

GOOD HEALTH

FOR GIRLS AND BOYS

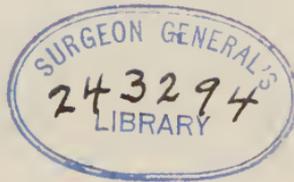
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✓ REVISED ✓



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GOOD HEALTH SERIES

By **BERTHA MILLARD BROWN**

GOOD HEALTH FOR GIRLS AND BOYS

An Introduction to Hygiene. 180 pages. Illustrated.

GOOD HEALTH IN THE HOME

A Book of Home and Community Hygiene. 320 pages.
Illustrated.

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PREFACE.

TO THE TEACHERS :

Interest in Health.—The interest in the health of school children is vital and wide spread. A study of the extensive surveys made of children at the close of the World War revealed the astonishing fact that three quarters of the children of this country were in need of attention on account of retarded development or physical defects. This aroused educators, physicians, teachers, parents and everyone interested in the welfare of children to increased efforts in their behalf. As a result, many different and varying forms of health work have been introduced into the schools. Some are frankly experimental, some are hit-or-miss, but most of them have accomplished some good.

Object of teaching Hygiene.—The object of all health work with children, both in the school and at home, is two-fold, namely ; the formation of good health habits and the establishment and maintenance of the normal growth for each child. The teacher is the natural leader in the work for the formation of better health habits on account of her personal acquaintance with individual children. She may be the prime mover in this work by her example, by formal talks or lessons and by arousing an interest in doing definite health activities. The hearty coöperation of the parents with their children is necessary for the accomplishment of the greatest good. The family physician, the school physician, dentist, and nurse will all coöperate with the teacher.

Methods of Teaching.—The opportunity to emphasize and drive home health facts may be found in correlation with the other subjects of the curriculum. In literature, stories told or dramatized may illustrate the good results of some health habits. Simple plays and games will arouse interest. Pictures and posters made by the teacher or the pupils present facts in a graphic way. Another appeal may be

made through songs in connection with the opening exercises and the daily morning inspection. Nature study and health may be taught together in some phases of the subjects, as with foods.

Getting Results. — A teacher may of her own initiative accomplish much. She can weigh and measure the height of all of the children in her room and determine those who are underweight. She can, sometimes, discover the cause of underweight in each case, whether malnutrition, overfatigue or physical defect. In this, she may need the coöperation of the parents school physician and nurse. The teacher can discover the mouth breathers. She can find out the kind and amount of food taken and make suggestions to the children. A mid-session lunch of a glass of milk may solve the problem of malnutrition of some children. The teacher may keep a room score chart or individual charts to check up on the special health habits she is trying to teach the children to form. She can send home a health mark on the report card to reach the parents. The prime importance of health will always be a stimulus to the teacher to help each child to acquire good health. Many persons do not appreciate keeping fit until they are ill and have to work hard to regain their health.

B. M. BROWN.

Health Hints



1. A full bath more than once a week
2. Brushing the teeth at least once every day
3. Sleeping long hours with windows open
4. Drinking as much milk as possible, but no coffee or tea
5. Eating some vegetables or fruit every day
6. Drinking at least 4 glasses of water a day
7. Playing part of every day out of doors
8. A bowel movement every day

A HEALTH CREED

My Body Is the Temple of My Soul

Therefore : —

- I will keep my body clean within and without ;
- I will breathe pure air and I will live in the sunlight ;
- I will do no act that might endanger the health of others ;
- I will try to learn and practice the rules of healthy living ;
- I will work and rest and play at the right time and in the right way, so that my mind will be strong and my body healthy and so that I will lead a useful life and be an honor to my parents, to my friends and to my country.

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The first wealth is health. — EMERSON.

A beautiful form is better than a beautiful face. — EMERSON.

Health is the poor man's wealth and the rich man's bliss.

It is not a free gift; one must work for it.

Early to bed and early to rise

Makes a man healthy, wealthy, and wise.

— POOR RICHARD.

GOOD HEALTH FOR GIRLS AND BOYS.

I. GOOD HEALTH.

Why we need to be Well and Strong.

What Good Health Is. — We all know what it is to be well, and probably at some time each one of us has been ill. We feel very much better when we are well. We are active, full of life, and are ready to play or to work. Then we can eat, sleep, work, and play without thinking about our health. All the different parts of our bodies work of their own accord. Our faces usually show when we are well. Some people have good color in their cheeks, especially after playing or running. We are usually bright and cheerful when we feel well.

What Illness Is. — When we are ill, we are often quiet. While there are many different forms of illness, we usually have pain, and we sometimes lose our strength. Often people who are ill are so weak that they have to stay in bed. Sometimes one part of the body suffers, and at another time another part of the body is ailing. Our eyes may be tired and pain us, or our stomachs may rebel against some food that we have eaten. But illness usually affects the whole body. Our faces often show

that we are ill. We may be pale and sober. It is always harder to be cheerful and happy when we are ill than when we are well. We should try not to be cross, for we may make it very hard for those about us.

The Body is Like an Engine. — We all wish to be well and strong and to learn how to take proper care of ourselves. As we study about good health we shall find that our bodies have certain ways of working. Each part of the body has its own work to do and does it in a certain way. The body is something like a steam engine. If the engine is built well, oiled properly, and given coal and water, it will draw a great load of heavy cars. So our bodies, if they are well built, can do a great amount of work. But they must have food, water, and good care. We shall learn how to take care of our bodies and how to use the different parts in the right way. Then we shall be well and be able to play and to work.

Difference between Well and Strong. — There is a difference between being well and being strong. When we say that a person is well, we mean that his body is whole and all its parts are working in the right way. He is not ill in any way. But a person may be well and yet not be very strong. A child may become tired after playing a short time. Such a child is said to be delicate. Now we wish not only to be well, but also to be able to play and to work a long time; that is, to be very strong.

Why we wish to be Well and Strong. — When we think about it, we can find many things that we can do when

we are well that we cannot do when we are ill. We can run about and play lively games, like tag, and hide-and-seek. We can wait on ourselves, dress ourselves, and take care of ourselves. Some children help to earn their living, and probably most of us will have hard work to do some day. When we are older, some of us can help others to live. We may need to support a father, a mother, a sister, a brother, or a family. Then we wish not only to earn a living, but also to be happy. The happiest people are those who are well. We can even now help to make others happy by doing errands.



HELPING AND GROWING
STRONG

(Carrying a pail of water is splendid exercise for the back and sides.)

We admire Good Health. — When you think of your friends, which do you admire the most, the well, strong ones, or the delicate, sickly ones? When we see a person with a fine figure on the street, we almost wish to stop and look at him again. If our bodies are strong, our minds, also, are more likely to be bright. Sometimes it is true that we find a quick mind in a delicate body. But more often, a sound mind goes with a sound body, for our minds are closely connected with our bodies. If we are well, then it is our first duty to keep well and to grow as strong as we can.

Pity for Illness. — Many of us have visited hospitals

and have seen the children who stay in bed most of the time. We all pity them. We are always sorry for our friends when they are ill, and try in every way to help them. Sometimes we are ill. Then we do all that we can to become well as soon as possible. We need first of all to be well, and then to stay well.

Good Habits. — Talking about taking good care of ourselves and doing so are two very different things. It will do us little good if we only talk about good health. We need first to learn what to do and then to do just the right things. We know that doing anything a second time is much easier than doing it the first time. Doing the same thing a third or a fourth time is still easier. Repeating the same thing again and again forms a habit. We should form good habits in taking care of ourselves. If we do not, we shall be forming bad habits without thinking.

Daily Duties. — Let us stop to think what are the good health habits that we are to learn to form. Rising early enough in the morning to get ready for the day is the first duty. Drinking a glass of water in the morning is a good habit. Bathing, brushing the teeth and dressing carefully before breakfast gives a good start for the day. A short walk to school or a few physical exercises before breakfast will put our bodies into active condition for the work at school or at home. With a good appetite, we turn to our lunch or dinner in the middle of the day. The habit of eating slowly the proper kinds of food helps

to make us fit. Every pleasant day, we should play out of doors for one or two hours. Running about and exercising in the sunshine or fresh air is very important to help us grow straight and tall. After a light supper and a little recreation an early bedtime will help to make us feel fresh for the next day. The most important thing to remember at night is to open the window to let in the cool, fresh air.

Summary. — 1. Good health is very important.

2. When we are well, we are active and full of life.

3. If we are ill, we usually feel weak and suffer pain.

4. In studying Good Health, or Hygiene, we learn how to take proper care of our bodies.

5. We also learn how to use the different parts of our bodies in the right way.

6. We admire a strong, well person.

7. We are sorry for people who are ill.

8. We should try to keep well at all times.

Questions. — 1. How do people look when they are well?

2. Do they feel strong and vigorous?

3. When one is ill, how does he feel?

4. Why is the body like a steam engine?

5. Do you wish to be delicate or strong? Why?

6. Can you think of any reasons not given in this book?

7. How do you form a habit?

8. What is the difference between a good and a bad habit?

9. Can you name a good habit that will help to keep us well?

Another one?

II. EXERCISE.

How Exercise helps to keep us Well.

Exercise makes us Strong. — In colleges, many of the young men enjoy playing very vigorous games. They are trained to play baseball, football, basket ball, and



BASKET BALL IS A GOOD GAME

many other games. They also run races, hurdle, throw the hammer, vault, and engage in many kinds of athletics. At certain times, these men play match games. For a long time before the contest, the men are in training, so that they will be very strong. They eat only plain and wholesome food. They also exercise regularly every day. This training makes them grow stronger and stronger.

Very Active Games. — Some games that we play take more strength than others. Football, baseball, running, swimming, jumping rope, and riding a wheel up a long hill require a great deal of strength. After running fast for a time, we begin to pant and to breathe very rapidly. We say then that we are out of breath or are breathless. That is, we are working so hard by running, that we need more air, and so we have to breathe oftener.



GIRLS LIKE LONDON BRIDGE

Moderate Games. — There are other games that do not require as much strength as the very active ones, and do not make us breathless. Rowing, bicycling, walking briskly, rolling hoop, and riding horseback are good forms of moderate exercise. They do not affect us in the same way that the more active games do. A long walk often makes one lame. Rowing a long distance

may stiffen the back. Each sport, if kept up long enough, makes us lame in some particular part of the body. The part that is used most is most affected. After a time, the lameness or stiffness goes away and we are stronger because of the game. This is the kind of exercise that does us the most good, that makes us stronger.

Gentle Games. — Then there are some games and exercises that have less effect upon us. Short walks, drives, marbles, jackstones, kite flying, bean bag, croquet, archery, sailing, and drop-the-handkerchief are forms of gentle exercise. If such games are played often enough, they will help us to grow strong, although they do not give us as much strength as the moderate exercises do. We seldom feel tired, and never breathless, after playing the gentle games.

The Time for Play. — We are in school many hours of the day. Some children have work to do at home or have music lessons to practice. Yet we all find some time for play. After school and during recess are good times for games. It is better not to play very hard just after eating, for then our stomachs are at work and our bodies should be rather quiet.

The Amount of Exercise. — Most children have plenty of exercise, but some do not play enough out of doors. Children need to be out of doors after school every pleasant day. It is better to play out of doors than to play quiet games, like checkers, in the house. Children

need more exercise than grown people. But every one needs some exercise. When people are ill and cannot take much exercise, they often have some one rub their bodies instead. We call this kind of rubbing, massage.

Variety of Exercise. — We enjoy our games very much more if we can change them often. Of course, there are some games, like marbles and hide-and-seek, that we are always ready to play. If we enjoy our games, we are likely to play more vigorously and to



TRAMPING IS GOOD EXERCISE

get more good out of them. Yet we must not always expect all of the children to play the game that we wish. We must be willing part of the time to play what other children would like.

We usually play different games in winter from those that we play in summer.

Regular Exercise. — Some people think that they can exercise enough on one day, perhaps on Saturday or Sun-

day, to last the rest of the week. What would you think of a boy who thought he could eat one large meal on Saturday that would last him for the rest of the week? You would hardly like to live with him. We need to eat regularly and moderately. In the same way, we need to exercise regularly every day and moderately. If we exercise too much, we are tired and are not able to do our work. If we exercise too little, we are lifeless and cannot do as much work as we might.

Dress for Exercise. — When we go to a gymnasium, we should wear a gymnasium suit. When we go swimming, we wear a bathing suit. For skating, or for other outdoor play, in cold weather, we wear warm sweaters. For certain kinds of exercise, we need certain suits of clothes. Whenever we exercise, we need clothes that are comfortable and loose enough so that we can easily move our arms and bodies. For playing, we need clothes that are plain and have little trimming to catch the dust. A loose waist, a plain skirt, and a simple hat are proper for out-of-door exercise. Boys sometimes like to take off their coats when they are playing hard.

How Exercise does us Good. — When we exercise out of doors every day, we feel much stronger than we do if we stay all day in the house.

Playing makes our muscles stronger. After practicing, we can walk or run for a longer time and we can throw a ball farther and more swiftly. This means that our muscles have grown larger and firmer. Did

you ever feel of the muscles in your arms? Are they firm and do they stand out?

After running we feel very much alive and aglow all over. Our cheeks are red and we are warm. This glow, too, is good for us.

Playing makes us Hungry. — We are hungrier after a good time out of doors than after spending the afternoon indoors. On a picnic we are sure to be hungry and to long for the lunch time. Now, we eat in order



GOOD EXERCISE FOR RECESS

to live and grow. If we are exercising out of doors a good deal and have good appetites, we are likely to eat enough and be well. So playing will help us to grow strong and tall.

Playing ball and other active games makes us breathe faster. Good fresh air is just as important as good food. When we have plenty of fresh air, we feel better. Of course, we are happy when we are playing. We play because we like it. We like to work part of the time, but we like even better to play.

Summary. — 1. Plain, wholesome food, with regular exercise, makes the body grow strong.

2. Very active games and sport make us breathe rapidly.

3. They also make us strong.

4. Moderate exercises, also, strengthen the body, although they may make it stiff for a time.

5. Every one should take exercise every day.

6. We should wear special clothes for certain kinds of exercises.

7. Exercise makes the muscles strong.

8. It also makes us hungry.

9. We breathe more freely after active exercise.

Questions. — 1. What are different forms of athletics?

2. Name some very active exercises.

3. Can you think of different forms of moderate exercise?

4. When is the best time for play?

5. What do we wear in the gymnasium? Why?

6. How do we feel after exercising in the fresh air?

7. Is this good for us? Why?



THE OLD SWIMMING HOLE

III. EXERCISE.

The Best Places to Exercise.

Out of Doors. — Children who live in the country have capital places for playing. In the large yards, the open fields, and the pastures, there is plenty of space. If children live near a beach, a pond, or a river, they find enough to do. The children who live in or near a city also find some place for playing. They have the yards, the vacant lots, the parks, the playgrounds, and the sidewalks for their games. All children need to play out of doors, where there is plenty of fresh air. This is as important as are good food and pure water. Playing out of doors makes us so hungry that we are ready to eat a good dinner. When it rains, we may play in our homes, barns, or gymnasiums.

Games in Summer. — In summer we can play out of doors most of the time. Boys are very fond of baseball, and many girls enjoy basket ball. All games of ball are good sport. Hide-and-see, tag, and fox and geese are good games to play between houses. For marbles, hoop, wheeling, and jumping rope, a smooth sidewalk or street is needed. Ring-toss, bean-bag, and drop-the-handkerchief require a good grass plot.

Sports near the Water. — If we live near a beach or a pond, wading, bathing, and swimming will keep us happy for many hours. We need to be careful to go with an older friend and not to stay in the water too long. We may, perhaps, be invited to go on the water to enjoy rowing, canoeing, or sailing.



A GOOD PLACE TO BATHE AND SWIM

Sports in Winter. — While there are fewer games to play in winter, we can still have as good a time as we do in summer. As soon as the snow comes, we take out our sleds and are ready for coasting. When there is snow, we can make snow-balls. Making a snow fort is great fun. Tobogganing can be enjoyed only where it is very cold. This sport is even more fun than coasting.

Sports on Ice. — While we enjoy the water in summer, we may have a still better time on the ice in winter. Skating is one of the best of sports. Then how easy it is to learn to play hockey and snap the whip! Curling, although not very common, is a good game for the ice. When the ice on a large pond or river is smooth and thick, ice boating is very pleasant.

A Visit to a Park. — Nearly every large city in the United States has a park, and some have many parks. There may be, however, a few children who have never visited a real park. So let us all together take an imaginary trip to one. We shall need to ride in the electric



A GYMNASIUM AT SCHOOL

cars, as the park is on the other side of the city. There are so many of us that we will have, all by ourselves, a special car. We can easily tell when we reach the park, for we shall see fields of green grass, many beautiful flowers, and fine, tall trees.

