

INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

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Vzdělávací obor: Anglický jazyk
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Téma: Tissues
Klíčová slova: tissue, muscles, cells, epithelial

Metodický list/anotace:

Materiál slouží k seznámení se základní odbornou slovní zásobou pro studenty oborů Aplikovaná chemie. Jedná se zejména o termíny z oblasti biologie a chemie.

Studenti odhadují na základě svých znalostí význam slov. V případě potřeby pracují se slovníkem. Důležité je pochopení obsahu a aktivní slovní zásoba. Studenti využívají svých znalostí z oboru chemie, biologie a mikrobiologie.

Připraví krátkou prezentaci se zajímavými informacemi.

Tissues

What is it?

- **tissue** is a cellular organizational level intermediate between cells and a complete organism. A tissue is an ensemble of similar cells from the same origin that together carry out a specific function.
- tissues form functional organs
- Animal tissues can be grouped into four basic types: connective, muscle, nervous, and epithelial.

Connective tissue

- is a kind of biological tissue that supports, connects, or separates different types of tissues and organs of the body
- Connective tissue gives shape to organs and holds them in place. Both blood and bone are examples of connective tissue. As the name implies, these support and bind other tissues. Unlike epithelial tissue, connective tissue typically has cells scattered throughout an extracellular matrix.

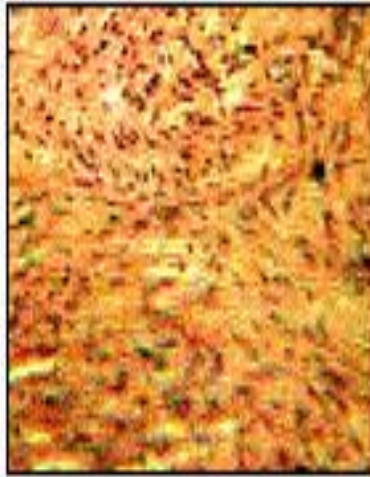
Muscle tissue

Muscle tissue is separated into three categories: smooth muscle (the inner linings of organs); skeletal muscle (attached to bone providing for gross movement) and cardiac muscle (in the heart, allowing it to contract and pump blood throughout an organism).

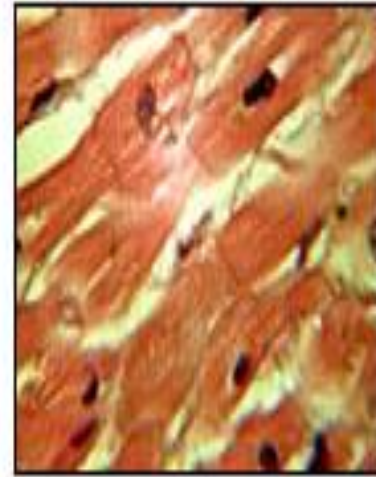
Muscle tissue – pic.1



Skeletal muscle



Smooth muscle



Cardiac muscle

Epithelial tissue

- Epithelium is one of the four basic types of animal tissues. It lines the cavities and surfaces of structures throughout the body, and also form many glands. Functions of epithelial cells include secretion, selective absorption, protection, transcellular transport and detection of sensation.

Epithelium – pic.2

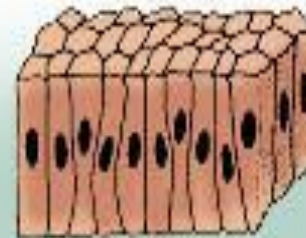
Types of Epithelium



Simple squamous

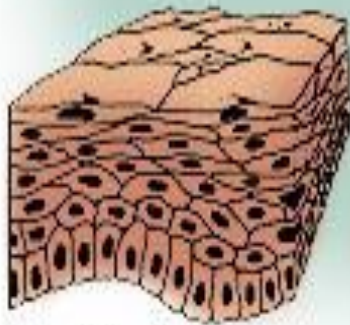
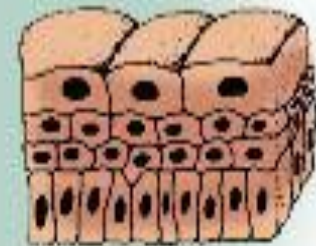


Simple cuboidal

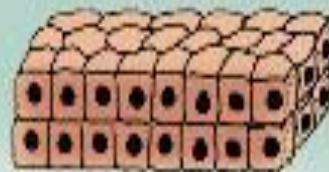


Simple columnar

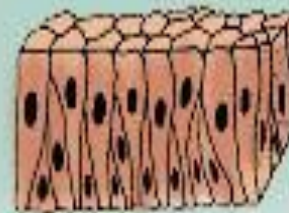
Transitional



Stratified squamous



Stratified cuboidal



Pseudostratified columnar

Nervous tissue

- Nervous tissue is made up of different types of nerve cells, all of which have an ***axon***, the long stem like part of the cell that sends action potential signals to the next cell.
- Functions of the nervous system are sensory input, integration, control of muscles and glands, homeostasis, and mental activity.

Neuronal communication

- Nerve cells meet each other at a junction known as a ***synapse***, where the branches of an axon and the dendrites of another neuron lie close to each other, normally without direct contact. Information is transmitted across the gap by chemical secretions called *neurotransmitters*. The messages carried by the nervous system are electrical signals called impulses.
- See:
<http://www.youtube.com/watch?v=cUGuWh2UeMk>

Zdroje

- pic.1 - AUTOR NEUVEDEN. *http://en.wikipedia.org* [online]. [cit. 19.09.2013]. Dostupný na WWW: http://en.wikipedia.org/wiki/File:Illu_muscle_tissues.jpg
- pic.2 - AUTOR NEUVEDEN. *en.wikipedia.org* [online]. [cit. 19.09.2013]. Dostupný na WWW: http://en.wikipedia.org/wiki/File:Illu_epithelium.jpg

Literatura

- BETINA, Vladimír a kol. Malá encyklopédia Biologie. Bratislava: Obzor, 1975, ISBN 65-023-75.
- <http://en.wikipedia.org>
- PHILLIPS, Janet a kol. Oxford studijní slovník. Oxford: Oxford University Press, 2010, ISBN 978019 430655 3.