NATURE STUDY OUTLINE

1. HOW THE CANDLE BURNS

By FRANKLIN L. STEVENS, M. Sc., Ph. D., Professor of Botsny and Vegetable Pathology, North Carolina Agricultura I and Mechanical College.

Take to school with you a piece of candle, put it up on your desk in plain sight of all your school, tell them the object of the experiment you are about to make. Then light the candle Call their attention to the shape of the flame, the length and breadth of it, the different colors and different por-tions of the flame. Draw the candle and the flame on the brackborad, and by shading the different portions of the flame, the upper and outer lu-minous part and the inner non-luminous part. Ask the pupils which por-ion of the flame they think to be the hottest, the top or the base, the out-side or the inside. Ask them if they can suggest any possible way of actually ascertaining which is the hotest. Possibly some will suggest suitable means. If not, you may aid them by giving suggestion yourself. One evosilent way is to take a small piece of wood, for example a match. Hold of wood, for example a march. Hold the match in a horizontal position in the flame near the base. Which part blackens first, the portion of the middle of the match or at its edge? tip of the flame. Where does it char first?

These two experiments will demonstrate that the tip and outer edges of the flame are hot, and that the center of the flame is comparatively cold, portions of it so cold that they are not charred at all. Having made this point you can emphasize it by very carefully and quickly bringing the head of the match into the center of the flame. You may need to try several times but you will probably eventually succeed in placing the unburned head of the match in the center of the flame and hold it there for a short time without having it take demonstrating conculsively that the center of the flame is not

Another experiment of a similar kind is to take a piece of white paper, hold it in a horizontal position and suddenly lower it over the candle flame until it almost touches the wick. After a few trials you will succeed in getting the paper in such position with such quickness that the outer por-tion of the flame will char a circle on the paper, while in the center of this circle will remain an uncharred portion representing the cold portion

You can now explain to pour pupils that this is gas and that the hot art is the burning gas. All flame is burning gas. When we see the flame arising from coal, wood, paper, oil, or anything else, it signifies that the substance in question is being con-veted into gas by the heat, and that this gas that burns thus constituting

For you older people this week you will find the third exercise in the sixth grade of extreme interest. This topic needs no further suggesion. You may easily elaborate it and work it up for yourself. Modify the dimensions to suit your conditions. Select some appropriate area near the school and have the pupils make as complete a map of it as possible, drawing everything as nearly to scale as they

NATURE STUDY BOOKS

I am very frequently asked by teachers to recommend books upon Nature Study objects. The demand for information concerning such books is quite general, and I therefore undertake to ublish in these columns from time to time brief descriptions with com-ments upon such books on Nature Study as I am familiar with, so that teachers may be able to know of books available, what they are

New York city, in two volumes, a first

The Indian has of course his own

interpretation of all nature's works.

His accounting for what is, differs

materially, it is needless to say, often

from the actual. He enjoys his poetic

superstitions, which we find often in-

and child-like simplicity.

d into midnight-

teresting from their platuresqueness

In a vast circle seated inside the

wigwam smoked and thought the

The twilight deepened into darkness

and the moonless night almost merg-

There had been rumors of trouble

There was danger from jealousy and

unting grounds with a cheerful

envy. The braves no longer sought the

spirit, but gloom seemed to have

placed its sad burden on their should-

ers and looked frowningly from their

forth for fear of encountering the dis-

who all seemed to have become indif-

erent or irritable according to the legree of activity or singgisliness in

Even the children stunk away and bid behind trees and stumps, deeming themselves fortunate if they escaped

arp scrutiny of angry eyes. And how the time bad come to and

asure of their fords and masters

squaws peeped timidly from wigwams, but dared not venture

amongst the tribes of the nation.

council of chiefs and medicine men.

pany. New York city, are charming little story books, having such sub-jects as follows: The crooked oak

tree, the life of the dragon fly in one book and in another Curly Head and His Neighbor, and the Dirty Poodle. These are very interesting and at-tractive stories with a strong nature flavor. The books are charmingly gotten up. They are sold at 25 cents each.