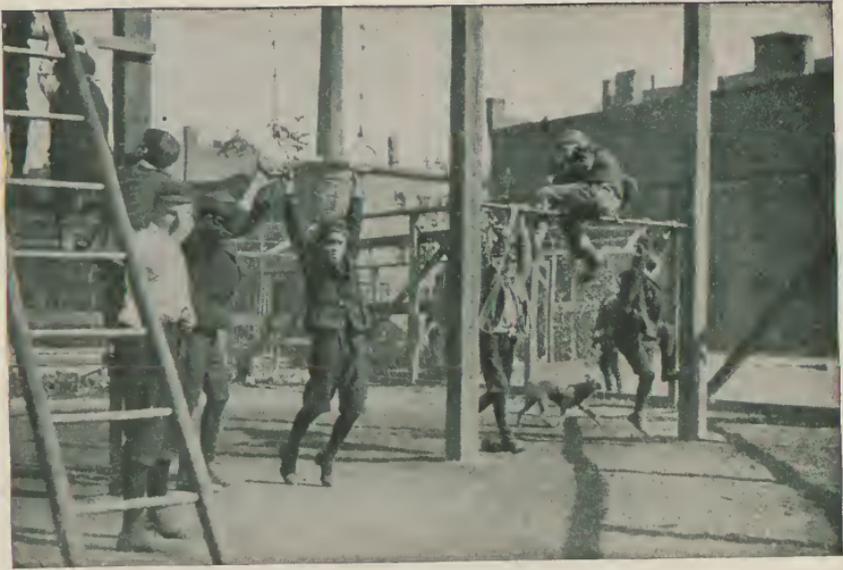
What we see at the Park. — As we reach the gates, we find carriages which we may hire to take us around. The park is so large that we are glad to drive. We fill several carriages and start off. Soon we come to the tennis courts, where many boys and girls are playing.

Then we drive past the playground, where the smaller children are playing ball, tag, and other games. This part is set aside for the younger children. Farther on we see many men and women playing golf. They make the park look very pretty, scattered as they are over the green grass. Then we come to a large pond, where we find children feeding the ducks and geese. Here we alight to watch the animals and to have a drink of water. After what seems a short time, though we have had a drive of five or six miles, the carriages take us back to the entrance.

A Visit to a Playground. — In some of the larger cities, playgrounds have been opened so that children need not play on the sidewalks and streets. Let us visit one of these together. Before we reach the entrance we shall probably see some of the older girls wheeling their little brothers in go-carts toward the playground. Children of all ages are admitted. As soon as we see the playground, we wonder if there is room for another child. The shouting tells us that the children are happy. At one side we see a large open space surrounded by seats. Here the older boys and the young men play football and baseball. The younger children play on the other side. We find swings, ladders, ladder coasts, and horizontal bars in great demand. An instructor teaches the boys in groups how to use these helps to exercise.

The Younger Children. — In another place, the youngest children are making sand pies and enjoying the sand

gardens. Small swings make the little people happy. Some children enjoy sewing cards, looking at pictures, or listening to a story told by the teacher in charge. Around the edge of the playground are many small gardens. Here, we see a child watering her plants or



BOYS GROW STRONG HERE

weeding her garden. There, we notice a child taking care of her baby sister. In this place the children may play what they like as long as they do not quarrel.

A Visit to the Seashore. — If we enjoy the water, we may spend a pleasant day at the Marine Park. Here the ocean furnishes plenty of fun. We see the children building houses and digging ponds in the sand. Sailing boats and wading are sure to wet somebody's clothes,

but no one seems to mind. For the older children, there are bathing, swimming, and rowing. Then a day at the seashore is never quite perfect without a picnic lunch on the sand. Just before sunset we are ready to start for home with our pails and shovels, and with faces red with sunburn.



AT THE SEASHORE

Summary. — 1. In pleasant weather, playing in the open air is better than playing in the house.

2. The air out of doors is usually fresher than that indoors.
3. We enjoy games and sports in winter as well as in summer.
4. Parks and playgrounds are necessary in all cities.
5. Children need places for playing.

Questions. — 1. What are good places for playing?

2. Which out of door games do you enjoy best?
3. What can you play when you are at the seashore?
4. Did you ever visit a park?
5. What did you see?
6. Have you been to a playground?
7. What did the children play?
8. Do you know where there is a sand garden?

IV. GOOD POSITIONS.

How to grow Straight.

A Good Figure.—Most of us are trying to be well. We wish also to grow straight and tall. The next time that you see a soldier, just notice how well he carries himself. We always expect to find soldiers with good straight figures and without round shoulders or crooked backs. The soldiers obtain their fine figures by careful training. They have drills and physical exercises every day for many years. The officers, as young men, were taught at the West Point Military Academy how to stand and walk in the best way. We, too, may have good figures, if we will take the trouble to keep ourselves in good positions.

Why we wish to be Straight.—We know that a person who is straight looks very much better than he would if he had round shoulders or a crooked back. If we carry ourselves well, we are more likely to be well. If the shoulders are only slightly rounded or one shoulder is only a little higher than the other, the rest of the body will not be injured very much. But these slight troubles or deformities are very likely to grow worse. They may also interfere with breathing or taking good exercise. So it is best to keep straight.

How to grow Straight. — There are two things to remember about growing straight. First, we need always to be in good positions. We do not always need to sit, stand, or lie in exactly the same position. When we are tired of sitting in one way, we may turn or change to another. But we still need to be in a good position. In the second place, if we forget how we are sitting



GOOD STANDING POSITIONS

or standing and find ourselves in some cramped or crooked position, we need to take a good position as soon as we think of it. We should form the habit of holding our bodies always in good positions. Let us all begin now by sitting upright.

Good Positions in Standing. — When we stand, there are many things to think about until we have learned the proper way. If we always stand well, it will become nat-

ural to us, and then we shall not need to think about it. First, we need a good firm foundation. The heels should be together and the feet turned outward, forming nearly a right angle with each other. The knees should be straight, the hips on the same level, and the abdomen flat or "in." If the chest is well forward and the shoulders back, we can breathe better. The arms should extend down at the sides. The head should be erect, with the chin pushed neither out nor in. This is the position that we take in gymnastics and that we should learn to take at other times whenever we stand.

Wrong Positions in Standing. — If we are not on the watch, we may become very careless about standing. We may find ourselves standing on one foot only, with one hip raised. This habit tends to make one side grow higher than the other. Then again, we may let our feet spread apart very awkwardly. Some children lean against the desk or door when they are standing. The children are not so weak that they need to do this; it is only a bad habit. When we stand, let us stand upright on our feet, in a manly fashion.



WRONG STANDING POSITIONS

Good Positions in Sitting.— While it is important to stand well, it is still more important to sit well. Most of us sit much more during a day than we stand. We need to remember to sit back in the chair and not just on its edge. If we wish our legs to grow straight, our feet should be on the floor and not twisted around the legs of the chair.

Some Wrong Positions in Sitting.— Let us think what are some of the harmful positions in sitting. Sometimes



GOOD SITTING POSITIONS

when children are very much interested in the work before them, they sit just on the edges of their chairs. After a while they become tired. Then they lean back, still sitting on the front edges of their chairs. This position curves the back and tends to make the shoulders round.

Sometimes, children are short or tall for their ages, and their chairs and desks are not at a comfortable

height. If the chairs are very much too low, the child's limbs must be bent and are likely to grow crooked. If the chairs are too high, the feet cannot touch the floor, but just hang from the edge of the chair. This position is not only uncomfortable, but is also likely to bend the bones just where they come against the front edge of the chair. In some schoolrooms the desks and chairs are made to slide up and down so that they may be fixed at the proper height. We need to have the chairs comfortable and of the right size.

Another Harmful Position. — Sometimes one shoulder grows higher than the other. This defect is often caused by sitting in wrong positions. A certain position that children sometimes take pushes one shoulder higher than the other. Do you know what position that is? If you turn in your seats and rest one arm on the desk, you may find it. We need to be careful when working with only one arm on a table or desk not to raise one shoulder. The elbow may be pushed out instead of raising the arm. Let us remember to hold both shoulders at the same level.



A WRONG POSITION

Sitting on One Foot. — Why is it that we like to sit on one foot? The foot certainly does not feel any better in this position, for it usually goes to sleep. This shows

that we are abusing it. The foot was not made to sit on, and it is not a very soft cushion. Sometimes sitting on the foot twists the leg so that one has trouble with it. Let us keep our feet on the floor.

Perhaps we twist our feet, sometimes, around the legs of a chair. This position is certainly not very comfortable nor very good for us.

Bending over Work. — After you have bent over your work for some time, do you feel bright and fresh? Try sitting erect when you work, and see if you feel any better. Your shoulders were drooping forward and you could not breathe freely. Bending over is almost sure to make the shoulders grow out of shape.

Folding the Arms. — Some people have the habit of sitting with their arms folded. Let us see if this tends to keep our shoulders back in position, or forward, cramping the chest.

Let us try two or three positions and see which lets us breathe the best and hold our shoulders most erect.

First, fold the arms on the chest and take as deep a breath as possible.

Second, fold the hands and place them on the edge of the desk and take a deep breath.

Third, place the hands on the hips and take a long breath.

Fourth, repeat the first breathing.

In what position can we breathe most easily? We are all ready to say, "With our hands on our hips."

In this position our shoulders are thrown back, our chests have plenty of room, and we can breathe more air.

In what position can we breathe the smallest amount of air? Of course, it is when the arms are folded on the chest. Then the shoulders are brought forward, and it is impossible to fill our chests with air.

The habit of folding the arms on the chest, then, tends to bring the shoulders forward, and to make them round.

Round Shoulders. — We have already found some positions that make the shoulders grow round. There are still others. Sometimes, if we do not take exercise enough or have food enough, we do not feel very strong and our shoulders droop forward.

If we wish to be straight, we must take care that we do not use too many pillows at night. One pillow is enough for any well child. To sleep without a pillow is even better. If we have too many, the head is pushed forward all night. There are many positions, then, that tend to make the shoulders round.

How to straighten Round Shoulders. — Most of us do not like to see round shoulders. We need to decide that we at least will not have them, and then to do all that we can to keep upright. There are several things that we can do to keep our shoulders back. If we find ourselves sitting in a position that we know tends to round the shoulders, we must take a proper position at once. We should straighten up whenever we need to do so. Then we should avoid the different positions that make

the shoulders grow round. A strong back helps to keep the shoulders in position.

- Summary.** — 1. Good positions help to make a fine figure.
2. Good positions also help to keep us well.
3. Whenever we find ourselves in poor positions, we should take good ones immediately.
4. We need to remember to always keep in good position.
5. The desks and the seats in a schoolroom should be of the proper size to make the children comfortable.
6. Bending over our work prevents good breathing and makes the shoulders grow round.

- Questions.** — 1. Are you sitting or standing in a good position now?
2. What is a good standing position? A good sitting position?
3. Do your feet rest on the floor when you sit at your desk?
4. Why should they?
5. What is a wrong sitting position?
6. How many pillows do you use at night?
7. Why should we not use two or three?
8. What helps to keep the shoulders back in their proper places?

V. THE BLOOD.

The Errand Boy of the Body.

The Blood.—When we cut a finger, how the blood flows! Sometimes it seems as if it would never stop. If we tie a piece of cloth around the finger, the blood slowly thickens, or forms a clot, and this stops the blood from flowing. Forming the clot is nature's way to stop the bleeding. If there is any dirt in the cut, it should be well washed before it is bound up. If we cut our feet, our arms, or our bodies, they also will bleed. Almost every part of the body except the hair and the nails has blood in it, and so bleeds when it is cut. If you look at your wrist, you can see the blue and purple tubes in which the blood flows. All over the body there are tubes for the blood, some of them large and some of them very small.

If you press a finger on the back of your hand for a few minutes and then take it away, what do you see? Can you tell what makes the spot look white at first and gradually turn pink or flesh color? The blood in the tiny tubes makes all the skin pink.

How the Blood goes through the Body.—If you will feel of your wrist, you can learn something else from it. Right in the middle you can feel two stiff cords. If you wish to feel your pulse, place the forefinger of the

other hand just beside the cords and on the thumb side of the wrist. Press gently and wait a few minutes. Can



FEELING THE PULSE

you feel the pulse beat, beat, beat? This is the blood flowing through a large tube. Can you count the number of times it beats in a minute? In a well person, the pulse usually beats from sixty-five to seventy-two times in a minute, although there are many things to make it beat faster or slower. If the pulse should beat every second, or every time the clock ticks, it would beat rather slowly. If we

are ill, the doctor feels of our pulses, and it helps to tell him what is the matter with us. Sometimes the pulse beats harder or faster, sometimes it is weaker and slower, than usual.

The Beating of the Heart.—If the blood is going through the body all the time, something must make it go. The heart does this work. You can easily feel the heart beat. Just place your right hand on the left side of your chest, but near the middle line and about two thirds the distance from the neck to the waist. Let the hand rest gently in this position, and you may feel the heart beat. After we have been playing or running very hard we can easily feel the heart beat and sometimes we can hear it.

The Heart is the Pump.—This is the force that sends

the blood all through the body. In all large cities, the water goes to the different houses through pipes laid underground in the streets. Now, somewhere connected with the waterworks there is a pump that forces the water through the pipes. In the same way, the heart is connected with the blood tubes that pass everywhere through the body, and this is the pump that forces the blood through the tubes.



HELPING THE BLOOD TO CIRCULATE

The Size of the Heart. — While the heart does a great amount of work, it is not as large as perhaps you would think. Your heart is about the size of your own clenched fist.

What the Blood does for the Body. — We have called the blood an errand boy, and it is a very busy one. It goes on many important errands. It receives the air that we breathe and carries a portion of it all over the body to the different parts. Then it takes the food that

the stomach has prepared and carries this all over the body. The blood also takes away the waste material from the different parts of the body. So you see that the blood has very important duties.

Our blood is made up of what we put into it; that is, the air we breathe and the food we eat. So we should breathe fresh air and eat wholesome food if we wish to have good blood. When we become tired and our blood is not very good, as sometimes happens in the spring of the year, we need to make it better. We should go out doors in the bright, fresh sunshine as much as possible, and should eat plenty of fresh milk, eggs, meat, and other good and simple food. This will do our blood more good than patent medicines would do.

Summary.— 1. The blood flows freely from a cut on the body.

2. The clotting of the blood stops it from flowing.
3. The blood tubes carry the blood to all parts of the body.
4. The beating of the heart sends the blood through the tubes.

Questions.— 1. How can you feel your pulse best?

2. How fast is your pulse beating now?
3. What color are the blood tubes?
4. Why does the doctor feel of your pulse when you are ill?
5. Where is your heart?
6. How large is it?
7. How do you blush?
8. What has happened when you turn pale?
9. How does slapping the hands against the body warm the fingers?

VI. AIR.

What we Breathe.

About Air.—When we study about air, we wish to know something about its color, its feeling, its odor, and its weight. Pure air has no color. Sometimes, when there is smoke in the air or burning gas such as we find at a large fire, the air seems to be colored. The smoke and gas make the colors. Pure air such as we find at the seashore and in the country is perfectly clear, without color, and so transparent that we can see long distances.

We often feel the air against our faces, especially if it is in motion; that is, if a breeze or wind is blowing. If the air is warmer or colder than our faces, we notice the difference.

Pure air has neither smell nor odor of its own, but it brings to us all the odors from the objects about us. The fragrance comes to us from the violet and the lily, and the foul odors come from the bogs and the drains. Impure air may bear many kinds of odors.

Some Uses of Air.—We have so much air about us and it is so free to all that we seldom stop to think how important it is. If we try to think what would happen if the air were taken away, we may begin to realize how

much we depend upon it. If there were no air, plants and animals could not live. None of the flowers and vegetables in our gardens, and neither the trees nor the grass, could grow. We could have no vegetables or fruits to eat, and no flowers to love. None of the animals that live on the land and fly in the air — that is, none that breathe the air — could live. Moreover, many of the animals live on plants; if there were no plants, the animals would starve to death. Plants and animals must have air to breathe in order to live.

Some Uses of Air to Men. — Men have learned many ways in which winds may help them. Many of us have seen windmills. They are scattered all over Holland and the level parts of our own country. Windmills are built high and have arms made of wood or zinc that catch the wind. The pressure of the wind on the arms makes the machinery go around. Windmills are sometimes built over a well, and the water is pumped up by the force of the wind. In the older mills corn was ground into meal, and wheat into flour. In some places where there is no water power the windmill is attached to machinery, which saws wood and does other work.

Sailing. — Did you ever go sailing on the water in a large sailboat? If you have, then you know how fast the boat can cut through the water. Even large schooners of three or four masts depend upon the wind. The largest schooners, having seven masts and carrying many thousands of tons, also sail by the wind. All of the pleas-

ure sailing in the summer and the ice-boating in the winter depend upon a good breeze.



AN OLD WINDMILL

Some Other Uses of Air.— How uncomfortable we should be in winter without a fire! Now, we could not very well have a fire without air, and we like a good draft, too. Air, then, helps to keep us warm by keeping the fire burning.

Would you like always to sit in the dark in the evening? If you wish to see how much a lamp needs air to make it burn, lay a piece of tin on the top of the lamp chimney to stop the draft, and see how long the lamp continues to burn. Air helps us to enjoy our evenings by making the lamps and the gas burn.

