

**Source:** Klemm, E.B., S.A. Reed, F.M. Pottenger, C.Porter, T.W. Speitel. 1995. HMSS The Living Ocean. Honolulu, HI: Curriculum Research & Development Group, University of Hawaii. pp.179-83. Adapted and reformatted from the original. Used with permission.

## 11\*. A CLOSER LOOK: IDENTIFYING CORAL SPECIES

To a person unfamiliar with corals, most corals look alike. But the details of their skeletal structure distinguish one type from another. In this activity you will learn how to identify different corals.

A distinguishing feature of coral is its calyx (the plural is *calyces*), or cup. The diameter of each calyx is one of the first features to note when examining a coral skeleton. Fig. 1 shows living coral polyps and empty calyces with the coral tissue removed. The partitions radiating inward are called septa (Latin *septum* = fence). In some solitary corals the calyx has side walls; in others it does not. See Fig. 1.

In colonial corals the calyces may be separated, leaving gaps, or not separated and touching. In some, parts of their side walls are missing. See Fig. 2. The edges of the calyx may be even with the coral surface or raised above it. In some species the septa may extend outside the calyx and join with the septa of nearby calyces. See Fig. 3. The septa may be solid, porous, or reduced in size. See Fig. 4.

### ACTIVITY

Examine five coral specimens and record their features.

### **Materials:**

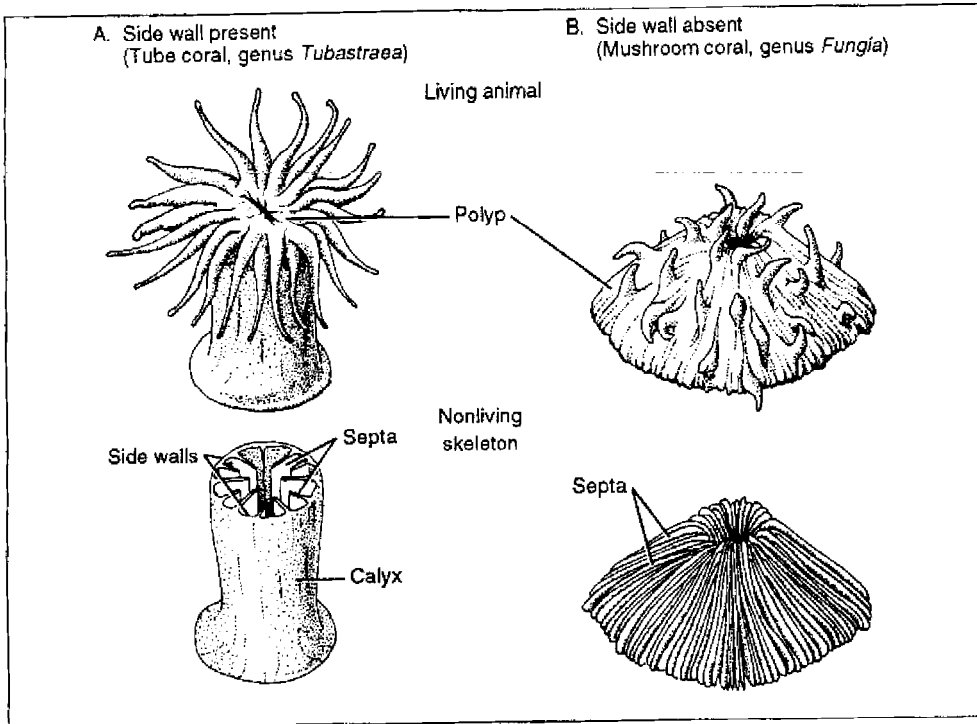
5 different reef-building coral skeletons  
dissecting microscope or hand lens  
copy of Table 1 (worksheet).  
centimeter ruler  
coral key references (optional)

### **Procedure:**

1. Place each sample on the dissecting microscope stage. Adjust the lighting to show contrasts. Because coral skeletons are white, they may reflect light and be difficult to see. Try to produce shadows.
2. Describe the features of the coral cups in Table 1. Refer to Figs. 2 through 4 as needed.
3. If a coral key is available, identify the corals by their scientific names.

