

There's danger in the blink of an eye

It's all in the flicker. Instead of illuminating the dark recesses of your child's mind, the lights which he reads by in school may actually be hampering his progress.

Electric light, particularly fluorescent light, is not natural light and can cause subtle changes in behavior and well-being.

Fluorescent lights, the major source of lighting for most schools, sends a current through a tube. The current is sent through intermittently causing a flicker which is usually imperceptible to the watchful eye.

But if the light is not working properly, or if a person is especially susceptible to that flicker cycle, then there is trouble. "Some children some of the time are adversely affected by fluorescent lights. It can make them feel very strange and uncomfortable," said Dr. I. Mathew Rabinowitz, chief of ophthalmology at Children's Hospital, Detroit.

If your child has been complaining of feeling peculiar or acts moody and irritable during the school week, but not on weekends, he may be suffering from stress caused by the lighting at school. Nausea, vomiting, dizziness, headaches, or a general feeling of discomfort may all be symptoms of light stress.

Unlike sunlight — which contains all of the colors of the rainbow — fluorescent light only contains certain colors. The color emitted by fluorescent lights also interacts with the human system and may cause physical or psychological discomfort.

ADDITIONALLY, THE light tube is filled with argon gas and mercury vapor. Their effect has never been studied. And, if that isn't enough, fluorescent lights also emit low levels of ultra-violet radiation.

There are now even studies suggesting that fluorescent lights may actually cause damage to young eyes. Dr. Rabinowitz cited one such study involving monkeys. "After exposure to modest

levels of fluorescent light these monkeys sustained retinal damage and sensitivity," Rabinowitz reported.

This does not mean that all children will be affected by these lights, but some children might be. When work under these lights is necessary, it is essential that they be in good working order. They should have a plastic cover over them to filter the ultra-violet light.

The ultimate solution is to spend as much time as possible away from unnatural sources of light and outside in natural sunlight. (Even here caution is important because burns and over-exposure to the sun can also be detrimental.)

Here is a project that involves a typical school product, but it is strictly for outside.

TO MAKE OUTSIDE chalk you will need one teaspoon flour, one teaspoon very hot water, and six eggshells that have been washed, dried, and crushed so they are very fine. It is important to get the shells as finely powdered as possible. This can be done by using a rolling pin, waxed paper, and patience.

Mix the flour and water in a paper cup using a plastic spoon. Stir until pasty. Add one tablespoon of the crushed eggshell and mix until it all sticks together.

Shape the mixture into a stick and place on the waxed paper. Allow to dry. It will get very hard and can be used to write on the sidewalk. Do not use on a blackboard as it might scratch the surface.

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Mrs. Bordman welcomes suggestions and comments. Please write her c/o the Observer & Eccentric Newspaper, 36251 Schoolcraft Rd., Livonia 48150.

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Carolina tundra the key to plants' growth rate

By Donald J. Frederick
special writer

Hundreds of pounds of arctic tundra in North Carolina may yield new information about the growth rate of many plants and future levels of carbon dioxide in the atmosphere.

Collected near Barrow, Alaska, the tundra was flown still frozen to Duke University's tundra, a climate-controlled facility that has 40 "growth rooms" and six large greenhouses. Thawed under carefully controlled conditions, the plants and peat comprising the tundra will be examined over two years at various soil and air temperatures and under light conditions duplicating the arctic summer, according to the National Geographic News.

Botanists Dwight Billings of Duke and Kim Peterson of Clemson University, project coordinators, hope the tests will ascertain whether the tundra absorbs or releases carbon dioxide when subjected to warmer temperatures or an increase of carbon dioxide in the atmosphere.

MANY SCIENTISTS have predicted that increasing use of fossil fuels such as coal will sharply boost the amount of carbon dioxide in the atmosphere, causing warmer global temperatures. The more serious consequences envisioned include disruptions of agriculture caused by changes in growing cycles and prolonged droughts in the farming regions of the United States and Western Europe, as well as a long-range peril — rising sea levels that would flood coastal towns.

If warmer temperatures do occur, they are expected to be more pronounced in arctic tundra regions,

where an estimated third of the world's carbon is stored in peat deposits.

For most of the year, the tundra — a vast region covering some 3 million square miles — is a frigid, hostile, seemingly lifeless realm, but in June it usually comes to life for a five- to six-week growing season in most places. So far, no one knows what effect a prolonged warming trend would have on this expanse.

As Billings points out, "Some researchers, myself not included, think arctic plants will absorb carbon dioxide rather than release it during a longer growing season."

"We hope to settle the question, because a lot of carbon could be released through peat decomposition, worsening an already worrisome atmospheric carbon dioxide problem. And there are indications that temperatures in the arctic will rise 4 to 7 degrees Fahrenheit in the next 50 to 60 years, lengthening the growing season." The project is supported by the National Science Foundation.

OTHER INVESTIGATIONS at the tundra are attempting to find the potential effects of doubled carbon dioxide levels on ordinary plants. Preliminary experiments with high concentrations of the gas have shown that some crop plants such as wheat and rice do surprisingly well.

"Carbon is one of the elements required for plant growth," explained Dr. Boyd Strain, director of the tundra. "It acts like phosphorous or nitrogen fertilizer and helps speed up the growth and development of certain plants."

Strain cautions that such spurts might make plants less resistant to disease and insects and force them to consume more soil nutrients.

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