We find on wash day that we need a good breeze of air. We like to have our clean clothes thoroughly dried and well aired. The drying is done out of doors in the sun much better than in the house. So the air helps men in many ways.

How we can tell Pure from Impure Air.— Often, after we have been out of doors in the pure, fresh air, as we go into a house, we notice that the air in the house is very different from that out of doors. We sometimes notice odors, such as those from cooking or from persons sitting in a room. The air in that house is impure and needs to be changed. Fresh air has no smell, but some kinds of odors show that the air is impure. Many persons breathing in a room make the air close and harmful to breathe. Whenever we go into our rooms at home and at school, we should try to tell whether the air is pure or whether it is impure and injurious to breathe. If it is impure, we should arrange to let in some fresh air without cooling the room too much or troubling some other person.

The Effect of Impure Air upon Us.— After sitting for some time in impure air we find that we begin to feel ill. Bad air gives some persons the headache, and they wonder what the trouble is. A walk in the fresh air will drive the pain away. Bad air often makes persons restless and uneasy. Children find it hard to sit still and to study their lessons when the air is not good. Sometimes persons faint if the air is close and they are not feeling very well. Then they have to be carried out into the fresh air.

Where we find Pure Air.— In the summer, when we have many doors and windows open, it is easy to keep the air in the houses nearly as pure as it is out of doors. But in the winter, when the doors and windows are

closed most of the time, the air out of doors is much fresher than the air in houses. This is one reason why it does us so much more good to play out of doors than in the house. Most people enjoy the pure, fresh air. In the summer the air is so close and warm in the cities that many like to go away for a short time, at least, to the country, the seashore, or the mountains. This change, with plenty of exercise and good food, after a few weeks makes people much stronger.



SAILBOATS

Where we need Pure Air. — If we are to be well and strong, we need fresh air all the time. Let us think of all the places where we have been to-day, at home, then at school. We certainly need fresh air in these places. On other days we go to the library to read, to the hall for an entertainment, or to church. Some children go to school in electric cars, while others travel in the steam cars. They need to wait sometimes at the railroad stations. We surely feel better if the air is kept pure in all of these places.

Causes of Impure Air.— Sometimes we find the air indoors very impure, and we need to know the reason. There are many things that help to make air impure. When there are a great many people in a room, the fresh air is soon used. It is harmful to breathe the same air over and over, for the air that we breathe out is not pure enough to breathe again.

Lamps burning in a room use some of the fresh air, and, if they are not carefully cleaned, they give off bad odors. Lamps need to be cleaned daily and all of the oil wiped off. When there is gas in the room, it should never be allowed to leak around the burner; for if enough of it should escape to fill the room, it might suffocate some one.

Other Bad Odors.— Stoves and furnaces sometimes leak and send out bad odors into the room. Sometimes housekeepers are not careful enough about disposing of waste material. If it is allowed to decay in or near the house, bad odors may come from it. Many houses are not opened to let in the fresh air, and the air in them becomes close and stale. The different rooms need to be aired every day unless the weather is very stormy.

The Best Ways of keeping the Air Pure.— When the weather is suitable, and not too cold or too damp, letting in plenty of fresh air will help to keep the air in the house healthful. Decaying matter should not be left around. It should be cleaned up and burned, buried, or carried away. If the house is kept clean, and plenty of

hot water and soap are used, there will be few odors. If there are stoves or lamps burning, some fresh air should be coming into the room most of the time. We need to think occasionally whether the air is pure or not, and to keep it as pure and as fresh as possible. If the weather is very cold or the wind blows, some fresh air will come in through the cracks about the windows and doors, but in mild weather only a very little fresh air is supplied in this way.



DRYING CLOTHES

Summary. — 1. Pure air has neither color nor odor.

2. Plants and animals must have air to breathe in order to live.

3. The air helps us by turning windmills, by sailing ships, by drying clothes, and by making fires and lamps burn.

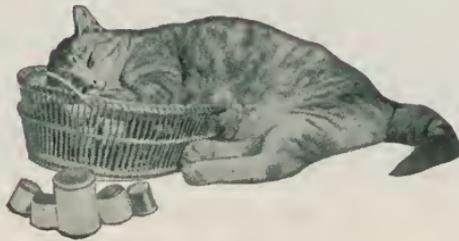
4. Impure air is injurious to breathe.

5. We need pure air at all times.

6. Waste material should not be left about the house, but should be burned or carried away.

7. A house should be aired thoroughly every day.

- Questions.** — 1. Can you smell pure air ?
2. What do windmills do ?
3. How can you tell impure air ?
4. How does impure air sometimes affect children ?
5. Where is the purest air ?
6. How should lamps be cleaned so that they will not make the air impure ?
7. Why do the different rooms of a house need to be aired every morning ?
8. How does a burning kerosene stove or a gas log affect the air of a room ?



VII. BREATHING.

How we take Air into our Bodies.

All Animals need to Breathe. — Do you remember how your kitten looks when she is asleep? You might watch her the next time you find her curled up, taking a nap. She is not perfectly quiet, but her side is regularly rising and falling. She is breathing all the time. After a dog has had a hard chase, he often pants and breathes hard. We have seen many other animals, as horses and cows, breathe. Whales breathe so hard that they throw the water up in a spout many feet high. We call it “blowing.” All animals have to breathe in order to live. Plants also breathe, but it is hard for us to see their breathing. They have tiny holes in their leaves to let the air in and out.

We need to Breathe. — We all have to breathe all the time. We seldom think of it, but we breathe hour after hour, day and night, year after year. No matter what we are doing, — reading, playing, singing, sleeping, or sewing, — we keep on breathing. Our bodies take care of our breathing without our having to think about it.

How Wonderful it Is. — Our breathing is even more wonderful than the movement of a clock or a watch. A watch has to be wound up every day, and the common

clock needs winding every week at least. A person can keep on breathing for sixty, seventy, and sometimes even a hundred years. A watch has to tick always at the same rate, but we can breathe more rapidly or more slowly as we need.

Why we breathe Fast. — When we are running or playing hard, we breathe fast. Why is this? We all know that the harder we play, the more we wear out our clothes. They have to be mended more than if we just sit still. So it is with our bodies. The harder we play or work, the more we wear them out, and the more they need to be repaired. Fresh air and good food do the repairing. We do not have to think much about it. Our bodies will attend to making the repairs if we will only supply the materials and give them a chance.

Holding the Breath. — Most children have tried to see how long they could hold their breath. A half a minute is a long time. We need the air so much and our bodies have been so well trained to breathe that it is hard to stop them.

Good Breathing. — Although we have breathed so often, probably none of us knows just how we do it. Let us take some good breathing exercises. First, let us be sure that we are sitting in good positions. Then, with your hands on your hips, take good, deep breaths as I count slowly: one — two — three — four.

How we Breathe. — Let us think, now, what we did when we took in and let out a breath of air. We could

feel our bodies move. Our sides moved out and our chests moved upward and forward. The air filled the lungs in our chests. Then our chests fell, and the air was pushed out. We do this every time we breathe, although we do not have to think about it.

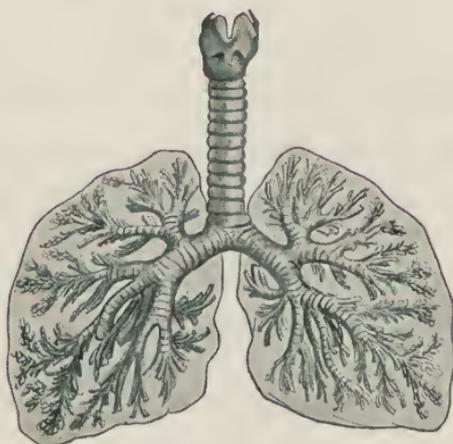
The Best Way to Breathe. — Some of us breathe through the nostrils, while others breathe through the mouth. Which is better? Sometimes people have sore throats if they talk very much out of doors in the very cold air. The cold air irritates the delicate throat. On the other hand, if we breathe through the nostrils, the air is warmed before it reaches the throat and does not injure it.

Breathing through the Nostrils. — There is also another reason why we should breathe through the nostrils instead of through the mouth. The nostrils are really two long passages that lead into the throat. These passages are lined with a moist, delicate membrane. As the air passes through the nostrils, this membrane catches and holds fast any little bits or particles of dust that may be in the air. There are also some small hairs in the nostrils that probably help to hold the dust. The pure air then passes on to the lungs. This is a wonderful arrangement, which lets us breathe only clear air and helps to keep our lungs well.

Breathing through the Mouth. — If we should breathe through the mouth, the moist lining there might also catch the dust. But the dust in the mouth would be not only very unpleasant, but sometimes very dangerous.

So we should breathe through our nostrils, for the air in passing through the nostril is both warmed and cleansed.

Dust sometimes hurts the Lungs.—Some men work in factories where the air is full of dust and powdered wood or iron. Such men often have trouble with their lungs. Sometimes, they wear over the lower part of their faces something like a sponge, which sifts the particles of dust out of the air.



THE LUNGS

What our Lungs Are.—Our lungs are like bags, which hold the air, one in each side of the chest. Tubes lead to them from the nostrils. So when we breathe, the air passes from our nostrils or mouths through the tubes and their branches to the lungs.

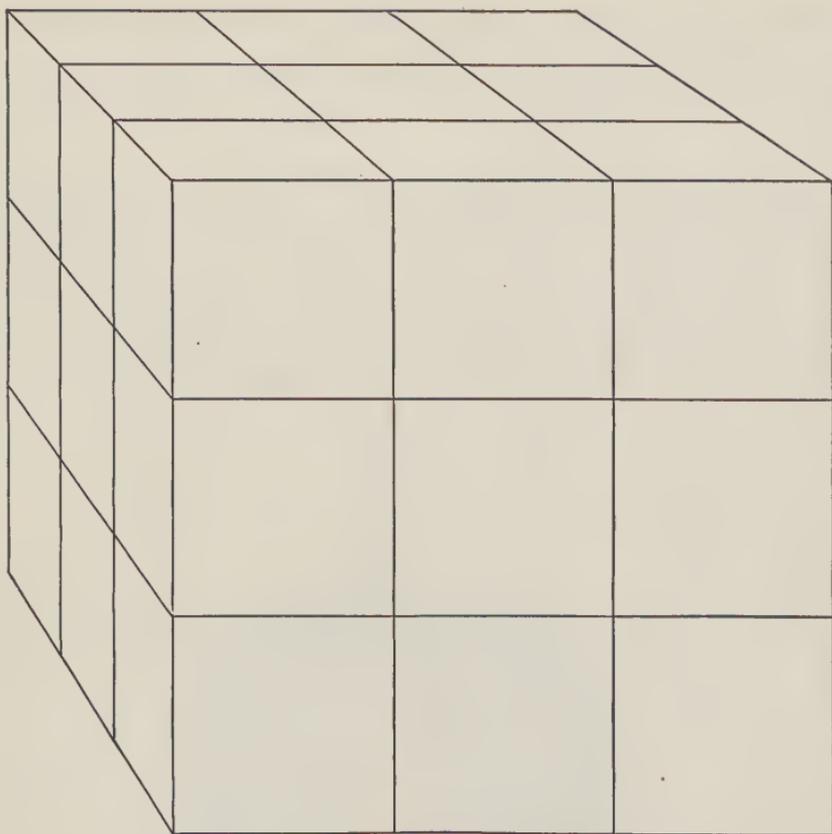
What our Lungs Do.—We breathe pure air into our lungs. We have already learned that the blood in our

bodies goes to the lungs. Here the blood takes part of the air and carries it to all the various parts of the body. We could not live without a constant supply of fresh air.

What prevents Good Breathing. — We know that people need to breathe plenty of fresh air. Is it not strange that some people will wear clothes so tight that they cannot take long breaths? Some people think that they look well with small waists and tight collars. They would be much stronger and also look much better if they would let their bodies work in the right way. Tight belts, bands, and collars interfere with good health.

What happens when we Breathe. — We have already talked about taking in air. We also breathe out air, but it is somewhat changed. The out-going air is impure. It is easy to see one difference between the air that we breathe in and that which we breathe out. When we breathe on a piece of very cold glass, we can see the particles of water or moisture that were in our breath. On a very cold morning we can see the moisture of our breath. The air that we breathe out contains much moisture.

The Air that is Breathed Out. — We can tell the air that is breathed out from pure air in another way. We can often smell the difference. The impurities that are breathed out from our bodies make the air in a room seem close and sometimes give us the headache. We should not breathe the same air over again. We need a supply of fresh air in our rooms all the time.



TWENTY-SEVEN CUBIC INCHES — THE AMOUNT OF AIR TAKEN IN AT EACH BREATH

How Much Air we Need. — When architects are planning dwelling houses, schoolhouses, and other buildings, they need to know how much air space to allow to each person. They need to know how much air each person takes in with each breath. This cube, about three inches high, three inches wide, and three inches deep, represents the air that each one of us takes in with each breath.

This is about a pint of air. There are many of us in this room, and we breathe very often. So you see we need a great amount of fresh air.

How often we Breathe. — We have already learned how often our pulses beat. They beat regularly a little faster than the clock ticks. We shall find that it takes longer to breathe than it does for the pulse to beat. The pulse beats four times while we breathe once. That is, we breathe, usually, seventeen times a minute.

Summary. — 1. Fresh air and wholesome food help to keep the body in good health.

2. When we breathe, fresh air fills the lungs.

3. Breathing through the nostrils is better than breathing through the mouth.

4. In the lungs the blood takes up air and gives out waste material.

5. The blood carries the fresh air to all parts of the body.

6. We breathe, usually, seventeen times a minute.

Questions. — 1. Are you sitting so that you can breathe freely?

2. Why is it better to breathe through the nostrils than through the mouth?

3. How is dust in the air harmful?

4. What is contained in air that has been breathed?

5. How much air do we take in at each breath? How much in an hour?

6. What is coughing?

7. How do you sneeze?

VIII. HEATING AND VENTILATION.

How we obtain Fresh Air in our Homes.

Need of Pure Air. — We have already learned what makes air impure and unfit to breathe. We also know how we feel when we have stayed in impure air for some time. When we are dull and irritable, the reason may be that we are breathing air that is impure or overheated.

Sometimes, because of impure air, we have the headache or backache, or are dizzy or faint. Close air affects people in many unpleasant ways. They need plenty of fresh, out of door air to make them feel well again. If we are to feel well, we need fresh air to breathe all of the time.

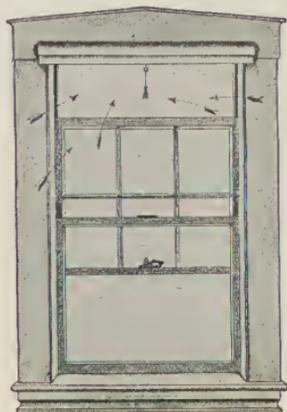
Fresh Air in Houses. — When the doors and windows are closed, we must find some way for the fresh air to enter. Making fresh air enter and making impure air pass out from a room or building, is called ventilating.

Ventilation in Summer. — In the warm weather we usually have the windows and sometimes the doors open, so that plenty of fresh air may pass all through the house. In warm climates the people live almost altogether out of doors.

Fresh Air in Winter. — When the weather is cooler, we still need fresh air, but then we need fresh warm air. So

in the winter we have to think both how we can warm and how we can ventilate our houses.

Simple Ways to Ventilate. — Even in the winter we can have our windows open a few inches part of the time. It is better to have the window down at the top than up at the bottom. When the window is down at the top, the impure air, which is warm and near the ceiling, goes out. Then we are not likely to feel the cold air coming in. When the window is up at the bottom, the cold air rushes in and often makes a draft along the floor. This chills our feet, and we are very uncomfortable and are likely to take a cold.

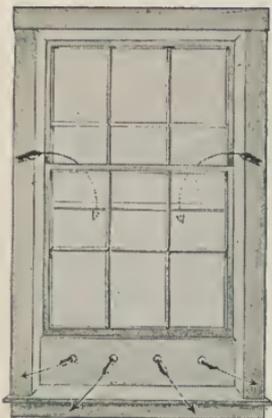


AN EASY WAY TO
VENTILATE

Airing Rooms. — All rooms should be thoroughly aired at least once a day. It is a good practice to air the sleeping room thoroughly every morning. If the windows are thrown wide open, the air can be changed in a short time. On pleasant, warm days the windows may be left open for several hours. The living room and dining room also should be aired at some time during the day.

Another Way to Ventilate. — There is another very simple but good way to ventilate a room. A board about a foot wide and as long as the width of window is fitted into the bottom of the window frame. The lower sash is

then shut down on the upper edge of the board. In this way an opening is made between the two sashes in the middle of the window. Can you tell whether the air is coming in or going out of the window? If you hold a lighted candle or a few pieces of narrow ribbon in front of the crack, you can find whether the air is passing in or out. This is a good way to ventilate when any one has to stay a long time in the same room.



A GOOD WAY TO
VENTILATE

Double Windows. — When the weather is very cold, double windows are sometimes put on to keep a room warm. They are often used on the north side of a house. They do help to make a room warm, for they keep out much of the cold air. But they also shut out the fresh air. It is a good plan to have one pane of the outer window made to swing open so that it is possible to air the room.

