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AQUATIC GRASSES (CHLOROPHYTA) AND THE IMPORTANCE OF THEIR USE IN THE EDUCATIONAL PROCESS

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Abstract

This in the article green water of the grasses (Chlorophyta) division biological characteristics , their ecological and practical importance , as well as advanced engineers schools and modern education in technologies them of learning importance analysis The article study in the process digital technologies , virtual laboratories and visual modeling tools through biological processes to students effective to deliver methods illuminated .

Keywords : Chlorophyta , green water herbs , biology education , modern technologies , environmental thinking , digital laboratory.

Introduction

Today on the day education in the system modern of technologies current to be study process efficiency in increasing important importance profession Especially biology science in education visualization , digital laboratories and interactive from models use students scientific his/her thinking in development important factor is considered At this point green in appearance water grasses (Chlorophyta) theme ecological, technological and scientific in terms of to students the most close and practical importance has was from topics is one .

Green water of grass general description

Green water grasses — low level plants group are , they are one cellular , colonial or many cellular in forms occurs . Their main symbol — chlorophyll pigment advantage because of clean green in color In chloroplasts chlorophyll a and b pigments with one lutein , zeaxanthin , violaxanthin such as assistant There are also pigments .

This is water. grass photosynthesis in the process oxygen working releases and ocean food chain elementary joint as ecological balance provides . Therefore them study

not only biological , maybe ecological and engineering point It is also important from the point of view .

In education modern technologies through Chlorophyta section teaching

Advanced engineers in schools biology science in teaching digital education tools , interactive simulators , 3D models , virtual microscopy and online laboratories wide These technologies are being used . to the students green water of grass cell structure, photosynthesis process , life rotation and ecological role deep study opportunity gives .

Example : 3D biological models using Ulva, Cladophora , Chlorella, etc. water of grass structure voluminous in appearance study possible ;

Virtual microscope through cell chloroplast structure , pyrenoids and vacuoles observation opportunity is created ;

Digital in laboratories photosynthesis process speed and oxygen working exit according to experiments transfer possible .

Such approach the students experience based on to learn , independently analysis to do and ecological to think teaches .

Chlorophyta the topic STEAM approach to teaching

Green water the grass learning STEAM- education (Science, Technology, Engineering, Art, Mathematics) directions with closely depends .

Science — biological structure and ecological role to study

Technology — digital microscopes , sensor devices using measurements .

Engineering — water in the environment oxygen working release systems modeling

Art is microscopic structures visual design through expression

Mathematics (математическая) — growth speed and photosynthesis indicators calculation .

So so , Chlorophyta the topic education through students biological knowledge practical engineering activity with tie takes .

Conclusion

Green water Herbs are nature 's the most ancient , but life for the most necessary from organisms one are , they are oxygen working emits , ecological balance keeps and industry importance has .

Advanced engineers in schools this the topic in teaching modern digital technologies , interactive experiments and visual training from the means use students biological his/her thinking expands , ecological culture shapes and research skills develops .

So so , Chlorophyta section study not only biology science one direction , maybe modern ecological engineering his/her thinking formation for important is the foundation .

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