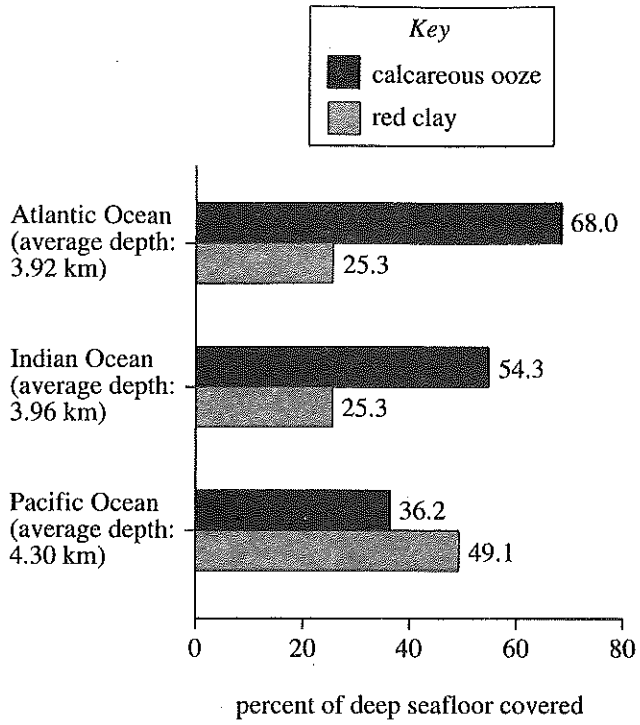

Figure 3

Figure 3 adapted from Harold Thurman, *Introductory Oceanography.* ©1991 by Macmillan Publishing Company.

36. Assume that the Arctic Ocean seafloor has an average depth of 4.9 km. According to Figures 2 and 3, the Arctic Ocean seafloor is most likely covered with:

F. calcareous ooze only.
G. nearly the same areas of calcareous ooze and red clay.
H. a greater area of calcareous ooze than of red clay.
J. a greater area of red clay than of calcareous ooze.

37. The data in Figure 2 support which of the following statements about the relative thickness of marine organism shells and the depths at which calcareous oozes composed of those shells are found? Calcareous oozes formed mainly from thick-shelled organisms are found:

A. at shallower depths than those formed mainly from thin-shelled organisms.
B. at greater depths than those formed mainly from thin-shelled organisms.
C. over the same depth range as those formed mainly from thin-shelled organisms.
D. in the same areas of a given ocean as those formed mainly from thin-shelled organisms.

38. $CaCO_3$ often precipitates out of seawater in areas where the seawater is shallow (less than 1 km deep). According to Figure 1, this most likely occurs because seawater in those locations:

F. is undersaturated with respect to $CaCO_3$.
G. is saturated with respect to $CaCO_3$.
H. is supersaturated with respect to $CaCO_3$.
J. contains no $CaCO_3$.

39. According to Figure 1, above what maximum depth is seawater supersaturated with respect to $CaCO_3$?

A. 3.0 km
B. 3.5 km
C. 4.0 km
D. 4.5 km

40. Figure 1 shows that the rate at which $CaCO_3$ dissolves increases the most between which of the following depths?

F. Between 3.5 km and 4.0 km
G. Between 4.0 km and 4.5 km
H. Between 4.5 km and 5.0 km
J. Between 5.0 km and 5.5 km

END OF TEST 4

STOP! DO NOT RETURN TO ANY OTHER TEST.

Passage VII

Tiny marine organisms build shells from *calcite* ($CaCO_3$) dissolved in seawater. After the organisms' death, the shells sink. Some shells dissolve before they reach the seafloor, but some form layers of *calcareous ooze* ($CaCO_3$-rich sediment). Figure 1 shows how seawater's degree of saturation with respect to $CaCO_3$ and the rate at which $CaCO_3$ dissolves change with depth. The *$CaCO_3$ compensation depth* (CCD) represents the depth beneath which $CaCO_3$ dissolves faster than it precipitates. Figure 2 shows typical depths at which various seafloor sediments are found. Figure 3 shows the percent coverage for 2 seafloor sediments in 3 oceans.