How to heat our Houses. — There are many different ways of heating buildings. But whatever way we use, we like to have all the parts of the room heated equally. We do not like to have a cold draft on the floor or near the doors or the windows. If there is a draft, we are likely to take cold.

Fireplaces. — In the olden times, the only way of heating a room that people knew, was by the use of a large

fireplace. This heated the nearest part of the room very warm, while the opposite side was cold. To-day, we often see fireplaces in houses. Many of them, however, are only intended to make the room look cozy and homelike. Fires are not always built in them. Sometimes in the fall and spring, when a little heat is needed, a fire may burn on the hearth. A fireplace helps to ventilate a room, for the impure air is drawn up the chimney.



A FIREPLACE HELPS TO VENTILATE

Heating by Stoves. — After a time, stoves were invented for heating houses. These are still used in many other countries and in many places in our own country. There are, however, various disadvantages in using them. A stove takes up a great deal of room, and does not always look well. Caring for many stoves in a house, means a great amount of work. Then, too, disposing of the ashes makes dust in the house. Care should be taken to ventilate the room in which a stove is used, by having a window open at the top. The fire uses up the good air in the room. So, although stoves are commonly used, they do not furnish the best means of heating houses.

Burning Gas. — Some rooms are heated by gas logs or

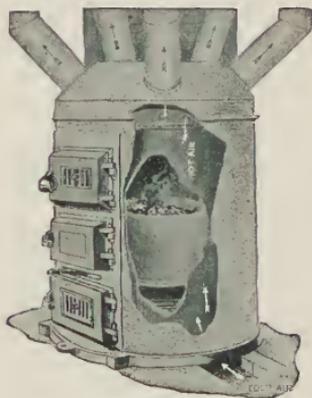
gas stoves. Great care should be taken to keep a window open in these rooms all the time. The burning gas uses the pure air in the room very fast. It also gives off into the air poisonous fumes which should not be breathed. Gas is very convenient for cooking, especially in warm weather. It should not be largely used for warming rooms, as there are better ways of heating.



A STOVE IS NOT THE BEST MEANS OF HEATING

How a Furnace heats a House. — I wonder how many of us have furnaces at home. If we have one, we can look in at the door, and see the great fire. This fire heats the air, which passes up through the long, shining pipes to the rooms above. Not only does the air go up, but sometimes the dust goes also. This is very unpleasant. The air passes into the furnace from the cold-air box. This box should open out of doors, so that pure air may go to the furnace. There it is heated so that it rises into the various rooms of the house. Such a furnace supplies both warm air and pure air to the rooms. This is a good way to heat a house. In large buildings, a boiler is used instead of a furnace. There are several ways of heating a building with hot air.

Hot Water or Steam will heat a House. — Many people think a hot-water system is the best way to heat a house. A hot-water system requires in the cellar of the house a small furnace or boiler connected with many pipes which hold water. The water is heated, and then goes through the pipes to the radiators in the different rooms. All the parts of a room are heated alike, so that there are few drafts. Then there is no dust from the boiler. Care should be taken, however, to ventilate the rooms, as no fresh air comes from the boiler. Only heat comes from the radiators.



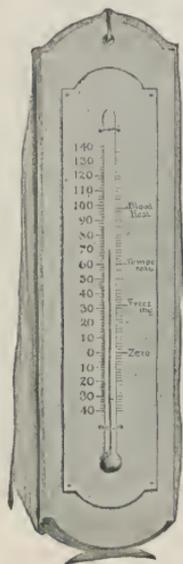
A FURNACE

How to tell the Temperature of a Room. — One person may think a room is cold when some one else is very comfortable. We need some way to tell just how warm a room is. A thermometer should hang in every room. Then we can easily read it and tell the temperature.

The Thermometer. — The place where the thermometer hangs should be carefully chosen. It should not be near the window, the register, or the radiator, or in a draft. It should be about halfway between the floor and the ceiling. It should be neither in the coldest nor in the warmest part of the room. If the thermometer is hung with care, it will tell us the true temperature of the room.

The Temperature of the Room. — Some people like a

room warmer than others. The best temperature for a room is from 68° to 70° F. What does the thermometer tell us now? Sometimes an older person or a sick person likes the room a little warmer than this. If one is very active, playing or working, it is often more comfortable to have the room at 65°.



THERMOMETER

Need of Sunlight. — In whatever way our houses are heated, we also need the sunlight. It helps to warm the rooms, and to make them more cheerful and healthful. The sunshine is good for us. We have seen plants which have been grown in the dark. They are pale and slender. We know how animals love to lie and sleep in the sunlight. A cat often takes her nap on the window sill in the sunshine. Some people, too, like to take sun baths. The sunlight does us as much good as it does the plants and animals.

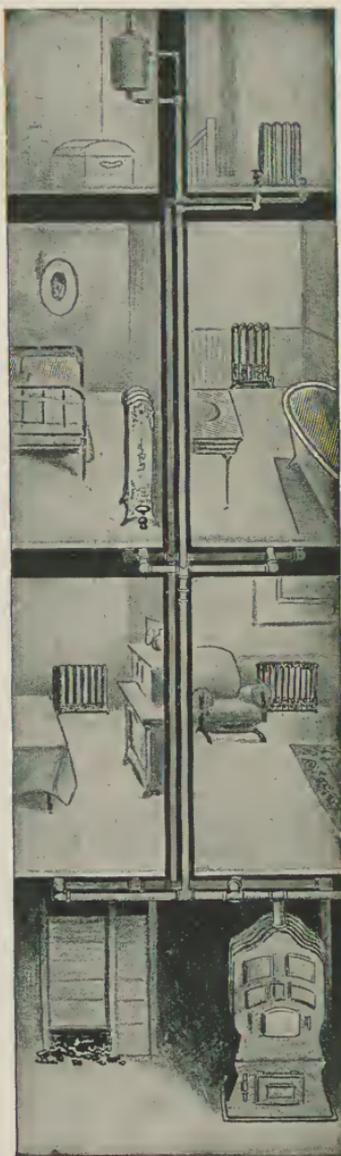
Sunlight in the Home. — We need to think how we are to let the sunlight into our houses. Some houses have trees about them that shut the light out. It is pleasant to have trees about the house. They should, however, stand far enough away from the building to let the sunlight in at the windows. Some people have the blinds closed and the curtains drawn so that the sunlight will not fade the carpets and the furniture. Now, the health of the family is much more important than the condition of the furniture. During a few days in

summer, it may be more comfortable with the house darkened and cool. Usually the sunlight should be most welcome.

Difference between a Sunny and a Sunless Room. — What a difference there is between a room bright and cheerful with the sunshine and one which the sunlight never enters! We can even feel the difference. One is cheerful, light, airy, and refreshing. The other is often cold and cheerless. How well plants grow in the sunny windows! The bright flowers add to our pleasure during the winter.

Sunlight especially Needed. — There are some rooms in which we can hardly do without the sunshine. How much pleasanter it is to eat breakfast and dinner with the sun shining in at the windows! We certainly need the sunlight in the dining room. In the sitting or living room, too, we can hardly do without it. Here all the family spend the spare hours, and here the children play.

Some people think that any



HOW STEAM AND HOT WATER
ARE USED FOR HEATING

kind of room is good enough to sleep in. Some persons even sleep in dark rooms, without any windows opening out of doors. This is not right. When we think that we are in a sleeping room seven or eight hours each day, we see the need of having the room well ventilated. The sun should reach a sleeping room at some time during the day.

Taking Cold. — We all know how unpleasant it is to have a cold. There are many causes for colds. Sometimes if we sit with a draft around our feet or on our backs, we take cold. Cold air striking the back of our necks or our heads may start a cold. If we are well and strong, we are not so likely to take cold as is a sickly person. Sitting in damp clothing after being out of doors in the rain or snow may hasten a cold. Chilling the body in any way such as cooling off very quickly when overheated is also unwise. We very commonly take a cold from a person who already has one. When anyone has a cold, all of the other members of the family are likely to have one unless they try to prevent it.

How to prevent a Cold. — The surest way to avoid a cold is to keep away from any person who already has one. When sneezing and coughing, one should always cover the face with a handkerchief so that the cold will not be carried from one person to another. Living in cool, well ventilated rooms also helps to prevent colds. Keeping the body from being overheated or chilled also helps to keep well. Cold bathing of the face, neck and chest strengthens us to resist colds.

Summary. — 1. The proper ventilation of a room is very important.

2. A room may sometimes be ventilated by opening a window a few inches at the top.

3. Another simple way to ventilate a room is by using a board under the lower sash of a window.

4. Buildings are heated by fireplaces, stoves, furnaces, steam or hot water-systems.

5. The temperature of a room should be about 68° F.

6. Sunshine in a room makes it bright, cheerful, and more healthful.

Questions. — 1. How often should a room be aired?

2. Why should one pane of a storm-window be made to open?

3. What are the bad effects of heating a room by gas?

4. Why should a house that is heated by hot water or steam be carefully ventilated?

5. Where should a thermometer hang in order to tell the true temperature of a room?

6. What may cause a cold?

7. How may a cold be prevented?

8. Does inhaling medicine ever relieve a cold?

9. Why do people seldom take cold while "camping out"?

10. Should the head be covered with bedclothes?

11. Can you tell about the "Black Hole of Calcutta"?

IX. CLEANLINESS.

How to keep Clean.

Why we need to be Clean.— We are all trying to be well and strong. We have found that having plenty of exercise and breathing fresh air will help us. Keeping ourselves clean will also help us. A good bath makes us feel comfortable. If we have been playing or working and have become somewhat dusty and covered with perspiration, we feel like another person after a bath. When we are warm, the perspiration comes out all over our bodies. The perspiration contains some of the waste materials that our bodies throw off. Bathing removes this material.

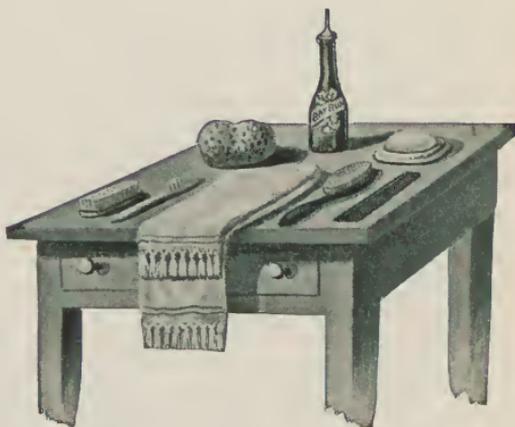
Perspiration.— We perspire all of the time, although more freely when we are warm. If you feel of the palms of your hands, at almost any time, you will find that they are moist. We perspire more than we really think we do, for the perspiration is continually leaving our skins and going off into the air. When a dish of water is left uncovered, the water gradually goes off into the air, or evaporates. In the same way the perspiration is evaporating from our bodies. A man usually perspires from one to two pints during a day, and in summer even more.

Since all of this waste material is coming out on the skin, of course we need to bathe to keep the skin clean so that it can do its work. We all know that a bath makes us feel clean and fresh.

Effect of Bathing.— There is another reason why we wish to bathe. After a good bath we feel not only cleaner, but stronger. A cold bath, especially, tones us up and makes us feel ready for anything. A bath often rests us and leaves us feeling fresher. Often it rests us to bathe just our hands and faces.

Cleanliness and Health.— People who are unclean often live in unclean and disorderly homes. We have

all seen houses where dust and waste material were left around. If dirt only were left about, it would not be so dangerous; but the waste material is likely to decay and sometimes makes the people in the house ill. It often happens, when there is some disease like yellow fever, typhoid fever, or smallpox about the neighborhood, that these untidy people are among the first to be taken ill. Dirt and disease often go together. In the same way, cleanliness and health tend to go together.



TOILET ARTICLES

Cleanliness and Business. — There is still another reason, and a very important one, for keeping clean. If a boy wishes to find a position in some business, do you not think he is more likely to succeed if he keeps himself clean and his clothes tidy? If you think about it, you will find that often the most successful men are those who keep themselves and their stores clean and tidy. People respect them and like to trade with them, so they win success in business. We also have more respect for ourselves when we are clean and neat. It would be a mistake, however, to think that we must never soil our hands when at play or at work. Often we need to do so, but after we are through with our task or our game we should bathe and brush our clothes. We wish always to be as clean as possible.

How to keep ourselves Clean. — In order to be clean, we need to bathe our bodies often. There are many ways to do this, and many kinds of baths. There are cold-water baths and warm-water baths. We all know that warm water will cleanse our hands better than cold water does. We also know that when we put our hands into cold water, it makes them tingle more than warm water does. Now, warm baths are usually more cleansing than cold ones, while cold baths are more invigorating than warm ones. After taking a warm bath, we feel very clean, rested, and refreshed. After taking a cold bath, the body should be rubbed briskly with a towel so that one will feel warm and all aglow; we also feel strengthened. Some persons feel cold after a cold bath;

this shows that they are not strong enough to take the bath so cold. They should take a warmer bath.

Tub Baths.— We all need a good warm tub bath once or twice a week. In summer we need it more often than we do in winter. If we are very active and perspiring



A MODERN BATH ROOM

freely, we need it more often than we do if we are quiet. Plenty of warm water and good soap will help to cleanse the body. In winter, care should be taken not to go out in the cold just after a bath, as one is likely to take cold then. A good time for a warm bath is just before going to bed. It makes us feel clean and rested.

Why we use Soap.— We often need soap in bathing. If we make a good lather over all the skin, the soap

mixes with the dust and, when washed off with clean water, thoroughly cleanses the skin. We need to be careful to use good soap, or the skin will become rough and dry. Some soaps that contain naphtha or a little kerosene are good for washing clothes and are good laundry soaps. These are not good for the skin. Castile soap, Pear's soap, Ivory soap, and others are good for bathing, or are good toilet soaps. Some of the cheap but highly scented soaps are not pure and should not be used.

Our own Towels. — We should not use a towel that other persons have used. Each person needs a separate



A TOWEL FOR EACH CHILD AT SCHOOL

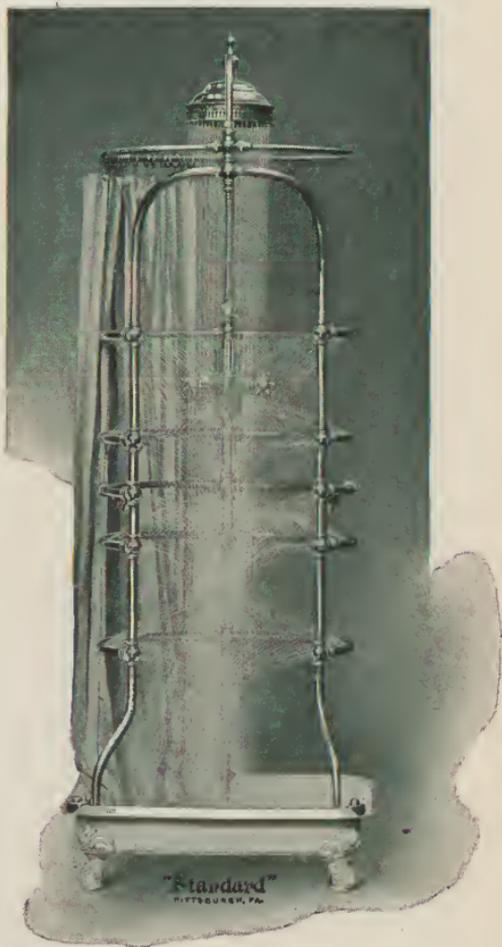
towel. Sometimes diseases of the skin and eyes are carried from one person to another on the towel. Each member of the family should have his own towel and, when possible, his own piece of soap.

Sponge Baths. — It is not enough to take a bath once or twice a week. We need to be clean every day. Many people take a bath the first thing every morning with a sponge or a cloth. A cold sponge bath is very invigorating and makes one feel better all day. A warm sponge bath is good if one is not strong enough to use the cold water. We should take a sponge bath every morning, summer or winter.

The cold bath in winter should be taken in a warm room. Then we are not likely to take cold when we go out of doors. A cold sponge bath each morning will help to prevent us from taking colds.

Shower Baths.— Shower baths are something like sponge baths. Usually a metal ring is fixed five or six feet over the bath tub, and connected with the water pipes. All around the ring there are small holes. When one takes a shower bath, one stands under the ring and turns on the water. Then the water comes out of the holes in the ring, and runs down the body as if one were out in a shower. Sometimes people begin with warm water and gradually change to cold water. The best time for a shower bath is early in the morning, or after playing or working. The shower bath, like the sponge bath, is invigorating as well as cleansing.

Surf Bathing.— All the boys and girls who live



A SHOWER BATH

near the seashore, a pond, or a river know what fun it is to go in swimming. On hot summer days, we like to go down to the water and just splash in. When the water is cold, it often takes some time before we can get up courage to take the first plunge. But we feel so much better after the bath that we are paid for our trouble.