A book entitled "Nature Study," by Overton & Hill, styled a "Pupil's Textbook," has just been published. This book is designed to furnish two year's work in nature study for pupils from 8 to 11 years of age, and is based upon subjects connected with every day life. The subjects are arranged in the order of the seasons. The work is corollated with drawing and language.

This book would be of great aid to every teacher doing nature study work. It is the most highly recommended. The topics are: House Fly Mosguito, Butterflies and Moths, Mushrooms, Dandelions, Spider Webb, Golden-Rod, Golden-rod Call, Burdock, Nest of Paper Wasp, Nest of a Mud Wasp, Bird's Nest, Tree Trunk, Cocoons, Ice, Snowfiske, Frost, Pine Tree, Pine Leaves, Pine Cone, Apple Branch, Apple Fruit Spur, Earthworm Onion, Maple Seed, Sprouting Bean, Maple Bud, Tadpole, Water Spider, Duckweed; Apple Blossom, Oak Apple Clothes Moth. This book is published by the American Book Company.

A book entitled "Nestlings of For est and Marsh" is devoted to a study of bird life, particularly intimate studies with many form of young birds. The book is beautifully gotten up, the illustrations are superb, and the telling excellent. It is adapted to the upper grades of the schools. It is published by A. C. McClure & Company. Chicago, Ill.

PALMER-CHANDLER.

Mr. John Howard Palmer, of Baltimore, Weds Miss Barbara Chandler, of Asheville.

Correspondence of The Observer.
Asheville, Jan. 11.—The prettiest
wedding of the New Year took place at high noon to-day, at Trinity Epis-copal church. The bride is Miss Barbars, the daughter of Mr. and Mrs. Gardner Chandler, of Asheville, and the groom is Mr. John Howard Palmbeautifully decorated—the altar was a blaze of light and the flowers were white hyacinths and asparagus fern. Before the ceremony Mrs. Elmer Westall, soprano, sang "O Perfect Love" and also the bridal song from Lohengrin. The bride was preceded up the aisle by four bridesmaids and The bridesmalds wore gowns of white net over pale green taffeta. They carried bouquets of white carnations and asparagus fern and wore wreaths of laurel in their hair. bride came in leaning on the arm of her father. She wore an exquisite gown of white Dianne satin trimmed in rare Duchess lace and veil. She carried a magnificent h of bride's roses and asparagus fern. The bride was joined at the chancel steps by the groom and best man, Mr. Edward L. Palmer, Jr., of Washington, D. C. The impressive betrothal ceremony was then after which the marriage was at the chancel rail. The marriage said at the chancel rail. ceremony was performed by Rev. W. B. Whittaker, rector of the parish. Immediately after the ceremony a wedding breakfast was served to the

bridal party at the handsome home of the bride's father. The bridesmaids were: Misses Alice Chandler, sister of the books available, what they are about, what they cost etc.

"Nature Study in the Elementary Schools," by Mrs. L. M. Wilson, of the Philadelphia Normal School, published by McMillan & Company, Mew York city, in two volumes a first the bride; Helen Barber, of Galena, III.; Mary Kimberley, of Asheville, and Carrie Ewell, of Baltimore, Md.

The ushers were: Messrs. J. Howard Eager, B. S. Hanna, both of Baltimore; Junius Adams and Basil Valentics. tine, of Asheville.

a council had been called of the tribal

magnates chiefs, medicine men and

braves. Each held in his hand a twig

or branch, varying in size according to

the consciousness of wrong, for these

were to be burned in a grand blaze

which should thus consume thoughts

of meanness or treachery, envy and

So should be carried away all pet-

tiness, and the very air should be puri-

fied of all malice, The fire being kin-

died each contributed in turn, accord-

ing to rank, his wood and with it his

enmity, returning to his place with

the serene expression of one who had

made a resolve to lead henceforth a

This ceremony was followed by a

toyful dance of triumph, around the

blasing fire, until the sun rose smiling

on a silent, happy group, which now wended their way up the narrow path

The grandeur of the soul forgiven

and forgiving, gave to all, the dignity

so often seen in the Indian, dependent as it is the motive so noble as to

The Quaking Ash tree, and the Trembling Birch grew from the ashes

They are dissemblers, white one moment, then green-changing with each veering wind, and treacheous as the breeze, being double-faced.

of the mountain in Indian file.

ill will to each other.

new life.

