

BASIC KNOWLEDGE IN MARINE SCIENCES

Edited by

Normawaty Mohammd-Noor



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Introduction

Diatoms are the dominant phytoplankton in the marine environment and they are among the largest group of global primary producers. They are unicellular organisms which occur in chains, groups or as single cells. Diatoms can be either planktonic (drifting) or benthic (attached to a substratum).

Morphology of diatoms

Diatoms have cell walls known as frustules that are composed of pectin and more than 95% of silica (Figs 1 & 2) (Garrison, 2005). They have many small chloroplasts scattered throughout the cytoplasm and in the cell wall but in low light intensities, the chloroplast may aggregate near the cell ends (Fig 3). The frustules consist of two closely fitting halves - the epitheca and a smaller hypotheca which fits tightly inside the epitheca (Fig. 2) (Sumich, 1999). This siliceous wall can be highly patterned (Garrison, 2005) with a variety of ribs, tiny spines, pores, minor folds and elevations which can be useful in identifying genera and species (Fig. 4).