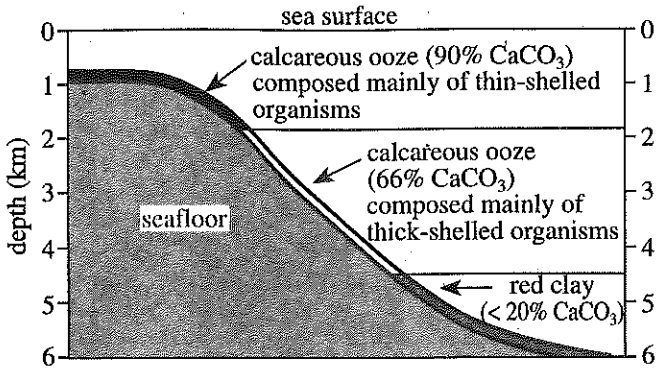

Figure 2

Figure 2 adapted from M. Grant Gross, *Oceanography*, 6th ed. ©1990 by Macmillan Publishing Company.

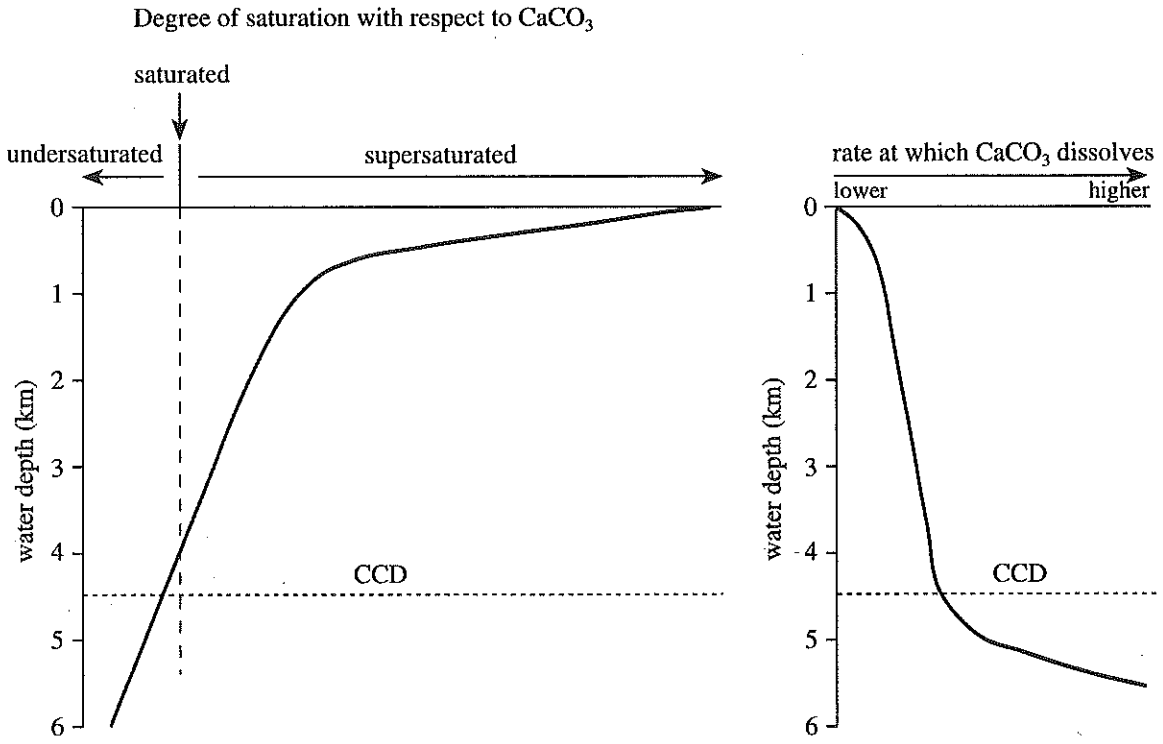

Figure 1

Figure 1 adapted from J. Andrews, P. Brimblecombe, T. Jickells, and P. Liss, *An Introduction to Environmental Chemistry*. ©1996 by Blackwell Science, Ltd.

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