

# 16. 2 TIDES

PAGES 458-460

NAME \_\_\_\_\_ HR \_\_\_\_\_

1. What is the best definition of tides?
  - a. High tides and low tides
  - b. Water bubbling up then down
  - c. Regular changes in the elevation of the ocean surface
  - d. Moon gravitation added to sun gravitation
  
2. At the times when the moon is closest to Earth, (perigee) tides will probably be \_\_\_\_\_.

## THE CAUSE OF TIDES

3. Which statement is true?
  - a. Tides are formed because of the moon's gravity.
  - b. Tides are formed because of the sun's gravity.
  - c. Tides are formed because of the moon and sun's gravity.
  
4. True or false: The sun has a greater effect on tides because it is much larger than the moon.
  
5. Why doesn't the land have as much of a tidal bulge as the water?  
\_\_\_\_\_
  
6. Which moves faster, the spin of the Earth, or the tidal bulge caused by the moon?  
\_\_\_\_\_
  
7. If your beach spins into the zone where the moon is creating a tidal bulge, what happens?  
\_\_\_\_\_
  
8. How many high tides do most coastal locations get every day? How many low tides? (2pts)  
\_\_\_\_\_
  
9. Look at the picture on p 458. Is Florida experiencing a high tide or low tide?  
\_\_\_\_\_

## TIDAL CYCLE

10. Which astronomical body has more of an influence on tides, the sun or the moon?

\_\_\_\_\_

11. When the sun and moon are aligned (and thus their gravitational pulls are working together), how does that affect the tides?

\_\_\_\_\_

12. Look at the picture on page 459. What color is the lunar tide? \_\_\_\_\_

13. What color is the solar tide? \_\_\_\_\_

14. Which picture (A or B) shows a spring tide? \_\_\_\_\_

15. Which picture (A or B) shows a neap tide? \_\_\_\_\_

16. Spring tides occur during which moon phases? (2pts)

\_\_\_\_\_ AND \_\_\_\_\_

17. Neap tides occur during which moon phases? (2pts)

\_\_\_\_\_ AND \_\_\_\_\_

18. \_\_\_\_\_ tides occur when the earth, moon, and sun are forming a 90 degree angle.

19. \_\_\_\_\_ tides occur when the earth, moon, and sun are aligned and form a 180 degree angle.

20. What is a tidal range?

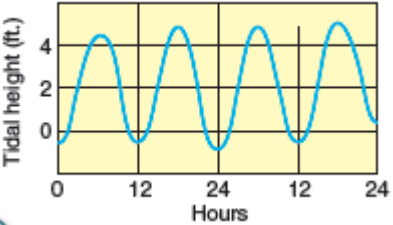
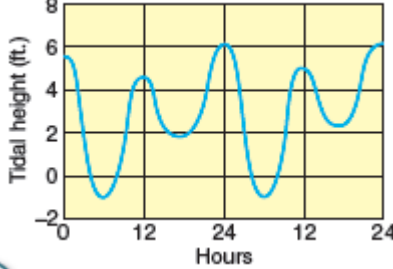
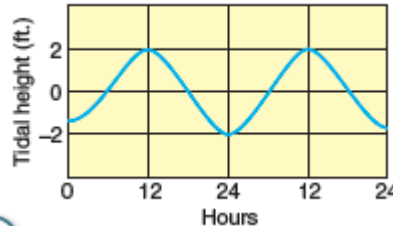
\_\_\_\_\_

21. Look at the picture on p 459. Is the picture on the left at high tide or low tide?

\_\_\_\_\_

## TIDAL PATTERNS

Match the name with the proper picture

22.	MIXED SEMI DIURNAL	A	
23.	DIURNAL	B	
24.	SEMI DIURNAL	C	

25. What types of things can affect the tides (besides the obvious answer of the moon and sun) (3pts)

1 \_\_\_\_\_

2 \_\_\_\_\_

3 \_\_\_\_\_

26. Which tide show in the above table (A, B, or C) has a single high tide and single low tide each day?

\_\_\_\_\_

27. Has 2 high tides and 2 low tides each day and they are about the same height?

\_\_\_\_\_

28. Has 2 high tides and 2 low tides each day, but the heights of the high tides are very different from each other?

\_\_\_\_\_

29. What is the tidal range of A? \_\_\_\_\_ B? \_\_\_\_\_ C? \_\_\_\_\_