In biology, a tissue is a group of cells and extracellular matrix sharing an embryonic origin and function. Animal tissue study (histology) and plant tissue study (plant anatomy) reveal crucial body functions, a concept introduced by Bichat in 1801. Animal tissues categorize into epithelial (protective coverings, diverse forms with roles in protection and absorption), connective (supporting, shaping organs; examples include blood and bone), muscle (skeletal, cardiac, smooth; responsible for movement), and nervous tissue (communication; brain, spinal cord, nerves). Plant tissues comprise epidermis (outer protection, nutrient absorption), vascular tissue (xylem and phloem for transport), and ground tissue (plant support, photosynthesis). Meristematic tissue (actively dividing cells) and permanent tissue (non-dividing, structural support) are also key plant tissue types. Histology, using a five-step slide preparation process (fixing, processing, embedding, sectioning, staining), microscopically analyzes tissues. Histologists, often collaborating with pathologists, utilize stains like hematoxylin and eosin for detailed examination of cellular structures, impacting medicine, archaeology, and paleontology. In essence, tissues are fundamental to plant and animal life, and their study through histology is vital for understanding biological function and health.

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