Microbiology o Microbiology: the study of organisms ??o Bacteria of medical importance – 0.2 – 1.5 um in diameter – 3 – 5 um in length Shape of Bacteria o Cocci – spherical/ oval shaped (major groups) o Bacilli – rod shaped o Vibrios – comma shaped o Spirilla – rigid spiral forms o Spirochetes – flexible spiral forms o Actinomycetes – branching filamentous bacteria.Cytoplasm – gel–like substance enclosed within the cell membrane contains cytoplasmic inclusions, ribosomes, mesosomes and nucleoid B. Additional structures – plasmid, slime layer, capsule, flagella, fimbriae (pili) and spores.o Microorganisms include: o ?Bacteria o ?Viruses o ?Fungi o ?Parasites {protozoa &helminthes (worms) } o ?Algae Antoni van Leeuwenhoek 1674.(father of microbiology) – 1st person to actually see living microorganisms Cell Types There are several classes of living organisms Based on the organization of their cellular structures, all living cells can be divided into two categories: 1.Cells that do not have membrane–bound organelles – called prokaryotic cells Eukaryotic cell types – Animals, plants, fungi, protozoa, and algae Prokaryotic cell types – Unicellular organisms such as bacteria and blue –green alga Similarities: both cell types are living cells o All cells are surrounded by a plasma membrane.o In an eukaryotic cell, chromosomes are contained in a membrane–enclosed organelle, the nucleus.Microorganisms are ubiquitous.Rigid cell wall 2.?2.3.4.5.6.7.8.