OBJ: CaES.3.1.1 Describe the processes that wear down and build up Earth's surface.  
 STA: S 6.2 BLM: comprehension  
 42. ANS: gravity

PTS: 1 DIF: L2  
 OBJ: CaES.3.1.2 Identify the causes of the different types of mass movement.  
 STA: S 6.2 BLM: comprehension  
 43. ANS: slump

PTS: 1 DIF: L2  
 OBJ: CaES.3.1.2 Identify the causes of the different types of mass movement.  
 STA: S 6.2 BLM: comprehension  
 44. ANS: water

PTS: 1 DIF: L1  
 OBJ: CaES.3.2.1 Explain how water erosion is mainly responsible for shaping the surface of the land.  
 STA: S 6.2.a BLM: knowledge  
 45. ANS: flood plains

PTS: 1 DIF: L2  
 OBJ: CaES.3.2.2 Describe some of the land features that are formed by water erosion and deposition.  
 STA: S 6.2.b BLM: comprehension  
 46. ANS: delta

PTS: 1 DIF: L1  
 OBJ: CaES.3.2.2 Describe some of the land features that are formed by water erosion and deposition.  
 STA: S 6.2.b BLM: knowledge  
 47. ANS: friction

PTS: 1 DIF: L1  
 OBJ: CaES.3.2.3 Identify factors that affect a river's ability to erode and carry sediment.  
 STA: S 6.2.b BLM: knowledge  
 48. ANS: wind

PTS: 1 DIF: L2  
 OBJ: CaES.3.3.1 Identify what gives ocean waves their energy. STA: S 6.2.c  
 BLM: comprehension  
 49. ANS: abrasion

PTS: 1 DIF: L2  
 OBJ: CaES.3.3.2 Describe how ocean waves erode a coast. STA: S 6.2.c  
 BLM: comprehension  
 50. ANS: deflation

PTS: 1 DIF: L1  
 OBJ: CaES.3.3.3 Explain the causes and effects of wind erosion.  
 STA: S 6.2.a Framework BLM: knowledge  
 51. ANS: wind

PTS: 1 DIF: L2  
 OBJ: CaES.3.3.3 Explain the causes and effects of wind erosion.  
 STA: S 6.2.a Framework BLM: comprehension  
 52. ANS: valley glacier

PTS: 1 DIF: L1 OBJ: CaES.3.4.1 Identify the two kinds of glaciers.  
 STA: S 6.2.a Framework BLM: knowledge  
 53. ANS: ice ages

PTS: 1 DIF: L2 OBJ: CaES.3.4.1 Identify the two kinds of glaciers.  
STA: S 6.2.a Framework BLM: comprehension  
54. ANS: till

PTS: 1 DIF: L1  
OBJ: CaES.3.4.3 Explain how glaciers cause erosion and deposition.  
STA: S 6.2.a Framework BLM: knowledge  
55. ANS: plucking

PTS: 1 DIF: L1  
OBJ: CaES.3.4.3 Explain how glaciers cause erosion and deposition.  
STA: S 6.2.a Framework BLM: knowledge  
56. ANS: energy

PTS: 1 DIF: L2  
OBJ: CaES.3.2.2 Describe some of the land features that are formed by water erosion and deposition.  
STA: S 6.2.b BLM: comprehension  
57. ANS: abrasion

PTS: 1 DIF: L2  
OBJ: CaES.3.3.3 Explain the causes and effects of wind erosion.  
STA: S 6.2.b BLM: application  
58. ANS: longshore drift

PTS: 1 DIF: L1  
OBJ: CaES.3.3.2 Describe how ocean waves erode a coast. STA: S 6.2.c  
BLM: knowledge  
59. ANS: surge

PTS: 1 DIF: L2  
OBJ: CaES.3.4.2 Describe how a valley glacier forms and moves.  
STA: S 6.2.a Framework BLM: comprehension  
60. ANS: Sediment

PTS: 1 DIF: L2  
OBJ: CaES.3.1.1 Describe the processes that wear down and build up Earth's surface.  
STA: S 6.2 BLM: comprehension

### SHORT ANSWER

61. ANS:  
Stream B is a tributary of the river into which it flows.

PTS: 1 DIF: L2  
OBJ: CaES.3.2.1 Explain how water erosion is mainly responsible for shaping the surface of the land.  
STA: S 6.2.b BLM: application  
62. ANS:

The dashed line encloses a drainage basin, the area from which the stream collects its water.

