

How Science Safeguards the Trek



tention directed to his convalescence, wan-ders from a rational diet and sets his own

bedtime by that of his

older brother or sister without being compelled to fulfil any greater expecta-tion of his parents than that he shall

travel on his reputation for medical

economy, his ability to keep on his feet

being the determinate and unquestioned criterion of his welfare. Thus, beyond all question, when the 6-year-old child starts for school he is due for a real

check-up, not an ordinary legalized school inspection, valuable as this may

be, but a more detailed examination by

a medical observer of experience, under conditions permitting without annoy-ance the removal of the child's entire

"Estimates of malnutrition are not wholly dependent on standard tables of height and weight figures. Dental de-

fects call for diet adjustment as well as

for the extraction or filling of teeth. The posture problem is often an individual problem. Tonsil disease is not

always recognizable by the eye alone.

Kidney impairment may exist unsuspected. Chorea, or St. Vitus' dance,

even when mild may be accompanied by

heart inflammation. Concealed tubercu-

losis of lymph glands may be the unsus-

Checking Up the Millions of Pupils to Cure and Prevent

SHORTLY after Labor Day of each year millions of American school the Many children begin their annual trek to their schools which have been silenced throughout the Summer. been silenced throughout the Summer. It is a vast army that is on the march throughout the length and breadth of the land, some 22 millions of boys and girls between the ages of five and 20 years. In the rear ranks of this great army are about two millions of children who are under seven years of age, representing nearly 40 per cent of that age and class in all the United States. It is this important division, as Gaylord

and class in all the United States. It is this important division, as Gaylord W. Graves points out in the health magazine, Hygeia, which comprises beginners and first graders, supposedly unspoiled and expected to atone or compensate for all the defects and mistakes of their elder brothers and sisters, if not for the sins of their parents. Among these children who are in the kindergarten and first grade are hundreds of thousands who are the victims of various ills, due often to neglect. Some

rious ills, due often to neglect. Some may have enlarged neck glands and recurring discharges from the ears as a result of scarlet fever. Others are short of breath and are subject to "growing pains." The mouths of others are filled with neglected and disintegrating teeth, while still others are cross-eyed, bow-legged or flat-footed.

"There is probably no more neglected age in childhood," says Mr. Graves, "than the preschool period. Infancy is safeguarded because of its unique helplessness, and the older child when ill

lessness, and the older child when ill eaks most effectively for himself. The child entering school for the first time child entering school for the first time is going into a new realm. For a time he will be 'all up in the air' so to speak. His take-off, like that of the aviator, calls for a carefully checked-up motor, the best possible fuel supply and lasting

"The child of the runabout age, how-

Back to School



Left: Examining the Throat of a School Child in a Test to fects Any Inflamed Conditions

Right: Ascertaining the Weight of a School Child Which Is Re-

grees of healed tuberculosis); 25 per cent have defective eyes; 20 per cent are under-nourished; about the same number have enlarged adenoids, tonsillar disease or glandular disease; from 10 to 20 per cent have orthopedic or joint defects; and from 50 to 75 per cent have

defective teeth.

Dr. Sobel of the New York board of health has defined the status of the preschool child in these words:

"The Bureau of Child Hygiene has

always felt that the best time to take care of the child's health is before he enters school and that preventive and remedial measures undertaken at this

Is Recorded

An Eye-Sight Test in Which the Three-Legged Block, Corre-sponding in Shape to the Figures on a the Figures on a Chart, Is Held a Short Distance from the Child Who Is Asked to fell Which Way the Legs Point.

time would do much toward the elimination or diminution of physical defects, and place him in a sound physical condition upon school entrance. . . . Any material reduction in the percentage of physical defects found in school children and a betterment of their general well being must come through the care of the children before their entrance into school.'

Dr. Chapin, noting that there are about half a million children of preschool age in New York City, has stated that "all of these should be examined twice a year in order to recognize any condition or defect that can usually be

corrected at the start."

The business of being a school child today is wholly different from what it used to be. For one thing, it is much less hazardous. For another, the child's expectation of health and good physique in later life is greatly enhanced. The modern child is scientifically handled and scientifically fed, from birth onward.