Now there are several things to remember about bathing out of doors. When you are dressed for the water, it is well to go directly into the water all over. Sometimes children play along the edge of the water with their clothes partly wet. The part of the body that is out of the water feels cold and the child is likely to take cold. It is better to go right in, and stay with most of the body under the water. People often wet their foreheads before going into the water, to prevent the blood from rushing to their heads and giving them the headache. If we jump around and are active in the water, we can usually keep warm. After the bath a good rubbing with a bath towel helps us to keep warm and to feel all aglow. It is well to rest after a bath.

Swimming. — Some boys like to swim so well that they stay in the water too long. They should come out before their teeth begin to chatter or their lips begin to turn blue. Half an hour is long enough to stay in the water at one time. Once a day is often enough for most boys and girls to go bathing or swimming. It would be well if every boy and girl learned to swim. It is fine sport, and it is a great advantage sometimes, in case of accident,

to know how to swim. Swimming tanks or pools are often used instead of ponds or rivers.

When to go Bathing. — The best time to go bathing is before a meal, from ten to twelve o'clock in the forenoon or from four to five o'clock in the afternoon. One needs to be very strong to go in bathing before breakfast. It is very harmful to go swimming just after a meal. At that time the food is being digested, and a sudden plunge into cold water hinders the digestion. Bathing out of doors every day during a summer may make us much stronger if we are careful; otherwise it may do us much harm. Some people feel better when they do not go bathing out of doors. It does not seem to agree with them.

Other Baths. — If people do not take care of themselves, or if they work too hard, they sometimes become weak or have rheumatism, consumption, or some other disease. Then the doctors may advise besides other treatments some particular kind of bath. There are many different kinds of baths, as sulphur baths, mustard baths, sand baths, mud baths, sun baths, Turkish baths, etc. Each of these is recommended to cure or relieve some particular disease. Sulphur baths are usually taken at springs where the water contains sulphur. Mustard baths are made ready by putting some mustard in warm water. People often take mustard foot baths to cure a cold.

Bathing our Faces and Hands. — What is more attractive than a clean, happy child? If we wish people to love

us, we must not only behave gently but keep clean. It is not enough to take a bath once a week or even once a day. We need to keep our faces and hands just as clean as we can. After we have been eating or handling dusty objects, we need to bathe our faces and hands.

Finger Marks. — If a child goes about with sticky or soiled fingers, he leaves marks wherever he puts his fingers. We often see finger marks on window panes, doors, desks, or books. These marks make a great amount of trouble for the person who has to clean them off, and sometimes they ruin a dress or a book. Oftentimes children wet their fingers in turning the leaves of a book. Wet fingers are likely to leave a mark. The book then shows that some child has been untidy. There is also danger of carrying dirt to the mouth in moistening the fingers. Sometimes diseases are spread in this way.

Just look at your fingers now, and see if they are clean. Before starting for school we might see if our hands and faces are clean, and our hair neatly arranged.

Our Finger Nails. — When bathing our hands, we need also to care for our nails. They should be kept clean. Some children have a very bad habit of biting their nails. This is a very unclean habit, and makes the fingers look shabby. It really spoils the looks of the fingers, and a child will some day be very sorry that he ruined his nails by biting them.

Chapped Hands. — We have all had chapped hands, and know how sore they can be, and how bad they look.

Sometimes in winter boys have very rough, chapped hands. If we take good care of our hands, they will not become chapped. We should be careful to wipe them dry after bathing them. If we go out into the cold when our hands are damp, it is very likely that they will become chapped. To cure chapped hands, we must first wash



A PUBLIC BATH FOR SCHOOLBOYS

them clean with warm water and soap, and then dry them thoroughly with a towel near a fire or a register. Then we need to make the skin soft by rubbing glycerin into it. If this is done just before going to bed, a pair of old gloves worn on the hands will keep the glycerin from soiling the bed clothing. The glycerin makes the skin soft and easy to heal, and soon the skin becomes well. We should try to keep our hands in good order by washing them clean, and by drying them thoroughly.

Coughing.—When coughing, we should remember to turn our faces away from other persons. We should never cough in any one's face. Also, when we yawn, we should place a hand over the mouth to cover it. These matters are important if we wish to be polite.

Caring for the Hair. — We need also to learn how to take care of our hair. It needs to be bathed, although not quite as often as the rest of our bodies. Every two or three weeks the hair needs a good shampoo or bath. Then it should be dried quickly, so that one may not take cold. When the hair is clean and in good condition, it should be soft and slightly glossy. If the hair is brushed often, it will naturally be somewhat glossy. Some people use a little oil on the hair to make it more glossy, but this practice is not in good taste. The hair will look well if it is well cared for; that is, if it is clean and neatly combed.

A Clean Mouth. — Some children find their mouths very convenient pockets. Now, our mouths were made for eating, drinking, and talking. Small objects like pencils and coins sometimes find their way to the mouth. When we stop to think where the coin has been, we take it out of the mouth very quickly. Who knows where a five-cent piece has been? It may have been traveling around for years from pocket to pocket and from hand to hand. It has been in some clean pockets and in some very soiled pockets, rubbing up against keys and handkerchiefs.

Pencils in the Mouth. — The pencil, too, can tell its story. It may have been in the mouth of some other child. Children sometimes exchange candy, half-eaten food, whistles, and bean-blowers. Of course, if one of these children has any trouble with his mouth or throat, he is likely to give the disease to the other child. We should try to remember not to take objects from the mouths of other children and not to offer other children anything that we have had in our mouths. Some children have the bad habit of chewing gum. The gum is likely to cling to the teeth and to make it hard to keep them clean. People who are particular about their looks seldom chew gum.

Chewing Tobacco. — Chewing tobacco is still worse. This stains the teeth dark and makes them unsightly. The tobacco is harmful not only to the teeth, but also to the digestion. It interferes with the work of the stomach in digesting the food. Tobacco chewing is also a very disagreeable habit.

It is hardly necessary to say that we should keep our fingers out of our mouths. If we want a clean mouth, we must try to keep everything out of it except our food. We also need to bathe the mouth, but we can do that when we cleanse the teeth.

We should care for our Teeth. — There is one other thing to remember. After each meal, when getting ready to start for school, be sure to clean the teeth. We all like to see a child with sound, white teeth. They

add more to her good looks than a pretty dress or a stylish hat. But we can never have good teeth unless we take good care of them. There is still another reason why we should take care of the teeth. If we do not keep our teeth clean, they will decay, pain us, and have to be taken out. We need all of our teeth to chew our food. If the food is not properly broken up, the stomach may not be able to digest it. Then the stomach aches and we have indigestion or dyspepsia. This is a very painful trouble, and none of us would like to have it. We need to take good care of our teeth so that they may do their work and make us look well.

How to take care of our Teeth. — Some of us naturally have better teeth than others, but we all wish our teeth to be as good as possible. We need to remember them five times a day. This seems very often; but if we attend to them when we care for our faces and hands, we will soon form the habit. Then we can easily remember them. The first time to brush the teeth is early in the morning, when we take the morning bath. If we wish to have a clean mouth, the teeth must have a good brushing. After each meal all pieces of food should be removed from between the teeth and the mouth and teeth thoroughly rinsed with warm water. Just before going to bed at night is the most important time of all for cleansing the teeth. They should be thoroughly brushed, and a simple powder may be used. We should take care that the powder is not gritty or it will scratch the teeth. If any pieces of food remain in the mouth

at night, they will stay there for a long time, for ten or twelve hours, and they may begin to decay. This is bad for the teeth, for it causes them also to decay. When we bathe our faces and hands after each meal and before going to bed, we need to clean the teeth.

Clean Clothing. — In order to be thoroughly clean we must not only have clean bodies, but we must wear clean clothes.

How to keep our Clothes Clean. — There are different ways of keeping our clothes clean. We need to change them often. Some

clothing, like stockings, handkerchiefs, underclothing, and cotton dresses, can be washed and ironed. This, usually, makes them perfectly clean and fresh. Some clothes, like woolen dresses and suits, cannot very well be washed without

spoiling them. They can, however, be shaken, hung on the line, and thoroughly aired. There are other clothes, like coats, hats, and boots, that must be brushed to take off the dust and dirt. So we clean clothes by washing, airing, shaking, and brushing them.



CHILDREN SHOULD HELP TO KEEP THINGS CLEAN
AND IN ORDER

Care of Clothes. — We can find some people who always look neat and clean and others who never look tidy. Some people are careful and do not become untidy, while others always soil their hands and clothes whatever they do. When we work, let us try to do it neatly and so make little dust. When some people wash dishes or dust a room, they seem to spread about as much dirt as they clean up.

A Clean Home. — We all know how pleasant it is to live in a house that is kept clean. We do not like to see the tables and chairs covered with dust. We have also learned that it is more healthful to have the house clean and free from all decaying matter.

Keeping Things in Order. — It is desirable to keep the house orderly as well as clean. Chairs and floor are not the places for clothes and papers. We need to have a place for everything. Then if we put our things in their places after using them, we shall know where to look for them when we want them again. This will save us much time and worry.

How to keep a House Clean. — A great amount of care is required to keep a house clean. It needs to be washed, swept, and dusted. Some of the rooms need to be cleaned every week.

Washing. — The best way to clean many parts of a house is to wash them either with warm water or with warm soapsuds. Floors, windows, and sinks need to be thoroughly washed.

Sweeping. — Then the carpets have to be swept. The rugs need to be taken out of doors and thoroughly beaten and swept. Before sweeping a room, we need to dust all the furniture and ornaments and to cover them or to take them into another room. Then the shades should be dusted and rolled up. If there are any lace curtains, they should be taken down and shaken. When the room is ready for sweeping, it should be swept till all the dust and dirt is taken up. If a large rug is used in the middle of the floor, it can be taken out of doors and thoroughly beaten. The strip of bare floor around the rug needs to be dusted often with a damp cloth. Carpet sweepers are useful when a thorough sweeping is not necessary.

Dusting and Dusters. — After sweeping, much of the dust that has settled on window sills, tables, or mantles can be taken up with a damp, cotton dusting cloth. More delicate objects can be dusted with a dry dusting cloth. There are many different kinds of dusters in use. A piece of white cheese cloth makes a good duster. It is soft, and so does not scratch delicate objects. When it becomes soiled, it can easily be washed and used again. It takes up the dust, which can then be shaken out of doors. Some people use feather dus-



DUSTING

ters, but these only stir up the dust, which will settle again on everything in the room. It is well to have the windows open while sweeping and dusting so that much of the dust may go out of doors. Often people have too many ornaments about their rooms. These catch the dust and it takes a great amount of time to dust them. It is better to use fewer ornaments at one time. Then when we are tired of them, we can put them away and take out others. In this way our rooms might be made more attractive, and it would take less time to keep them in order.

Care of Closets.—There are parts of a house that people sometimes forget to clean. It is necessary that pantries, closets, and ice chests should be washed out and kept clean. Some people do not think of these places because they are out of sight. A closet needs to be swept whenever the room is swept. Pantries where the food is kept should always be clean. Otherwise we can not have clean food.

Clean Cellars.—We wish to keep the whole house clean. Not only the rooms where we live, but also the other parts of the house must be cared for. No decaying vegetables should be kept in cellars. Of course, we do not expect to keep the cellar entirely free from dust, but it should be free from bad odors. All pipes should be frequently examined and any leak should be promptly repaired.

Clean Yards.—Some houses have yards or lawns which need to be kept in good order; that is, free from

papers and dried leaves. Many people have sidewalks to care for. They need to be kept free from snow in the winter and dust and mud in the summer. When one is fortunate enough to have a piazza, that, too, needs to be swept every morning and occasionally washed. The door mat keeps a large amount of dirt out of the house. It should be swept or shaken regularly.

Spring Cleaning. — While we intend to keep our houses in fairly good order all the time, yet every good housekeeper thinks it necessary to have an extra cleaning of the whole house every spring. As soon as spring arrives, we see carpets and curtains on the clothesline. This is the time to wash the doors and the woodwork of the house. Clean paper on the walls and a new coat of paint or varnish over the woodwork freshens a house very much. The curtains may be washed and ironed. The heavier couch covers and draperies may be thoroughly shaken and aired in the fresh sunshine.



HELPING TO KEEP CLEAN

A Clean Schoolroom. — Since we spend nearly as much time at school as we do at home, it is important to have the schoolroom clean. At first we may think it is the janitor's duty to keep the room clean, but we also have our

share of the work. The janitor, it is true, has the floor to sweep and the floor and windows to wash. He also does most of the dusting. But we need to keep the floor tidy and to help in the dusting. At the end of each session it takes only a few minutes for each pupil to pick up the papers that may have fallen about his desk and to throw them into the wastebasket.

Dusting.— Then the pupils can help in dusting the room and desks carefully every morning. Surely each girl will be glad to learn how to dust a room well, if she can have a neat white apron and cap to protect her clothes from the dust. In some classes there are groups of children who keep the schoolroom dusted.

The inside of the desk should be kept orderly and free from loose bits of paper and pencil sharpenings.

The blackboards are constantly calling for care, for they need to be cleaned and to be washed often.

Keeping the School Yard Clean.— When we visit a school and find paper and bits of orange peel and apple cores scattered about the steps and yard, we think the children of that school are not very tidy. Can any one find these things about your school yard?

There should be a box or a barrel in the yard, and all the remains of lunches should go into it. If there is no box or barrel there, the remains of lunches should be carried into school and put into the wastebaskets.

A Clean City.— We also have our part to do in keeping the streets of the city or of the town clean. The

streets are usually cleaned by sweeping and the dust is laid by watering. It is very convenient at times to throw paper bags and old envelopes into the streets. This habit makes a very untidy city. We need to help the street cleaning department to do its work.



JUNIOR CITIZENS AT WORK

How the Children Help. — In Chicago some of the children are trying to keep the city clean. They belong to the Junior Improvement League or Clean City Club. The club consists of over seven hundred children and three hundred adults. They have agreed to three things: to throw no paper on the street, to pick up not less than one piece of paper each day, and to protect all growing things. Branches of the club have been formed in several schools of Chicago and other cities.

From Cleveland, Ohio, comes the following report, addressed to the president of the juvenile department of the Health Protective Association:—

“On Thursday, May 18, at 4 P.M., I was refrained from throwing an apple core down in the market; also prevented fourteen boys from throwing lunch papers and paper bags near the school yard Wednesday noon; also Monday, May 15, picked up twenty pieces of paper and a banana skin.

CHARLIE SMITH.”

“The Chautauquan,” August, 1903.

Summary. — 1. Cleanliness, as well as plenty of exercise and fresh air, will help us to grow well and strong.

2. A bath rests the body as well as cleanses it.

3. Half an hour is long enough to stay in the water while bathing or swimming.

4. Do not put pencils or money in the mouth.

5. Do not put into the mouth anything that another person has had in his mouth.

6. The teeth should be cleaned five times a day, sometimes by brushing, sometimes rinsing them with warm water.

7. It is pleasanter as well as more healthful to live in a clean, orderly house or schoolroom.

Questions. — 1. Why should we be clean?

2. How often should a tub bath be taken? A sponge bath?

3. When is the best time to go bathing or swimming?

4. How should we take care of our hands?

5. Should you wet your fingers before turning the leaf of a book?

6. How is tobacco harmful?

7. In what way may a house be kept clean?

8. What is the best kind of duster?

9. Why should closets, cellars, yards, and streets be clean?

X. FOOD.

What we should Eat.

A Visit to a Great Market.—The best place to see many different kinds of foods is at one of the great city markets. Let us visit together one of these large markets. As we come in sight of it, we see the streets on either side full of wagons loaded with fresh vegetables and fruits. We can hardly make our way along, for the sidewalks are piled with barrels and boxes of apples, potatoes, onions, carrots, turnips, and other vegetables. Even on the very steps we may see a woman with a basket of fresh, crisp water cress or of catnip. As we enter the market we look down the long, broad aisle that stretches through the whole length. On either side of this aisle are rooms or stalls where the different kinds of food are sold. Each stall is like a separate grocery, provision, fish, or egg store. A large market is like a collection of fifty or more separate grocery or provision stores under one large roof.

Different Kinds of Food.—At one stall we find not only boxes upon boxes of eggs, but also many round cheeses under glass. Here are tubs of butter opened and ready for us to taste and to buy. In another stall we see beef-steak and roast beef cut and ready for cooking. Chick-

ens, lamb, turkeys, ham, veal, and sausages are hung up to tempt us. But what do we see in that large tank of running water? Surely it must be something alive, — goldfish, silverfish, and crayfish that look like tiny lobsters. These call our attention to the cod, the salmon, the trout, the haddock, and many other fish that are so good to eat. By the time we reach the door of the market we are amazed to see so many kinds of food.



SCENE IN A MARKET

Animal and Vegetable Foods. — When we study about the various foods, we find that many of them come from animals, some come from plants, and others are minerals. The most common animals that give us food are the cow, the ox, the pig, the sheep, the calf, the birds, and the fishes. Potatoes, beans, lettuce, and onions are called vegetable foods. There are some foods, like salt, that come neither from plants nor animals, and are called mineral foods.