INDIAN TRADITIONS

II-The Dissemblers

By MRS, SARAH E. EASTMAN.-

To the Editor of The Observer:

As many of our friends are aware, there is on foot an effort to erect at Guilford College a dormtory for the use of girls who desire to board themselves. The expense for board is the chief item in securing an education. There are many earnest young women who are prevented from attending college solely on account of their linability to meet this expense. To assist a few of these there was inaugurated at Guilford, sixteen years ago, what has been known as the "cottage plan." This was done by the women of the North Carolina Yearly Meeting, and through its agency some 400 or 500 girls have been helped; about 300 have been aided with money.

Now that the college is on the eve of great expansion, it is our desire to so enlarge our work that many more young girls may have the opportunity of the securic tips advantages. To this end

How the candle burns is suggested for the fourth grade the third week in January. This is the first exercise that belongs to the domain of chemissity and is one sure to interest all your pupplis. It presents no difficulty for the teacher whatever, and requires no materials other than a candle, a few matches and a piece of paper. The point of the experiment is to show that all parts of a fiame are not of aqual temperature, that the fiams in hotter in some places than in others, and indeed in some parts it may not be hot at all.

Take to school with you a piece of earned and are to be recommended as supplementary readers. They may be secured from McMillian & Company. New York at 35 cants per volume. "Nature Stories for Little Folk." Nature Stories for Little Folk." Published by Fredrick Warne & Company. New York city, are charming training to their inability to meet this expense. To assist, a few of these there was inaugurated at few of the lower grades of the sand and industry the foliance in the lower grades of the sactor of the sew of these there was inaugurated at few of these there was inaugurated at few of the sew of these there was inaugurated at few of the sew of these there was inaugurated at few of the sew of these there was inaugurated at few of the sew of the sew of these there was inaugurated at few of the sew of these there was inaugurated at few of the sew of the sew of the sew of these there was inaugurated at few of the sew of these there was inaugurated at few of the sew of the their studies. It is our purpose also to have a thoroughly trained teacher of demestic science who shall live in the home with our girls and give them the best instruction possible in these

the best instruction possible in these important branches.

While this work is distinct from the college proper, it is entirely under the control of the college and the building when erected will belong to the college. We 'greafly desire to erect the building during the summer, and appeal to all who desire to see the educational interests of our State advanced to assist us. The citizens of Greensboro, High Point and neighboring places will have an opportunity ing places will have an opportunity to do this and at the same time give hemselves a very rare treat on February 15 by hearing Mr. Bispham in Greensboro. Mr. Bispham is an ar-tist of the first rank, being one of the most distinguished operatic singers of our country, and one whose fame is not confined to America. He kindly gives this song recital for our benefit, through his interest in our college on account of his friendship for the president, L. L. Hobbs, having been a classmate of his at college. Music overs will need no other inducement than the opportunity to hear nam." All will confer a great benefit upon us by listening to him.

MARY M. HOBBS,

Treasurer Girl's Aid Building Fund.

Gullford College, Jan. 10, 1906. MISSIONARY EXERCISES.

Rev. C. T. Willingham Addresses Baptist Congregation at Gastonia-A Marriage. correspondence of The Observer.

Gastonia, Jan. 12.-A large crowd attended the exercises at the Baptist church Tuesday night. A missionary programme was rendered by the Sunbeam Society and an address was delivered by Rev. C. T. Willingham, of Charlotte, a returned missionary from Japan. Mr. Willingham appeared attired in the Japanese costume, and one of the young ladies of the society appeared also in Japanese costume, After the address tea was served in the pastor's study by the young ladles of the society, attired in the costume of Japanese maidens. A collection was taken which, with the society's mite box collection, made the sum of \$23.51 This society last year led every oth er society in the State.