Consider the important matter of eyesight. Fifty years ago, if a child was nearsighted, the fact gained little or no attention. Children were practically never seen wearing glasses, though they might need them. Nowadays it is realized that nearsight may be due to a discontinuous control of the control of ease (its cause not even yet understood) which changes the shape of the eyeball, making it oval instead of spherical as it ought to be. There are of course many other eye troubles which, when they manifest themselves in children, de-

mand prompt attention by the oculist.

In well-managed schools today, as much attention is given to the physical welfare of the children as to their mental training. Not only their vision but their hearing also is tested by qualified

When defects of hearing or of eyesight are found, means are taken to remedy the trouble if possible, or to prevent it from getting worse as the

Special attention is bestowed upon the teeth. If the temporary teeth are not kept in good order, the permanent ones that replace them will not be sound. This is a fact not at all generally un-

The school child of today is a scientific product. Certain foods are added to the diet at prescribed ages. In selec-tion of these foods, regard is had for their content of vitamin A, vitamin B, and others, which have relation to the infant's body needs for health and

Much less than fifty years ago such ideas had no place, not only in the minds of parents, but not even in the minds of

Blue Eyes and Hay Fever

a census of the world's sufferers of hay fever were taken, it would reveal that only in a minority of cases do persons who have brown or very dark pigmentation of the iris (survery dark pigmentation of the iris (surrounding the pupil of the eyes) suffer from true hay fever. This statement is in accordance with the discovery recently announced by Mr. Harry Pickup, who has made extensive researches to find a means of providing definite relief and immunity from this malady. This investigator explains that during the investigator explains that during the spring and summer certain stellar or cosmic radiations reach the earth that are absent during the winter. These rays, beyond the ultra-violet range are responsible for the rise in sap in plant life, and towards midsummer they become extremely penetrative and under certain circumstances irritant, and in places even lethal to plant and animal

In races naturally subject to intense sunrays (Negro, Arab, Hindoo), nature has provided, through bodily glands, a natural protective substance termed "melanin," the outward and visible sign of which is the dark color of the skin and brown pigmentation of the iris surrounding the pupil of the eye.

Destructive and toxic solar rays, according to Mr. Pickup, cannot penetrate through the skin impregnated with melanin, or irritate the protected optic nerves through the deeply colored iris. Saxon races with fair, sensitive skin and light pigmentation of the iris (blue or gray) are not freely bestowed with melanin content in the blood. The only slight indication of its existence in their case is dication of its existence in their case is dication of its existence in their case is freckling. The brunette is more amply supplied with this substance, hence the normally darker and protective coloring of the skin and iris, and dark bronzing effect of sunburn, while the blonde goes red with skin blistering, and headache, through sunray irritation of the optic

The effect of this, together with the interplay between the optical and lach-rymal nerves is explained in a way which shows that in a very large number of cases the conditions arising are the sole provocative cause of hay fever, quite apart from other supplementary factors irritated into action by seasonal

Making a Chemical Flower Garden

HEMICAL flower gardens, which make very odd decorations for the home, can be grown by preparing the following mixture:

Six tablespoonfuls of salt. Six tablespoonfuls of bluing. Six tablespoonfuls of water. One tablespoonful of ammoni

These four ingredients are first thoroughly mixed and then poured over a piece of coal or coke which has been laced in a broad and shallow glass dish. In case the coal or coke is not readily at hand pieces of a brick can be substituted.

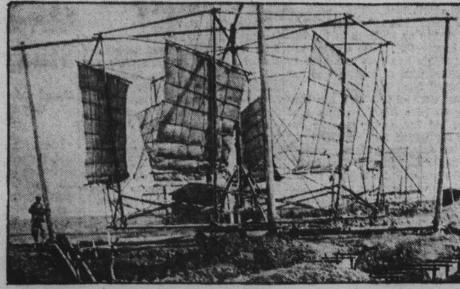
After the pieces of coal, coke or brick have become thoroughly saturated with the chemical mixture, pour on them a few drops of red, blue and green ink to give the chemical flowers their colors.

These chemical flowers are formed as These chemical nowers are formed as the result of a capillary phenomenon in-volving the tendency of ammonium salts to "creep." The saturated solution de-posits crystals around its edges and upon the clinker where the evaporation is greatest. The crystals are porous and

act like a wick, sucking up more of the solution by capillary action.