Animal Foods. — Let us name some of the animal foods. The cattle give us beefsteak and roast beef, besides meat for many good soups and stews. We also have smoked and canned beef. From the calf we obtain veal and tongue. The pig furnishes ham, bacon, pork, sausages, pigs' feet, and lard. Mutton and lamb come from the sheep. There are many birds that we eat, such as chicken, pigeon, squab or young pigeon, turkey, goose, and wild duck. Fish is a very important article of food; some of the fish commonly eaten are the cod, the haddock, the salmon, the shad, and the perch. From the animals we also obtain milk, butter, cheese, and eggs.



SOME ANIMAL FOODS

Vegetable Foods. — Of the plants that give us food, we eat sometimes the leaves, sometimes the fruit, and sometimes the roots or stems.

Some of the vegetables that are roots or stems of plants are potatoes, beets, turnips, parsnips, onions, and carrots. Some of the vegetables that are fruits of plants are tomatoes, corn, beans, and peas. Grapefruit, grapes, apples, pears, bananas, oranges, and cereals are also fruits.

Cereals are the fruit of oats, wheat, corn, rice and bar-

ley. After preparation at a factory these grains are sold in packages in the market under different names. Rolled Oats, Cream of Wheat, and Malted Barley are some preparations sold for breakfast food.

Some of the leaves that we eat are lettuce, cabbage, and parsley. Can you name some other vegetable foods?

Protective Foods.— There are certain substances contained in some foods that are necessary for the growth of our bodies. Perhaps you have heard these substances called “vitamines.” They are found chiefly in milk, eggs and the leafy vegetables, as lettuce and spinach. This is the reason that beet-tops, chard, cabbage, cauliflower, parsley and other “greens” are good for us. In winter as well as summer, we should eat often some form of leafy vegetable. We should have milk every day. Since these foods protect our bodies from certain diseases and poor development they are known as “protective foods.”

Healthful Food.— Since we find such a variety of food in the market, we shall need to select, when we have to provide for a family, the food that we are to eat. Now some food helps us to grow and to become stronger, while it never makes us ill. This is healthful or wholesome food. Some healthful foods are bread, meat, milk, eggs, cereals, vegetables, fruit, and simple desserts. Of course the cooking of food is very important, and healthful food is often made unhealthful when it is not cooked in the proper way.

Unhealthful Foods.— Some food does not help us to

grow and may make us ill. This is unhealthful or unwholesome food. Such foods are pickles, much candy, heavy puddings, pies, and rich cake. Some kinds of healthful food, like eggs, may, when cooked by frying, be unwholesome for some people. We should take care that fruit is ripe and in good condition when we eat it. Unripe fruit and decayed fruit are both harmful. Wilted vegetables and stale meat are not good for us. Seasoning, such as pepper, mustard, and spices, when it is used in small quantities, gives a good flavor to food. Seasoning in large quantities is not healthful.



UNHEALTHFUL FOODS

Combination of Foods. — If we think about what we eat, we shall find that certain foods seem to go well together. When we eat bread we want butter on it. When we eat meat we like potato, bread, or rice. Fish and potato also are eaten together. Bread and milk, crackers and milk, crackers and cheese, and pork and beans are served together. People have found by experience that when we eat meat we also need what is in the potato in order to grow in the right way. Babies can grow on milk alone, but older children need solid food also.

What to eat for Breakfast. — There are certain foods that people have found are good for breakfast. It is well to begin with some fruit,—an orange, a baked apple, or a

banana. Then a cereal is good, such as oatmeal or some form of wheat, with cream or milk. After this, eggs cooked in some form, with muffins, or meat and potato, may be added. Most people like something hot to drink in the morning. Coffee is injurious to many persons. Wheat coffee, milk, or water is better for children.

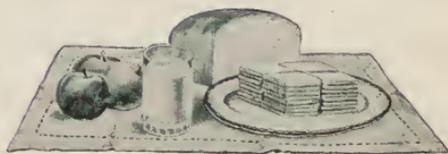
What to eat for Dinner. — The dinner is usually the most substantial meal of the day. Some families like to have it in the middle of the day, while others like it in the evening. The time for dinner depends much upon the habits and work of the family. It is well to begin with soup, for this warms the stomach and prepares it for the rest of the meal. Dinners may consist of many courses, but in a simple dinner the meat and potato follow the soup. Two or three vegetables, like corn and tomatoes, are often served with the meat. Then a simple dessert or fruit follows. A glass of cold water always accompanies a dinner. Sometimes a glass of milk or other drink is added. Iced water is not healthful, as it chills the body. Water which has been bottled and kept in the ice chest is cold enough for drinking.

The Supper or Luncheon. — The third meal, which may be a supper at night or a luncheon at noon, is usually more simple than the dinner. It is better to have this meal hot. A soup, a stew, eggs, or a salad, with muffins, butter, and cocoa or chocolate, make a good meal.

How Much Food we should Eat. — We all need to eat enough to keep us well and to make us strong. Some

persons eat too much, while others do not eat enough. A small child eats little and its food is mostly milk. Boys and girls are sometimes very hungry and should have plenty to eat, in order to grow large and tall. Men and women need to eat enough to keep well, while older people do not seem to need so much food as younger people.

If one is very active, playing or working out of doors, he needs more food than if he is quiet in the house or in bed.



HEALTHFUL FOODS

The seasons affect our appetites somewhat. In summer we usually care for less food than we need in winter. We like cold foods, such as cold meats and salads, in summer. In winter, we like our foods hot and very substantial.

When we should Eat.—Most of us like three good meals a day. The English and Germans usually eat oftener, four or five times a day, but some of their meals are merely luncheons. Americans have become accustomed to three meals a day. Some people have tried to live on two meals, but most people prefer a third.

Sometimes, when we are not very well and cannot eat much at a meal, we like a light lunch in the middle of the forenoon and in the afternoon.

No Lunches between Meals.—Children, when they are well, should not eat between meals. It is better for them to eat enough at the three regular meals. Do you know

why this is true? I will tell you. After we have eaten a meal our stomachs have to work hard to take care of the food. Sometimes it takes them three or four hours to do this. Then they need to rest before the next meal. If we eat too often, we make our stomachs work most of the time. They soon become tired or worn out and we have pain in them. So we must work them properly or we shall be ill and have to rest them for a long time. It is better to eat our meals regularly three times a day.

Going without Breakfast.— Sometimes it is hard to rise in the morning in time to have breakfast, to prepare for school, and to arrive on time. Then we say that we cannot stop for breakfast, and we hurry to school. This we should never do, because it is a long time before noon and our bodies need the food. Then some children “forget” to go home to dinner at noon. This habit does not help them to grow. If we are accustomed to have three meals a day, it is not well for us to go without one very often. We are likely to feel faint after a time, and perhaps are cross.

Pure Food.— Some merchants, who would like to grow rich very quickly, sell food that is not what people think it to be. Instead of selling pure coffee, sometimes they mix with the coffee another substance that is cheaper, and sell it all for coffee. When some strange substance is mixed with food, we call it impure. Sometimes such mixed food is harmful, but not always. The foods that

are most often made impure are spices, canned goods, and chopped meats. We cannot always tell what is in canned goods. It is better to buy fresh food and to cook it in the kitchen. It is better to buy fresh squash than to use canned squash. We cannot buy all kinds of fresh vegetables in the winter, but we can have squash, onions, celery, carrots, turnips, cabbage, beets, etc. Surely these are enough so that we need not live on canned vegetables.

Preserves.—We all know how good preserves are. But did you ever stop to think what keeps them from turning sour? It is because they are so very, very sweet. What kinds of preserves have you eaten? Have you had any pears, peaches, cherries, or plums? Most of us like raspberry, strawberry, and blackberry jam. These are good for us only when eaten in small quantities with other food.



MINERAL FOODS

Salt Foods.—Some food is preserved in salt instead of in sugar. Many of us like fish hash, or “fish balls” which are made of salt fish and potatoes. There are other foods that are salted to keep them in good condition. Salt herring, corned beef, ham, olives, and pork are kept in this way. Salted foods are sometimes good for a change, but it is not well to live entirely on them. Sailors at sea are obliged to

live a long time on salted food and are sometimes sick on account of it.

Sour Foods. — Some foods are so very sour that they keep in good condition. Pickles and limes, which are kept in this way, should be eaten only in small quantities.

Canned Vegetables. — There are some canned foods which are not very sour, very sweet, or very salt. Corn, tomatoes, beans, and peas are preserved in another way. They are prepared, then cooked, and put in tin cans. The cans are closed and sealed while the contents are very hot. If the canning is well done, these foods will keep a long time.

Plain Living. — We have been studying about different kinds of foods, so that we may know what is good for us and what is harmful. We should be contented with good bread, butter, milk, meat, eggs, potatoes, vegetables, and fruit. Children who live all the time on rich food are often sick and certainly are not as strong as those who have plain, wholesome food.

RECIPE FOR AN APPETITE.

My lad, who sits at breakfast
With forehead in a frown,
Because the chop is under-done,
And the fritter over-brown, —

Just leave your dainty mincing,
And take, to mend your fare,
A slice of golden sunshine,
And a cup of the morning air.

And when you have eat and drunken,
 If you want a little fun,
 Throw by your jacket of broadcloth,
 And take an up-hill run.

And what with one and the other
 You will be so strong and gay,
 That work will be only a pleasure
 Through all the rest of the day.

And when it is time for supper,
 Your bread and milk will be
 As sweet as a comb of honey.
 Will you try my recipe?

— ALICE CARY.

Summary. — 1. Foods may be divided into animal, vegetable, and mineral foods.

2. We should eat regularly and moderately three times a day.
3. Children should not eat luncheons between meals.
4. We should eat pure, wholesome food.
5. Most foods are preserved by being made very sweet, very salt, or very sour.
6. Fresh cooked food is better than canned food.
7. Plain, wholesome food will make us grow stronger than will rich food.

- Questions.** — 1. What are the animal foods ?
2. Name some vegetable foods.
 3. What is the difference between healthful and unhealthful foods ?
 4. What is good to eat for breakfast ? for dinner ? for supper ?
 5. What is pure food ?
 6. What impure foods are often sold ?
 7. Is bread the "staff of life" ? why ?

XI. DRINKING.

What is Good for us to Drink.

A Choice in Drinking. — We find on the table many kinds of beverages from which to choose when we are thirsty. Water and milk are usually found on all dinner tables. Cocoa, tea, and coffee are generally served at certain meals. Beer and wines, unfortunately, are used in some families. Some beverages that are commonly used by grown people should not be given to children. Water and milk are the best for young people.

Pure Drinking Water. — We cannot be too careful to have our drinking water pure. Pure water is as important as pure food. People are often made ill by drinking impure water. When a great many people are ill from this cause, we call the illness an “epidemic.”

How Pure Water Looks. — Pure water is nearly colorless. It is clear, bright, and sometimes sparkling. Pure water has neither taste nor odor. But we cannot always tell pure water by its looks.

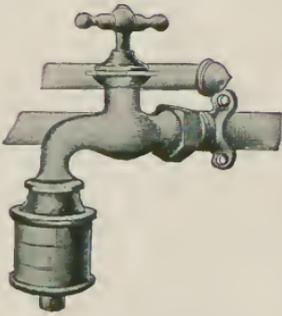
Impure Water. — Water that is muddy or yellow is impure. Sometimes there is an odor which shows that there is something harmful in the water. Water may look clear and pure and yet make people very ill. Such

illness is due to very, very small particles or germs that are in the water, though we cannot see them. Water containing these germs is most dangerous to drink.



AT THE WELL

The Source of Drinking Water.—The water that people drink comes from many different places. In the country each house has its well. If the well is built carefully and kept clean, the water should be pure. In cities, the water-supply carries water to all the houses. The water may come from lakes, rivers, ponds, or wells. It is usually stored in very large basins, or reservoirs, and then distributed through pipes all over the city.



FAUCET WITH FILTER

How to purify Water.— Sometimes the water is not as clear as we should like to have it. We may put a filter on the faucet. As the water passes through the filter, the particles are taken out. Care must be taken to keep the filter clean, or it may do harm instead of good.

Water in our Bodies.— We could not live without water. It forms a large portion of our bodies. Much of

the food that we eat is mixed with water. The blood is largely made up of water, which carries the food through the body.

Drinking Water. — Since water is so important to our health, we should take care to drink enough of it. How much water do you think you drink during one day? Each person needs two quarts, or eight glasses, daily. That seems to be a large amount, and many people do not take enough. In very warm weather, however, we need even more.



A GOOD FILTER

The Best Time to drink Water. — Some children like to take three or four glasses of water with each meal. This is not the best way. One glass at each meal is usually enough to take with the food. One glass should be taken on rising in the morning and another on retiring at night. One glass can be taken in the middle of the forenoon, another in the afternoon, and the rest whenever we are thirsty. In this way we shall take eight glasses during the day.

Ice Water. — If we are to drink so much water, we should think of the best kind to drink. Certainly we

do not like it hot or warm. Ice water is too cold and chills the body. It hinders the work of the stomach in digesting food. Water that has been cooled by standing in the refrigerator or some other cold place is cold enough. It tastes good and does not harm the body.



A RESERVOIR OF PURE WATER

The Individual Cup. — Sometimes, several children will take turns in drinking from the same cup or glass without rinsing it. This is always dangerous. If one child has any disease of the throat or mouth, he may give it to the others. Each child in school should have his own drinking cup in his desk. A public drinking cup should always be thoroughly rinsed before using. Many people when traveling never use the public cup. One can carry a small tin, aluminum, or rubber cup. Some prefer a cup that is made to fold and be carried in a case.

Milk in General Use. — Next to water, milk is probably

used more commonly than any other beverage. For babies and small children, it serves as their chief and sometimes their only food. Even for older children, milk is a very important part of a meal. Grown people also use it on cereals and puddings, and in tea, coffee, and



TRAVELING DRINKING CUPS

cocoa. We could hardly do without milk in cooking. Cream also is used on cereals and desserts.

Milk a Valuable Food.—Milk is probably our most important single food. Every child should drink at least two glasses or one pint or more of milk every day. A glass of milk is good with breakfast and another at luncheon. It is found that many school children do not weigh what they should for their age or are not growing fast enough. Lunches of milk are sometimes served in school in the middle of the morning session. This has helped many children to gain in weight and to feel stronger. Milk is even more important for children than meat or fish. Some children think that they dislike milk, but the truth is they have never learned to like it. Drinking milk is a good health habit to form.

Fresh or Sweet Milk.—Since milk is so generally used, care should be taken to have it fresh and pure. How does fresh, sweet milk look? Those who have lived in the country and have helped to milk the cows know how

it looks. At first it is yellowish white, but after standing awhile the thick, yellow cream rises to the top. Unfortunately, city milk sometimes looks bluish white because water has been added to it. We need to use milk when it is fresh, for it soon turns sour. Sour milk may sometimes be used for cooking, but is not good for drinking.



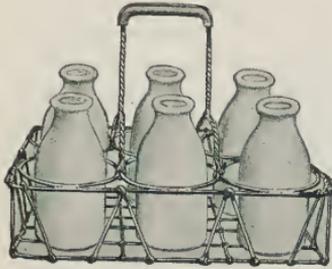
SHIPPING MILK TO THE CITY

Pure Milk. — We wish milk to be not only sweet but pure, that is, milk with nothing either added to it or taken from it. Sometimes water is added and the milk is made very thin. Sometimes certain substances are added to keep the milk from souring.

We never like to find dirt in the bottom of a glass of milk. This means lack of cleanliness in the care of the milk. The stable should be clean, the cows clean, the attendants clean, and the cans clean. In short, cleanliness should be the rule from the milking to the drinking of milk. Care should be taken to keep the cows

well, for milk from sick cows is not good to drink. Then, too, our milk should have some cream on it and not be skimmed.

How to keep Milk Pure and Sweet. — Great care is

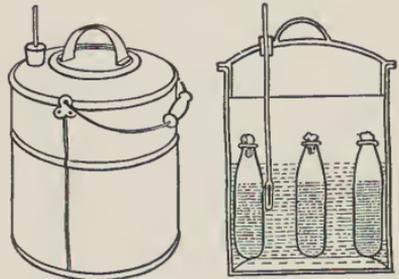


FRAME WITH GLASS MILK JARS

needed to keep milk in good condition for drinking. Cleanliness is very important. The milk should be cooled soon after milking and kept on ice. An early delivery in the morning also helps to keep the milk cool. The use of glass jars instead of

cans allows us to see whether dirt is present or not. These jars, too, may be thoroughly cleansed.

Sterilized Milk. — In order that milk may be absolutely pure, it is sometimes boiled. It is then said to be sterilized. Or the milk may be heated to 160° only. When prepared in the latter way, we call it Pasteurized milk, after the great scientist who first so prepared it. Pasteurized milk tastes better than sterilized milk, and keeps as well. Milk for babies and



STERILIZING APPARATUS

invalids is often heated in this way. The milk is put in bottles which are plugged with cotton. Then the bot-

ties are put in a pail of water and heated for twenty minutes at a temperature of 160° F. Afterward the bottles are cooled and kept on ice until they are needed.

Condensed Milk. — Since fresh milk will not keep sweet very long, it is sometimes cooked and put in cans. Condensed milk is thicker than fresh milk, because much of the water has been taken out. Some kinds are also sweetened. When one is living a long distance from stores, condensed milk is often useful.