PTS: 1 DIF: L2  
OBJ: CaES.3.2.1 Explain how water erosion is mainly responsible for shaping the surface of the land.  
STA: S 6.2.b BLM: application  
63. ANS:

Feature D is a delta. A delta is a landform that forms when a river slows down as it flows into an ocean or lake. As the river slows, it drops its sediment load, gradually building up the delta with its network of small channels and islands.

PTS: 1 DIF: L2

OBJ: CaES.3.2.2 Describe some of the land features that are formed by water erosion and deposition. STA: S 6.2.b BLM: application

64. ANS:

Feature E is a meander. A meander is a looplike bend in the course of a river. Meanders form when a river erodes the outer bank along a bend and deposits sediment on the inner bank of the bend. Over time, the bend, or meander, becomes more and more curved.

PTS: 1 DIF: L2

OBJ: CaES.3.2.2 Describe some of the land features that are formed by water erosion and deposition. STA: S 6.2.b BLM: application

65. ANS:

Feature F is an oxbow lake. An oxbow lake is a meander that has been cut off from the main stream of the river. An oxbow lake forms when a river floods and takes a more direct route downstream. As the floodwaters fall, sediments are deposited along the new route of the river. These sediments dam up the ends of the meander, leaving an oxbow lake.

PTS: 1 DIF: L2

OBJ: CaES.3.2.2 Describe some of the land features that are formed by water erosion and deposition. STA: S 6.2.b BLM: application

66. ANS:

Feature A is a waterfall. A waterfall forms where a river flows over a spot where a layer of harder rock overlies a layer of softer rock. The water more easily erodes the layer of softer rock, which then no longer supports the layer of harder rock above. Pieces of the harder rock break off, creating the waterfall's steep drop.

PTS: 1 DIF: L2

OBJ: CaES.3.2.2 Describe some of the land features that are formed by water erosion and deposition. STA: S 6.2.b BLM: application

67. ANS:

A is a sea stack. It forms when waves erode a sea arch and the arch collapses.

PTS: 1 DIF: L3

OBJ: CaES.3.3.2 Describe how ocean waves erode a coast. STA: S 6.2.c  
BLM: synthesis

68. ANS:

B is a wave-cut cliff. It forms when waves erode the base of the land along a coast so much that the rock above collapses.

PTS: 1 DIF: L3

OBJ: CaES.3.3.2 Describe how ocean waves erode a coast. STA: S 6.2.c  
BLM: synthesis

69. ANS:

C is a beach. It forms by deposition, when waves drop the sediment they carry on the shore.

PTS: 1 DIF: L2

OBJ: CaES.3.3.2 Describe how ocean waves erode a coast. STA: S 6.2.c  
BLM: analysis

70. ANS:

D is a spit. It forms when longshore drift carries sediment down the beach and deposits the sediment at an obstacle.

PTS: 1 DIF: L2

OBJ: CaES.3.3.2 Describe how ocean waves erode a coast. STA: S 6.2.c  
BLM: analysis

71. ANS:

E is a barrier beach. It forms by deposition, when sand carried by incoming storm waves piles up

parallel to the shore and above sea level.

PTS: 1 DIF: L2

OBJ: CaES.3.3.2 Describe how ocean waves erode a coast. STA: S 6.2.c

BLM: analysis

72. ANS:

As waves approach a shore with bays and headlands, they bend toward the headlands. This process focuses the energy of the waves on the headlands. Over time, the waves will erode a headland and even out the shoreline. As it erodes, a headland may develop sea arches or caves. A sea arch may erode and collapse, leaving a sea stack.

PTS: 1 DIF: L3

OBJ: CaES.3.3.2 Describe how ocean waves erode a coast. STA: S 6.2.c

BLM: synthesis

## ESSAY

73. ANS:

Both are sudden mass movements caused by gravity. In a landslide, rock and soil slide down a steep slope. An earthquake can sometimes trigger a landslide. In a mudflow, soil with a high water content suddenly turns to liquid mud and flows down a slope. Mudflows can occur even on relatively gentle slopes. Heavy rain can trigger a mudflow. Mudflows are especially likely in areas with clay soils.