Mr. Edward Hansel and Miss Mary Smith, daughter of Mr. and Mrs. L. A. Smith, were married at the residence of Rev. J. A. Hoyle, Rev. Mr. Hoyle performing the ceremony. The marriage took place Wednesday afternoon and was a runaway affair on account of the objections of bride's parents. Mr. and Mrs. Hansel are for the present with Mr. Hansel's parents, Mr. and Mrs. J. F. Hansel, near the Old Mill.

Mr. John L. Woods has sold his farm of 300 acres, near Crowder's Creek, to Mr. William Anthony for \$3,500 and will probably move to tonia. Mr. Woods also sold at auction Wednesday all his farming implements and provisions. Capt. W. I. Stowe, Gastonia's popular autioneer,

had charge of the sale.

The book club met Wednesday afternoon with their president, Miss Nell Smyre. Shakespeare's Othello was the subject for the meeting and in addition to the usual programme a guess-ing contest relating to the play was among the pleasures of the evening. Mrs. J. P. Culp was the winner of the prize, a pretty vase. Refreshments were served in three courses after the exercises were finished.

BARBEE AND EVANS GUILTY. Judge Furgerson Will Pass Sentence on Alleged Store Burgiars at Dur-ham To-Day—The Case Attracts

Much interest.

Correspondence of The Observer.

Durt am, Jan. 12.—After being out twenty-seven hours the jury in the store burgiary case of William Barbes and Robert Evans returned a verdict of guilty as to both this afternoon at 3 o'clock. Judge Furgerson ordered Evans into the custody of the sheriff and announced that he would take time to read the records of the case and would pronounce sentence to-morrow morning. At the time the jury returned with the verdict the court room was packed to the doors.

dict the court room was packed to the doors.

This crime was committed on May leth last when the store of Mathes-Kirkland Company, East Durham, was entered and robbed. This had followed a series of robberies in East Durham. A portion of the stolen goods were found and finally Robert, Evans was arrested. He entered the plea of guilty and told of William Barbee and a man by the name of Thompson being principals in the commission of the crime and that he was left on guard duty while he store was robbed. He gave information that caused the recovery of a portion of the goods. A stolen bracelet was traced to Barbee and other goods were rocevered where it was claimd that he had hid them. Then came the arrest of Barbee, but in the meantime Tarboon had skipped. At the preliminary hearing Barbee attempted an allibi by members of his family and at the trial this week he proved an allibi by members of his family and sevral others. This was his only hope but the jury did not believe the alibi and convicted. The evidence was very strong against Barbee and Evans had already made a con-

bee and Evans had already made a confession.

After this burglary was committed Barbees and Evans gave bond and shortly after this the home of Reuben Parbee was burglarized. Barbee and his wife claim that they caught William Barbee, that he was held and lectured and then allowed to go, but that morning he was again arrested, this time on a charge that will mean the taking of life if proven. There is a strong case against him for this offense. The solicitor decided to try the stare burglary case first and the general impression is that if a long sentence in given in this case that the other case will be dropped.

Winston Man President University
Law Class.
Correspondence of The Observer.
Winston-Salem, Jan. 12.—Mr. W. T.
Wilson, of this city, has been elected
president of the University of North
Carolina law class. Mr. Wilson is
making a splendid record in the study
of law and bids fair to reach the foremost rapks of his chosen profession,
He is a grandson of the late Judge
Thomass Wilson.

TO BE BIGGEST IN SOUTH.

Chainam Record.

A colored man, named West Lynn, has bought for \$2,000 the farm of Mr. Charles O. Freer, about two miles north of this place. This purchase certainly speaks well for the industry and thrift of a colored man, who started a few years are with rothing West. ed a few years ago with nothing. We commend this example to others.