A COW BARN CLEAN ENOUGH TO EAT IN

A Cup of Tea. — Most of us have been in the kitchen when a cup of tea was being made. We have watched the steam coming out of the spout of the teakettle. This shows that the water is boiling. Then just the right quantity of tea leaves is put in the teapot and the hot

water is poured on them. After a few minutes the tea is ready to pour into the cup.

What a Cup of Tea Does. — Some people are very fond of a cup of tea. It rests them when they are tired. It sometimes sends away a headache. Unfortunately, tea also has some injurious effects. It often makes people irritable. If taken at night, it may keep one awake. Did you ever see any one's hand shake so that he could not keep it still? This happens sometimes when one drinks very strong tea. Tea is not for children. "Cambric tea," made of hot water and milk, is better for them.

Coffee. — How often has the fragrance of coffee told us that breakfast is nearly ready! How good it smells! It is more difficult to make a good cup of coffee than a good cup of tea. It should be made with boiling water and served without much boiling.

What Coffee does to Us. — Coffee is even more injurious to some people than tea. It usually affects them in the same way, making them irritable and nervous. Strong, black coffee is especially harmful.

Wheat Coffee. — Some people use instead of real coffee wheat coffee, which has no injurious effects. This coffee is made by roasting the grains of wheat. It needs to be cooked some time before serving. Wheat coffee is better for children, as well as for most grown people, than the real coffee.

Cocoa. — Some of us like sweet chocolate and choco-

late creams only too well. The cocoa that we drink is another form of chocolate. A cup of cocoa serves as food as well as a drink. If the cocoa is made with milk, it is very rich and good. Cocoa is best in cold weather.

Other Drinks. — If we were to visit at dinner time the homes of children all over America, we should find, unfortunately, other drinks or beverages on the table besides water, milk, tea, coffee, or cocoa. Beer and wines are too often served. These, even when on the table, should never be given to children.

Alcohol. — If we were to look through a medicine closet, we should very likely find a bottle labeled alcohol. This is sometimes used for bathing in sickness. If we examine the bottle, we will find that alcohol looks very much like water. It is clear, transparent, and colorless. Alcohol is to be used on the outside of the body, and we should not make the mistake of taking it for some other medicine.

Alcoholic Drinks. — There are many different kinds of drinks or beverages that contain alcohol. These are called alcoholic drinks. The most important of them are the various kinds of beer, wines, and spirits.

Beer. — There are many kinds of beer made in England and Germany as well as in the United States. It is made from barley and hops by a very long process. There is little alcohol in beer. Only about one twentieth part of the whole is alcohol. The hops give the bitter taste.

Wines.—Wines are produced very largely in Europe. They are made from the juice of grapes. There are as many kinds of wine as there are kinds of grapes grown all over France, Germany, Spain, and the western part of the United States. Some wines are dark red, while others are white. Some are sweet, while others are sour. Among the wines most generally used are Port, Sherry, Bordeaux, and Burgundy. These contain from one tenth to one quarter part of alcohol.

Spirits.—The beverages that contain the largest amount of alcohol, that is, one half, are called spirits. These are brandy, whisky, gin, and rum. They are the most intoxicating of all drinks when taken in large quantities.

Beer and Wine in Europe.—If we should travel over Europe, we should find that in many places the water is impure and unfit for use. Sometimes the flavor is so unpleasant that tea or fruit juices are added to improve it. The fact that so much of the water is impure has probably led to the habit of using beer or wines instead of water. The Germans use beer freely, and the French take wine. Even the English use beer more commonly than the Americans. Since the Americans are more nervous and excitable, beer and wines are more injurious to them.

Effect of Beer and Wine.—Beer and wine affect people differently. Some persons are more easily affected than others. The effects vary also with the amount that has been taken. The alcohol in the beer or the wine is what

chiefly causes the harm. The larger the quantity of alcohol taken, the greater the harm that is likely to follow.

The Effect of Alcohol. — We have probably all seen the unpleasant sight of an intoxicated person. The chief effect of alcohol is to excite or stimulate the nerves. The excited mind, the unsteady walk, the ready speech, all show irritated nerves. Beer is likely, also, to make people grow too stout.

The Danger of the Occasional Glass. — When any one once begins to drink wine, it is hard to stop. The person longs for or craves it. This is the chief danger of the occasional glass of wine. Many people take a glass or two of wine when invited out to dinner. If, however, the desire for wine is formed, it is very difficult to overcome. It is safer to refuse the first glass.

After drinking Heavily. — Drinking alcoholic liquor so affects some persons that they do very wicked things. Many crimes are done after drinking. Many homes are ruined and broken up. Such drinking also wastes a great amount of money that should help to make the home happy. Drinking frequently is the cause of much illness, suffering, poverty, and many crimes.

Alcohol as a Medicine. — Doctors are not all agreed on the value of alcohol in sickness. Sometimes it seems to do good, but it should be taken only by the advice of a physician. It is not good to take alcohol when we are tired or to cure a cold. Neither will it prevent sickness. Probably no one in health needs alcohol.

Patent Medicines. — How little we know what we are drinking when we take a dose of patent medicine! We are ill and think we need medicine. Most of the patent medicines contain alcohol, and some have nearly a quarter part of alcohol. Instead of taking such medicine, we should give more thought to the laws of health. We should take more care about pure air, water, and food, and should try to keep well.

Alcohol for Children. — Certainly children are better off without alcohol in any form. Physicians do not know everything about it, and it is safer to leave it entirely alone until we are older and can understand more about it.

Summary. — 1. Pure water is the best beverage.

2. We need to drink about eight glasses of water each day.
3. Drinking water may be cooled but should not be iced.
4. Milk for drinking should be pure as well as fresh.
5. Tea is a stimulant and often makes people irritable.
6. Coffee is also a stimulant.
7. Cocoa is a food as well as a beverage.
8. Alcoholic drinks are injurious.
9. Most patent medicines contain alcohol.

Questions. — 1. Why is ice water injurious?

2. How is the public drinking cup dangerous?
3. Should one drink much cold water when overheated?
4. How can milk be kept pure and sweet?
5. How is a cup of cocoa made?
6. Does drinking alcoholic beverages prevent illness?

XII. COOKING AND SERVING.

How to prepare Food.

Foods eaten Uncooked. — There are some foods that we eat without cooking them. Many fruits, such as apples and bananas, and some leaves, such as lettuce and parsley, are eaten uncooked.

Why we cook Food. — Most foods, however, need to be cooked. Cooking sometimes softens the food and makes it ready to eat. Cooked foods keep in good condition longer than uncooked foods. Cooking usually changes the food so that our stomachs can more easily digest it. Sometimes cooking improves the flavor of food, or makes it taste better.

Different Ways of Cooking. — There are many different ways of cooking. We like our meats roasted. Roast beef, roast lamb, and roast veal are healthful. Some food is baked, as bread, cake, and cookies. Sometimes beefsteak is broiled over hot coals. Boiling is a very good way to prepare many vegetables. Frying is not a very good way to cook food. Fried food is very hard for the stomach to digest. It is very important to cook food well, for poor cooking may make a whole family ill. There is a great deal to be learned about cooking. At

cooking school, children learn how to prepare the most common dishes in the best ways.



THESE GIRLS ARE LEARNING HOW TO SERVE A MEAL

Serving Food. — To serve food neatly and well is nearly as important as to cook it well. The tablecloth should be clean, whole, and smooth. The dishes should be arranged in an orderly manner and put in their proper places. If they are pretty, the table will look better. They can at least be perfectly clean. Perhaps your teacher will tell you just how she sets the table.

At the Table. — When we are at the table, there are many things to think about. We have already learned what is a good sitting position. We should sit in this way at the table, always remembering where the feet and the elbows belong. There is no room for the elbows on

the table. Even if we are very hungry, we should wait patiently until our turn comes. If we help in passing food, we should do it carefully and quietly. When food is passed to us, of course we take the piece that is nearest to us and not the largest piece.

A Happy Dinner. — How shall we behave at the table? We need to be orderly and cheerful, but not too noisy. We should be willing to listen as well as to talk. Sometimes children are sent away from the table when they are rude. Good table manners are a sign of a lady or a gentleman. Politeness is the rule at all times.



HOW SILVER SHOULD BE PLACED FOR DINNER

Summary. — 1. We cook food to make it taste better and to make it easier to digest.

2. Foods are cooked by roasting, boiling, steaming, broiling, and frying.

3. Name many kinds of baked food.

4. Food should be served in a neat and orderly manner.

5. Good table manners are very important.

Questions. — 1. What foods are roasted?

2. Why is broiling better than frying?

3. How do you set a table?

4. What is the proper way to sit at the table?

5. How should we pass food?

XIII. DIGESTION.

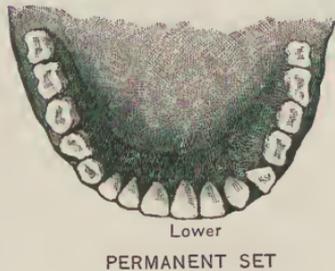
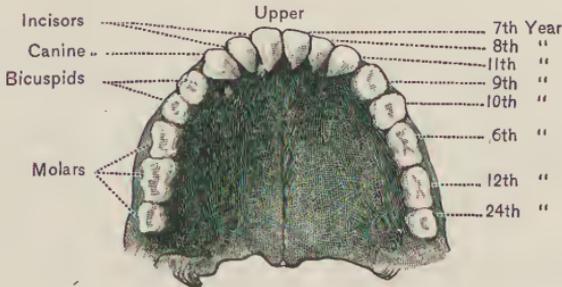
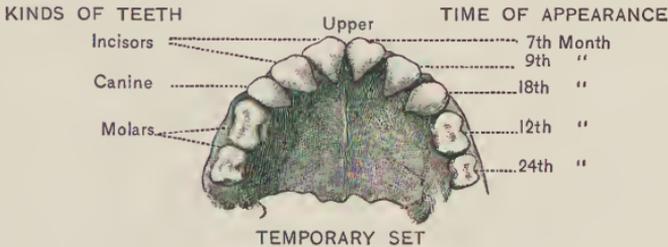
What our Food does for Us.

What Digestion Is. — In order to be well fed, we need to have good food, well cooked and well served. But this is not enough. We also need to have our bodies in good order, so that they can take the food and make it over into good blood. The stomach and other parts of the body change the food so that the blood can carry it to every part of the body. We say the stomach changes or “digests” the food.

How the Food goes to the Mouth. — There are many ways of carrying the food to the mouth. The Chinese use long, slender sticks, called chopsticks. Some savage people use their fingers. Some animals use their paws, lips, or tongues.

The Knife, Fork, and Spoon. — In preparing the food in the plate, we use both the knife and the fork. The fork, however, as a rule, should carry the food to the mouth. Sometimes the spoon does this. The side of the spoon only need touch the mouth. There is no need of making a noise with knife, fork, or spoon. The napkin, when not in use, may be spread across the lap. Although the food is partly cut on the plate, it needs to be made

still finer. Chewing the food carefully makes it fine, as it should be. Some people eat their food too quickly. We should take time enough to chew the food long and thoroughly. Quick eating often causes indigestion.



TEETH : KINDS, ARRANGEMENT, AND TIME OF APPEARANCE

The Teeth.— The teeth help us in chewing. We bite our food with our front teeth. There are four teeth in

the upper jaw and four in the lower jaw that are sharp and made for biting. We may call them the "biting teeth." On either side, in both the upper and the lower jaw, is a long, pointed tooth. These are the "tearing teeth," so called because animals such as the cat and dog use them for tearing their food. Back of each tearing tooth are two larger teeth used for chewing. These are the "chewing teeth." Back of these are the "double teeth" that grind the food and so are sometimes called the "grinding teeth." When all of the "grinding teeth" have come, there are three of them on each side of each jaw. The grinding tooth that is farthest back on each half of each jaw comes later in life than the others. Since these teeth come when one is between twenty and thirty years old, and possibly very wise, they are called the "wisdom teeth." Can you tell how many teeth there are in your upper jaw, and in your lower jaw?

The Permanent Set. — The biting, tearing, chewing, and grinding teeth belong to the permanent set. They begin to come during the sixth year of our lives, and the last ones usually appear during our twenty-fourth year.

The Milk Teeth. — Young children have a set of temporary or "milk teeth." They are smaller and fewer in number than the permanent teeth. They begin to appear when a baby is about seven months old. They drop out as the permanent teeth come. Have you any of the "milk teeth"?

Sound Teeth. — We all know how hard it is to eat

when our teeth ache. They need to be sound and in good condition if we are to chew our food properly. Sound teeth are very necessary to good health.

How to keep our Teeth Sound. — If we wish to have sound teeth, we must keep them clean. We have already learned that we can do this by brushing them in warm water. If it is not convenient to use a brush, we may rinse the mouth with warm water. If we cannot do that, we may remove the particles of food by drawing a piece of white silk thread between the teeth. Dental floss especially prepared for this purpose is sold at drug stores.

Toothpicks. — Toothpicks, if made of wood, may be used when we are by ourselves, but never before other people. Hard substances like pins should not be used to pick the teeth, as they are likely to do injury.

The Food in the Stomach. — After we have swallowed our food we usually forget all about it. It passes, however, into the stomach, where very important changes take place. If we eat too much, we soon find out where our stomachs are. It takes a long time for a dinner to digest—from three to four hours. While digestion is going on we should not play very hard.

What a Stomach Ache Means. — When there is pain in the 'stomach, we may know that we have been treating it badly. Perhaps we have eaten too much and given it too much work to do. Perhaps we are very tired, and the stomach is not able to do its work. Perhaps the

food was too rich and so hard for the stomach to digest. Another time we should be more careful.

What our Food does for Us.—After the food is digested by the stomach and by other parts of the body, it goes into the blood. Now the blood, we have learned, is the messenger of the body, and goes to every part. The blood carries the good food material all over the body and makes it well and strong. If the blood has to carry unwholesome food, the parts of the body cannot grow well or strong. The food we eat and the air we breathe make our blood, and the blood makes our bodies. So

strong bodies must have good blood, and good blood can come only from good food, plenty of fresh air, exercise, and rest.



MEASURING HIS HEIGHT

Growing.—Good food helps us to grow. Do you know how much you grew last year? Did you have your height measured against the wall? If you have your height measured now, and again at the end of the year, you can tell how much you

have grown this year. Good food also helps to keep us warm. We do not feel the cold as much after a good hot dinner as we do when we are hungry. Our food also gives us strength to go about.

GROWING.

A little rain, and a little sun,
 And a little pearly dew,
 And a pushing up and a reaching out,
 Then leaves and tendrils all about —
 Ah, that's the way the flowers grow,
 Don't you know ?

A little work, and a little play,
 And lots of quiet sleep ;
 A cheerful heart, and a sunny face,
 And lessons learned, and things in place —
 Ah, that's the way the children grow,
 Don't you know ?

- Summary.** — 1. Good digestion is necessary to good health.
 2. We should chew our food slowly and thoroughly.
 3. The permanent set of teeth consists of biting, tearing, chewing, grinding, and wisdom teeth.
 4. Keeping the teeth clean will help to make them sound.
 5. The stomach helps to digest the food.
 6. The blood carries the digested food to the different parts of the body.
 7. Good food makes us grow.

- Questions.** — 1. Of what use is the knife at the table ?
 2. How should we use the fork and the spoon ?
 3. What are the milk teeth ?
 4. Why should our teeth be sound ?
 5. Why should we not crack nuts with the teeth ?
 6. Why is chewing gum injurious ?
 7. Is it well to eat very soft food ?
 8. What makes the stomach ache ?
 9. Should we eat food that we think will make it ache ?

XIV. TOBACCO.

Harmful to the Body. — We have been studying about what will help us to grow and to keep well. We also need to know about what will injure our bodies. We have already learned that poor food, impure air, lack of exercise, uncleanliness, and alcoholic drinks will injure us. We need to add to these the use of tobacco.

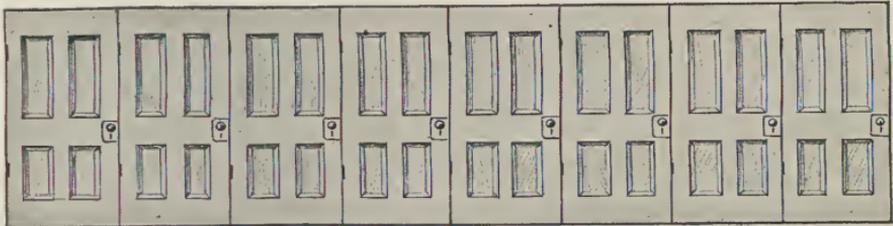
What Tobacco Is. — Some of us have seen tobacco growing. The plant has large, broad leaves and a beautiful, long white flower. It needs a rather warm climate and is grown largely in the southeastern part of the United States and in the West Indies.

Different Forms of Tobacco. — The leaf is dried, cured, and rolled or pressed into different shapes. It is sold in the market in the form of cigars or cigarettes. It is also pressed and cut in small blocks. This is used for smoking in pipes or for chewing.

