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Nota di contenuto	Intro -- Acknowledgments -- Contents -- Introduction -- How Cells Work: The Basics -- What Life Is Made Of -- DNA -- Proteins -- Lipids and Membranes -- Types of Life -- Prokaryotes -- Eukaryotes -- Multicellular Life, Tissues, and Signaling -- Viruses -- Plasmids -- Prions -- Cellular Activity -- The Central Dogma -- Cellular Signaling -- Cell Division -- Why Is Biology Hard? -- Proteins Interact in Complexes and Pathways -- Individual Interactions Can Be Complicated -- Enzymes Control Reaction Rates -- Reaction Rates Can Be Highly Nonlinear -- Enzymatic Pathways Are Complicated -- Cellular Energy -- Enzymatic Pathways Have Many Steps -- Amplification and Pathways -- Modularity and Locality Is Limited -- How Things That Interact Find Each Other -- Membranes and Locality -- Transport by Vesicles and Along Microtubules -- Biological Processes Can Cross Membranes -- Receptors -- Ion Channels and Neural Signals: How Nerves Talk -- How Nerves Talk -- Wrap-Up -- Looking at Very Small Things -- Limitations of Optical Microscopes -- Fluorescent Microscopes -- Confocal Microscopes -- Electron Microscopes -- Manipulation of the Very Small -- Taking Small Things Apart -- Sorting Small Things -- Centrifugation: Separation by Weight -- Chromatography: Separation by Charge or Other Properties -- Electrophoresis: Separation by Size or Shape -- The Many Approaches to Sorting and Selection -- Measuring Proteins at Scale -- Microarrays and Gene Chips -- Parallelism, Automation, and Reuse in Biology -- Liquid-Handling Robots -- Databases of Prepared Samples --

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