PTS: 1 DIF: L2

OBJ: CaES.3.1.2 Identify the causes of the different types of mass movement.

STA: S 6.2 BLM: analysis

74. ANS:

When wind carrying sand slows down or is trapped by some obstacle, such as a boulder or plant, the sand gets deposited. As the sand accumulates, a sand dune can form. Dunes often form on beaches or in deserts. Sand dunes move over time as, little by little, sand grains get moved by the wind from one side of the dune to the other.

PTS: 1 DIF: L2

OBJ: CaES.3.3.3 Explain the causes and effects of wind erosion.

STA: S 6.2.a Framework BLM: comprehension

75. ANS:

First, vegetation reduces runoff by absorbing water and holding soil in place. Second, flat land has less runoff than steeply sloping land. Less runoff generally means less erosion, so the amount of erosion in each yard should be reduced.

PTS: 1 DIF: L3

OBJ: CaES.3.2.1 Explain how water erosion is mainly responsible for shaping the surface of the land. STA: S 6.2.b BLM: synthesis

76. ANS:

Near its source, a river is fast moving and flows on a steep mountain slope. It rapidly erodes a V-shaped, steep-sided valley. Its course may include waterfalls and rapids. Farther along its course, a river flows over gently sloping land. Here it flows more slowly, spreading out and eroding the land to form a wide, flat valley. As the river begins to wind from side to side, meanders form.

PTS: 1 DIF: L2

OBJ: CaES.3.2.2 Describe some of the land features that are formed by water erosion and deposition. STA: S 6.2.a | S 6.2.b BLM: analysis

77. ANS:

The shape of a river's stream bed affects the speed and eroding power of a river by influencing the amount of friction between the water flowing through the river and the stream bed below. Friction is the force that opposes the motion of one surface as it moves across another surface. In a river, there is friction between the flowing water and the stream bed beneath it. Where a river is deep, less water comes into contact with the stream bed, so there is less friction. The reduced friction means there is

less opposition to the water's motion, so the river flows at a greater speed and has more kinetic energy for erosion. On the other hand, where a river is shallow, more water comes into contact with the stream bed, so there is more friction. The increased friction means there is more opposition to the water's motion, so the river flows at a lesser speed and has less kinetic energy for erosion. Also, the roughness of a stream bed covered with boulders and other obstacles causes the water to flow through the river in a turbulent fashion. This could cause the river to move slower in some cases or erode more in other cases.

PTS: 1 DIF: L3

OBJ: CaES.3.2.3 Identify factors that affect a river's ability to erode and carry sediment.

STA: S 6.2.a | S 6.2.b BLM: synthesis

78. ANS:

A moraine is made up of till, the mixture of sediment deposited by a glacier. A moraine forms when a ridge of till is deposited at the edges or at the lower end of a glacier. A terminal moraine forms at the farthest point reached by the glacier as the glacier begins melting back.

PTS: 1 DIF: L2

OBJ: CaES.3.4.3 Explain how glaciers cause erosion and deposition.

STA: S 6.2.a Framework BLM: application

79. ANS:

Sediment load refers to the amount of sediment that a river can carry. Rivers carry their load in different ways. Large particles are pushed and rolled along the bottom of the river bed, and some sand is bounced along. Fast-moving water lifts sand and other small sediment and carries it downstream. Some sediment is dissolved by the water and carried in solution.

PTS: 1 DIF: L2

OBJ: CaES.3.2.3 Identify factors that affect a river's ability to erode and carry sediment.

STA: S 6.2.b BLM: comprehension

80. ANS:

Weathering, erosion, and deposition act together in the geologic cycle. The cycle wears down and builds up Earth's surface. Over millions of years, erosion gradually wears away mountains. At the same time, deposition fills in valleys with sediment. Working together, erosion and deposition level the land surface. As a mountain wears down in one place, new landforms build up in other places.

PTS: 1 DIF: L2

OBJ: CaES.3.1.1 Describe the processes that wear down and build up Earth's surface.

STA: S 6.2 BLM: comprehension