A coral-like growth soon begins to spread over the pieces of coal, coke or brick and grows very rapidly. The edges of the dish containing the chemical flowers should be rubbed with vaseline to prevent the garden from grow. line to prevent the garden from growing beyond its bed.





Making Salt in China Where Primitive Windmills Are Used to Pump Sea Water Into Ponds and Evaporated by the Heat of the Sun, Leaving Salt as the Residue.

SALT is mostly derived from sea water, evaporated by the sun in great shallow tanks. In former times nearly all the salt of commerce was obtained by this method. There is a quarter of a pound of salt in every gallon of sea water and, according to an authoritative estimate, the ocean con-tains four and a half million cubic miles of salt, or fourteen and a half times the bulk of the entire continent of Europe above high-water mark.

Salt-making by solar evaporation was

practised extensively in New England long after the Revolution, and until the product thus derived from the sea was driven out of the market by cheaper salt from salt springs in the State of New York.

Even at the present time it is produced by this method a large scale in California, where sea water is admitted to shallow pend when the tides are highest each month, usually at the period of the new moon.

The ponds have gates which automatically open when the water runs in, and close when the tide ebbs. The water is

lifted by archimedean screws operated by windmills or gasoline engines, and then allowed to pass by gravity through a series of pools, becoming more and more concentrated until it forms

Will Alcohol Take the Place of Soap?

now being commercialized in America is as successful as the pro-

The higher alcohols are prepared by the hydrogenization of fatty acids, accomplished by suspending a finely divided nickel catalyst in the hot oil and passing hydrogen through it, under pressure. The alcohols so produced are sulphonated by treating with sulphuric acid, the finished product being in the form of the sodium salt,

The sulphuric esters of the higher fatty alcohols have all the advantages of soaps and apparently none of their

The Hillside House That Has Its Garage in the Garret MODERN home of five rooms picturesquely perched on the side of a steep California hill

The garage is in the garret!
The site of this house was chosen by the owner because of the unsurpassed view it afforded of the Bay of San Francisco. It is surrounded by redwood trees and borders on the water that overlooks the famous Golden Gate.

only natural by a great many parents."
According to figures of the New York

State health department, cited by Dr. Josephine Baker and by Dr. H. D. Chapin, of the entire 22 million school children in the United States, one per

cent are mentally defective; more than

one percent have heart disease; five per cent have or have had tuberculosis (an estimate far too low to include all de-

sunshine not only regis-

ters the intensity of sunshine

but its duration during the day.

solar rays upon a strip of paper placed in a convex holder be-neath. The ball acts as a burn-

ing glass, the point of its focus moving along the strip as the

sun travels across

shines all day long, a mark which is a con-tinuous line is

burned on the strip. When clouds

obscure the sun, the burned line is

Measurement of the burned mark shows the dura-

tion of sunshine for that day, and

the hour and minute periods of sunshine.

the heavens. .

A glass ball serves the pur-

of a lens, concentrating the

How Sunshine

trivance for recording Ball Concen-

Burned a

Line to Reg-

ister Sun-

the famous Golden Gate.

Since this house was built with its front toward the bay, for the sake of the magnificent view afforded, and its back to the road, the steepness of the hill brought the top of the structure on a level with the road that passes in the rear. Thus the lay of the land offered a solution of the problem of where to build the garage. The attic made the

LCOHOL may take the place of disadvantages. Thus, both the wetting-soap if a new German process out power and the emulsifying ability of the new compounds are greater than the garage those of soap, giving them much better letergent value, according to D. H. Kille-fer, writing in Industrial and Engineer-ing Chemistry. The sodium salts are soluble in acid, neutral, and alkaline media without decomposition into insol-uble compounds. The calcium and magnesium salts are soluble in water and the presence of dissolved salts in the washing bath does not serious affect the detergent power of the solution. Thus washing in hard or salt water, in acid or alkaline dye baths involves no loss of material or labor. The sulphuric acid esters do not turn rancid.

practically construct a where on the Steps ending at the side of the road lead

entrance of the house. which is one story beneath the garage. From the basement to the house is four stories high.

Five-Room House Built That the Attic Is on a Level with the Road and

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