-To Remove-PRECKLES AND PIMPLES IN 10 DAYS, USE NADINOLA,



NADINOLA 4s a new discovery guaranteed, and money will be refunded in ever case where it fails to remove freekles, pimples, liverspots, collar discolorations, blackheads, disfiguring eruptions, etc. The worst cases in 20 days. Leaves the skin clear, soft, healthy, and restores the beauty of youth.

Price 50 cents and \$1.00. Sold in each city by all leading druggists, or by mall, Mrs. Bita Brown writes:—Nashville, Tenn., Sept. 8, 1905. "I have been using your Nadinola, Ezyptian Cream, Soap and Nadine Face Powder and like them all very much, This is the first summer since childhood that I have been without freckles, I am 34 years old and have a better complexion now than when a girl." Prepared only by NATIONAL TOILET CO., Paris, Tenn. Sold in Charlotte by

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many people would lead her to believe, when the housewife goes to purchase flour for her baking day—but if she has once used the Pride of Charlotte fleur she will take nothing else. It is made from the choicest selected wheat and ground at our mula.

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SPECIAL REDUCED RATES VIA THE

The Seaboard begs to announce that account of the occasions mentioned below the rates and conditions named will apply. Mexico City. Mexico—Golf Tournament, January 18th-February 13th. 1906. Rate of one frst class fare, plus 25c. will apply, tickets sold January 1st-12th, continuous passage in each direction with final limit February 28th, 1906. Chattanooga, Tenn.—Southern Baptist Convention and Auxiliary Societies, May 16th-15th, 1906. Rate one first class fare, plus, 25c. for the round trip, (minimum rate) 50 cents, tickets sold May 8th, 9th, and 10th, final limit ten days in addition to date of sale. Tickets may be extended.

For further information as to rates from any point or schedules apply to your nearest Agent or oddress the undersigned. The Seaboard begs to announce that ac-

Agent or oddress the undersigned. C. H. GATTIS, T. P. A., Raleigh, N. C.

EABOARD AIR LINE RAILWAY. PASSENGER DEPARTMENT. *ensacola, Fla.; New Orleans, La.; Mobile, Ala.—Account Mardi Gras, February 2nd-27th, one fare, plus 25c, round trip, tickets sold February 2nd-28th inclusive. final limit March 3d. Tickets can be extended until March 17th. Special reduced rates via Seaboard.

17th.
Louisville, Ky.—Account Department of Superintendence National Educational Association, February 27th-March 1st, one fare, plus 25c. round trip. Tickets sold February, 24th-25th-25th, final limit March 4th.
Niscara Falls, N. Y.—Account National Association of Retail Grocers January 23rd-25th, one and one-third fares, plus 25c. on Certificate plan basis.

C. H. GATTIS, T. P. A. C: H. GATTIS, T. P. A., Raleigh, N. C.

SPECIAL SALE!

On Biscuit Beaters reduced from \$2.25 to \$1. Come before they are all gone.

Armistead Burwell

A New Year's Greeting That Counts THE MECHANICS' PERPETUAL BUILDING AND LOAN ASSOCIATION makes its profoundest bow

to the citizens of Charlotte and vicinity—to its Stockholders in general and to the holders of shares in the 34TH SERIES in particular—and bring them the ever welcome news that, with the second payment of dues in this month, that SERIES WILL MATURE, and on Wednesday, the 17th inst., we will be ready to pay it off. This is the largest series we have ever matured, no less than

\$70,400.00

of which \$40,000 will be paid out in cash and \$30,400 in the cancellation of 34 mortgages; so that 34 families will celebrate this new year with Homes of their own. Who will or can measure the contentment, elevating and ennobling influence this will bring to those families?

While this Association has secured its full share of support and confidence from this community, its officers feel that they have earned and deserved it.

ON MARCH 1ST will commence a new, the 47TH SERIES, and prospective borrowers are advised to begin to clean out the hedge-rows, and be ready to subscribe to the new series, in order that their prospective loans may be reached in early building season. : : : : : ; : : ; ; : : :

R. E. COCHRANE, Sec'y. and Treas. S. WITTKOWSKY, Pres

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