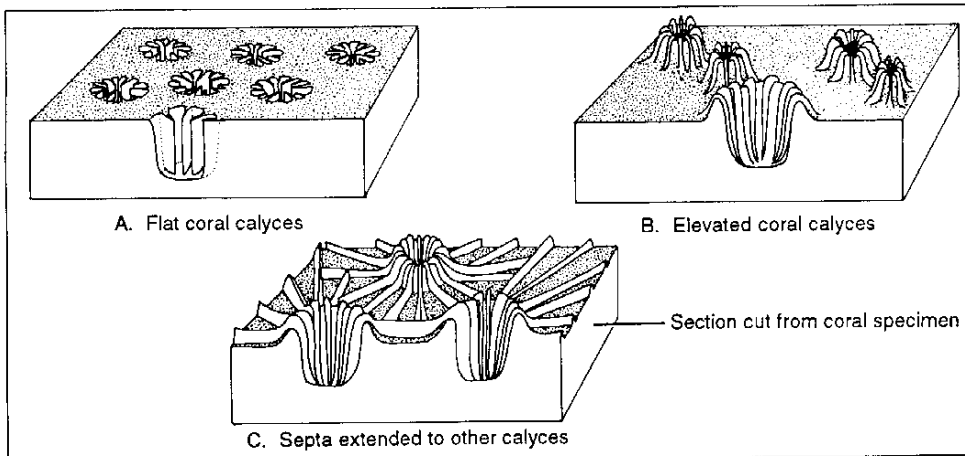
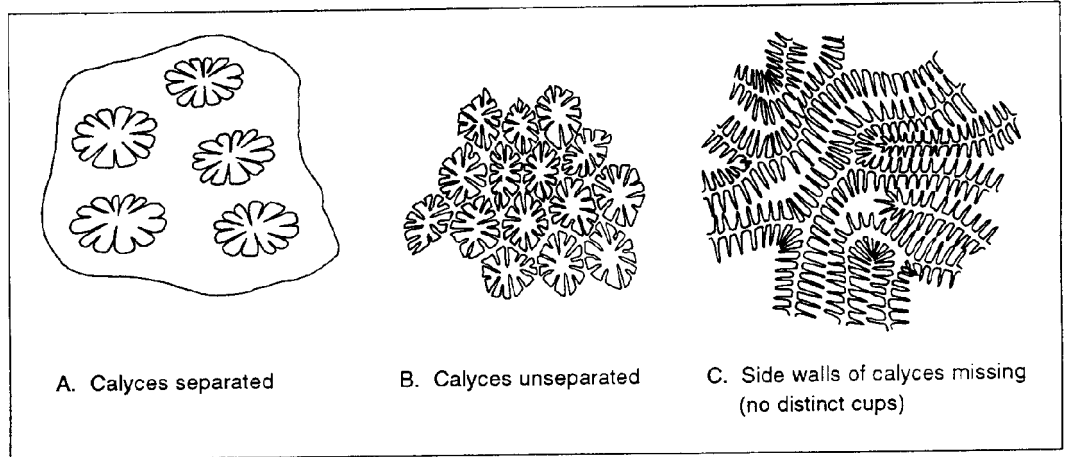
### **Questions:**

1. How do the cup features of the colonial coral specimens differ? Which differed most?
  - a. Do different specimens have distinctive cup features? Describe or draw them.
  - b. If your samples came from beach gravel, how might you positively identify the coral type? Explain.
2. Which coral cup parts are lacking in a solitary coral like *Fungia*? See Fig. 1.
3. How does a colonial coral seem to grow? Explain by making sketches.
4. Which of the species you observed would probably break during a storm? What skeletal features make one coral more fragile than another?
5. Define the following terms : (a) polyp, (b) colonial, (c) elevated cup, (d) septa
6. Some coral polyps are as small as the little "o" in words in this text. How can these small animals create coral heads? Massive coral reefs?

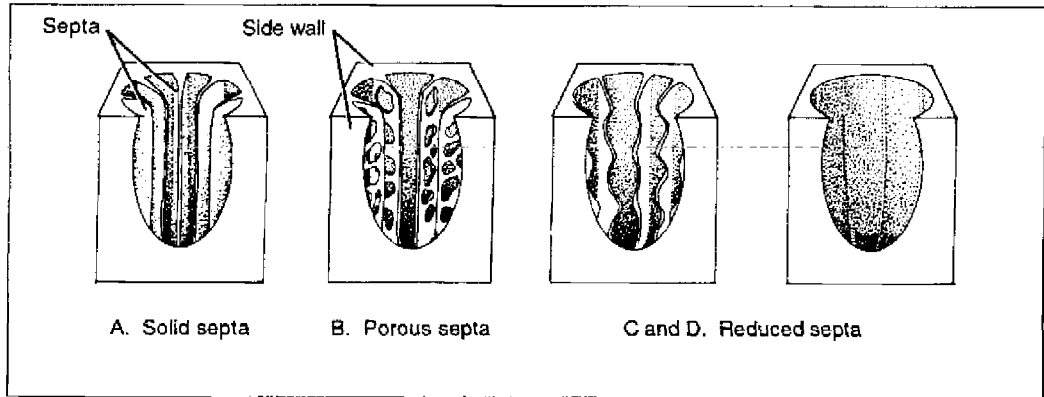


**Figure 1:**  
Solitary coral calyx

**Figure 2:**  
Arrangement of calyces (cups) in some colonial corals.



**Figure 3:**  
Arrangement of septa in some colonial corals.



**Figure 4:**  
 Septa variations  
 in colonial  
 corals (shown  
 with part of side  
 walls removed)

**Table 1:**  
 Skeletal  
 features  
 of five  
 corals.

Description and measurements	Drawing of coral
Calyx description Calyx diameter ___mm Gaps between calyces? yes ___no___ Calyx elevated? yes ___no___ Septa description Number of septa per calyx ___ Entire ___Porous ___Reduced ___ Join other calyces? yes ___no___	
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**Correlation to National Standards from McREL ( <http://www.mcrel.org> ) :**

Life Sciences

5. Understands the structure and function of cells and organisms