The Effect of Tobacco on the Body. — In small quantities, tobacco seems to have little injurious effect on men. For boys and young men, however, even small quantities are harmful. Tobacco weakens the body so that it is more likely to take diseases. Nervousness, dyspepsia, deafness, sensitive throat, and weakness of the heart are likely to trouble the users of tobacco. Cigarette-smok-

ing is especially harmful to boys. It stops their growth and makes them short, small, and dull.

Reasons why Tobacco should not be Used. — Smoking is a bad habit. After one begins to smoke, it is not only very hard to stop, but one is likely to smoke more and more.



To being Strong.	To Good Health.	To Skill in Athletics.	To Good Scholarship.	To Long Life.	To the best Companions.	To many Business Positions.	To the Highest Success.
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DOORS CLOSED TO BOYS WHO USE TOBACCO

It does not help us to live, and so it is useless. It is even more than useless, for it contains a poison that is harmful. It is, moreover, very untidy. Constant smoking stains the mouth, the lips, and the teeth, and gives an unpleasant odor to the breath. Even the clothes of a smoker have the odor of stale tobacco. Then it is a very expensive habit, and costs many dollars in the course of a year. Many men regret having formed the habit, but find that it clings to them throughout life.

Success in Life. — In order to succeed in life we need the full use of all our faculties, mental as well as bodily. Smoking and drinking injure these faculties and so tend to cause failure. Some large firms refuse to employ young men who use tobacco and intoxicating liquors. Such men are not always reliable.

XV. CLOTHING.

How to dress Properly.

Clothing keeps us Warm. — We have put on our clothes so many times that we seldom stop to think why we wear them. During most of the year, especially in winter, we need clothing to keep us warm. Sometimes when it is very cold or very windy, we need extra wraps. In summer we wear less clothing than in winter, and at times it is so warm that our clothes seem to be a burden. We need some clothing, however, even in the warmest part of a summer day, and often toward evening we need a coat.

Protecting the Body. — Sometimes we need clothing to protect some particular part of the body. A motorman on the electric cars wears gloves to protect his hands from the motor handle. If he holds the handle long when his hand is warm and moist, he is likely to be poisoned by the metal. So he wears a thick leather glove. Although the gloves are very warm, he needs them for protection as much in the summer as in the winter. Some gloves are made with open backs in order to cool the hand.

We wear clothing, then, not only to keep the body warm, but often also to protect some special part of it.

Ornaments on the Body. — There is still another reason why we wear clothing. Many beads, buttons, and ribbons that we wear neither keep us warm nor protect us. We wear them simply that we may look more attractive. They are ornaments. Some uncivilized people who wear very little or no clothing think it very necessary to wear a necklace or a bracelet, and consider themselves undressed without it. Even pricking figures in ink on the skin, or tattooing, takes the place of clothing with some uncivilized people.

Materials used for Clothing. — If we think of all the kinds of garments that we wear, we shall find that they are made of many different materials. The warmest garments are made of furs; we borrow our coats from the seal, the marten, the mink, and from other fur-bearing animals. Woolen garments also are warm, and are often worn both as undergarments and as outside clothing. In cold weather nothing is so warm as woolen underwear. This clothing, also, the animals furnish us. The wool, after it is obtained from the sheep, is spun into yarn and then woven into warm cloth of various kinds.

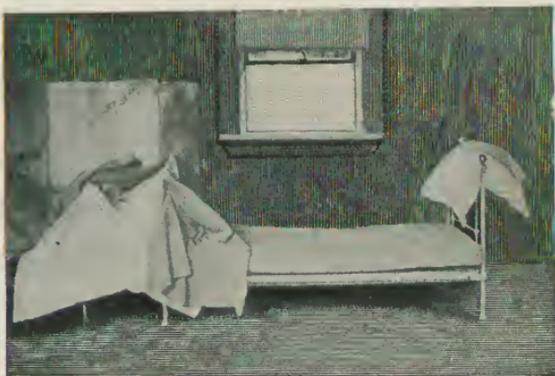
Some Other Materials. — In warm weather we prefer clothing made of silk, of cotton, or of linen, for these make cooler clothes than wool. The cotton and the linen cloth are woven from thread obtained from the cotton and the flax plant. The silk thread is spun for us by the silkworm, but has to be prepared and woven before we can use it for garments.

We also need proper clothing for our feet. The leather of our boots protects the feet from pebbles and rough ground. We should have wet feet more often if it were not for our rubber shoes and our boots.

The Weight of our Clothes. — Some of us are carrying heavy weights about with us all the time. Can you guess where they are? These weights are scattered all over our bodies so that we do not think how heavy they are. If you have an overcoat at school, hang it on a spring balance and see how much it weighs. Can you find how much all of your clothing together weighs? One child's clothing weighed ten pounds. Now this is a heavy weight to carry about all the time, and we should keep the burden as light as we can. Heavy clothing is not always warm clothing, and light-weight clothing is much better for us. Heavy garments tire us out and use the strength that we should have for play or work.

Where the Weight should Rest. — We need, also, to think where the weight of the clothing should come on the body. Some persons hold up their skirts or trousers simply by belts, which have to be rather tight. This arrangement brings the weight on soft and delicate parts of the body. A better way is to have the skirts or trousers buttoned or hooked to straps which go over the shoulders. The use of the strap brings the weight on the shoulders. If you feel of your shoulders, you will find that they are strong and bony, and are able to bear the weight.

Airing our Clothing.— All the clothing worn by day should be removed at night. The night clothing needs to be thoroughly aired in the morning. The nightdress should be hung up where the fresh air and sunlight can reach it. In airing the bed, the blankets and sheets need to be turned over the foot of the bed, the pillows put in the sun, and all the clothing taken off, so that the mattress can be exposed to the sun and the air.



AIRING THE BED

If we open the windows wide, pure, fresh air will fill the room and thoroughly air the clothing. Many people leave their beds unmade till late in the forenoon so that they may be fresh and well aired. The clothes worn during the day should be hung up and aired during the night.

Bed Clothing.— Most people spend at least seven or eight hours a day in bed, and the beds should be healthful as well as comfortable. Mattresses and wire springs make the best bed. The feather-bed so commonly used years ago is very heating and not healthful. The clothing which we spread over us must be carefully regulated. We need to sleep warm, if we wish to feel rested in the morning. If the bed clothing is heavy, it tires us and we

may be more weary when we rise than when we went to bed. Woolen blankets are warm and lighter than comforters and therefore more desirable for bed clothing. The bed clothing should be warm but light in weight.

Dry Feet.—Probably the most important thing to remember about clothing the feet is that they should be kept warm and dry. In wet weather, rubber shoes, overshoes, gaiters, or even rubber boots, should be worn, if necessary, to keep the feet dry. Sometimes children wade through the middle of the deepest puddles. They forget that having damp and wet feet often starts a cold that may keep them in bed for many days. Whenever you wet your feet, go home as soon as possible, change your stockings and boots, and dry your feet.

Warm Feet.—In the winter, we should be careful to keep the feet warm as well as dry. Woolen stockings and thick soles on our boots help to keep our feet warm. Low shoes are not made to wear in winter; the wind blows around the ankles and makes them cold.

Some children jump out of bed in the morning upon the cold floor. They may take cold in this way. It is better to keep a pair of warm, loose bed slippers beside the bed to put on when first arising.

Wearing Rubber Shoes.—Children sometimes do another thing that is not very good for them. When they are at school they sometimes keep on their rubber shoes or rubber boots all day. Did you ever do this? How did your feet feel at night? Often they feel very hot and uncom-

fortable. The feet perspire very much, and then the perspiration cools and makes the feet damp and sensitive to cold. This practice is also likely to make the feet tender, so that stones in the street hurt them. It is better to take off our overshoes whenever we go into the house to stay



PROTECTED FROM THE RAIN

for any length of time. If it is necessary to wear rubber boots to school, we should carry our leather shoes to put on indoors when we take off our rubber boots.

Clean Clothing. — We all wish to be neat and clean, and clean clothing helps us to be so. The underclothing should be changed once or twice a week, and in summer much oftener. Children who live where there is a great deal of dust and dirt need to have their clothes changed much oftener than those who stay where it is clean. We feel much cleaner if we can wear a dress of

cotton, of linen, or some material that will wash. If the everyday suit is made of wool or silk, it should be well aired out of doors once a week.

The Clean Collar. — One of the outward signs of a lady or gentleman is the spotless collar and cuffs. Whatever is worn about the neck and hands should be clean and white. Having clean cuffs and collars is much more important than wearing jewelry and lace. A clean cotton or linen collar is in much better taste than a soiled silk one.

Well-blacked boots are another sign of the well-dressed girl or boy. The gloves also tell their story. Clean, whole gloves are a mark of a neat, tidy girl, while soiled or ripped gloves show a careless, untidy wearer.

We have already learned how important it is to keep our bodies clean, and now we find that we need also to keep our clothes clean.

The Fit of our Clothes. — We have learned how necessary it is to have good blood and to have it flow all through our bodies. Put a rubber band rather tightly around one of your fingers and let it stay for some time. How does your finger look and feel? The rubber band was tight enough to stop the blood partially from flowing through the finger. The finger looks white because the blood cannot flow freely into it, and in places it may look purple because the blood that was already there cannot flow away. The finger is cold because the warm blood cannot flow into it and keep it warm. Something like

this happens when we wear tight clothing, although it may not be as tight as the rubber band.

Tight Boots. — Some children wear boots that are too tight, and then lace them so snugly that their feet are cold. Look at your own boots and see if you can move your toes in them and can slip a pencil inside the tops of them. Boots with pointed toes crowd the toes of the foot together and push them out of shape. It is better to wear boots with broad, rounded toes that give plenty of room for the feet.



NATURAL

UNNATURAL

The Garters. — Some children wear tight elastic garters just below their knees. These may partly stop the blood from flowing through the limbs. We have seen that a good circulation of the blood helps us to keep well and strong. Anything that hinders this free circulation does not tend to give good health. The better way is to wear side elastics attached to the stockings and to the underwaist.

A Tight Belt. — We have learned how necessary it is to breathe well so that the blood may be pure. Put your hands on your waist and take a deep breath. If your belt is so tight that you cannot do this easily, it should be looser. Can you slip your fingers down easily under your belt? It is important that the belt should be loose and comfortable, for the inner parts of the body are deli-

cate and should not be cramped. The clothing on the feet and around the waist, then, should be loose enough to allow the parts of the body to work easily.

Tight Collars. — There is still another article of clothing that we may wear too tight. Girls sometimes think they look better if their collars and neck ribbons are tied tightly. This is not so. They look and feel much better if they have room enough to turn their heads easily and gracefully. We need to remember that tight clothes are not well-fitting clothes. Comfortable clothes are better for us and really more becoming because we can move easily and gracefully. Our clothes should be neither too loose nor too tight.

Summary. — 1. Clothing protects the body from blows, from heat, and from cold.

2. Clothing should be warm but light in weight.
3. The clothing worn during the day should be aired at night.
4. The feet should be dry and warm at all times.
5. Neat and clean clothing helps us to feel tidy.
6. Tight boots, belts, and collars are harmful.

Questions. — 1. Of what different materials is clothing made?

2. Why should the weight of most of the clothing be borne by the shoulders?
3. How should a bed be aired?
4. When should rubber shoes be worn?
5. Why are clean collars and cuffs necessary?
6. What is the difference between a well-fitting boot and a tight boot?

XVI. LIGHT.

How we light our Houses.

Need of Lights. — When it grows dark, we light the gas or lamp and are ready for the evening. Did you ever think how much we depend upon artificial light? In winter, when the days are short, we need a light for many hours. If we wish to rise before seven, we must have a light. Sometimes by four o'clock in the afternoon we again need a light. In summer the days are much longer and we enjoy more sunlight.

Lights in the Olden Times. — Years ago people did not have electric lights, gas, or even lamps. We can hardly imagine what they did without them in the long winter evenings. You remember that the people of olden times warmed their rooms from the fire on the hearth. The fireplaces, then, were sometimes half as long as the room. Just imagine what beautiful fires must have burned in them! Of course these large fires were very bright, and people could see to read by them if they sat near. When it was bedtime, instead of turning on the gas, they lighted a candle. Pine-knots and bonfires have also given light when necessary.

Candles. — Candles were in general use in former times, and there were several different kinds. Some were

made of tallow, a few of wax, and the most fragrant of bayberries. We see in the stores to-day a great variety in color, — red, yellow, pink, green, and white candles. They vary nearly as much in size, from three inches to three feet. Some of the candlesticks are very beautiful. They are made of brass, pewter, bronze, silver, glass, or china, and in many different designs.



BY THE FIRELIGHT

Their Uses. — We still use candles. When we wish to decorate the table, we sometimes use candles in brass candlesticks with pretty colored shades. Then, at Christmas time, how much the tiny candles add to the beauty of the Christmas tree! Candlelight is still used in some churches. Candles give a pretty, soft light, but are not bright enough to give light for reading. Care must

be taken that the melted wax or paraffin does not drip upon the carpet or clothing. Then, too, there is sometimes danger of fire if the candles are allowed to burn too low.

Lighting by Lamps.— In many houses, churches, or halls it would be impossible to do without lamps. Even when the house is lighted by gas or electricity, a lamp on the table



CANDLES

often gives better light for reading and sewing. There are many different kinds and shapes of lamps, from the kitchen to the banquet lamp. If the lamp is large and well trimmed, it should give a soft, steady, but bright light. A shade on the lamp keeps the light out of the eyes of those who are using it. If the lamp stands directly in front of the face, the heat from it is likely to be troublesome before the evening is over. When a lamp is burning in a room there should always be some means of letting in fresh



A GOOD LAMP

air and letting out the impure air. A lamp uses much fresh air, and the room needs to be well ventilated.

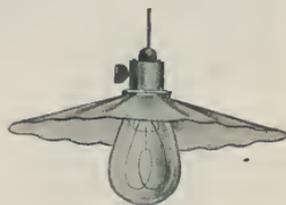
Gas. — Perhaps the most common way of lighting houses is by the use of gas. We find gas everywhere, in houses, hotels, churches, libraries, halls, and theaters. We may have single jets or very elaborate gas fixtures. A bright, steady light is always desirable, and a Welsbach burner often improves the quality of the light. The burning of gas (like the burning of the lamp) makes the air impure, and the ventilation of the room should be good. Care should be taken not to turn the gas so



A GAS JET

very low that a slight gust of wind would blow it out. To have unburned gas escaping in the room is, of course, very dangerous. Gas pipes in a house should always be kept in perfect repair and the gas turned off carefully. Carelessness in these respects has resulted in terrible loss of life and of buildings. Explosions and fires have often taken place through carelessness in the use of gas.

Electric Lights. — The most modern way of lighting a house is by the use of electricity. Electric lights are very generally used in stores, theaters, hotels, churches, cars, halls, and in many houses. It is probably the best artificial light for general use. It does not heat the air or make it impure. A shade should be put on the bulb or lamp when the electric light is used for reading.



ELECTRIC LIGHT

Unfortunately, this form of lighting is still too expensive for general use.

Sunlight. — The natural sunlight is the best light of all. It should always be used when possible. But there are many stores, offices, halls, and theaters where sunlight never enters. There is nothing like the bright sunshine to make people well, cheerful, and happy. We realize this fact after four or five days of stormy weather.



PLANTS AND CHILDREN NEED SUNLIGHT

Sunshine in the House. — Whenever it is possible, we should let the sunshine into the house. It helps to

warm the house and to keep the air pure. We all know how things rust and mold without sunshine. Trees and vines are very cool and pleasant to have about the house. They should, however, be placed far enough away so that they will not keep out much of the sunshine.

Bright Sunshine. — Sometimes the sunlight is very hot. Then, if we are not protected from it, there is danger of

sunstroke. If the sun shines directly into our eyes when we are asleep, it may injure them. Direct sunlight on our work is also injurious to our eyes.

Indirect Lighting.—A very common method of lighting, especially in halls and large rooms, gives the appearance of sunlight. The lamp, either gas or electric, is suspended only a short distance from the ceiling. The globe or shade is placed under the lamp, sending the light up onto the ceiling and then downward over the room. This gives a soft, pleasant, white light throughout the room.

IF I WERE A SUNBEAM.

If I were a sunbeam,
I know what I'd do ;
I would seek white lilies
Rainy woodlands through ;
I would steal among them,
Softest light I'd shed,
Until every lily
Raised its drooping head.

If I were a sunbeam
I know where I'd go ;
Into lowliest hovels,
Dark with want and woe ;
Till sad hearts looked upward
I would shine and shine ;
Then they'd think of heaven,
Their sweet home and mine.

Art thou not a sunbeam,
Child, whose life is glad
With an inner radiance
Sunshine never had?
Oh, as God has blessed thee,
Scatter rays divine,
For there is no sunbeam
But must die, or shine.

— LUCY LARCOM.

Summary. — 1. We light our houses with sunlight and gas, kerosene, or electricity.

2. The sunlight should enter every room of a house at some time during the day.

3. Electric lights are satisfactory because they are bright and give a steady light.

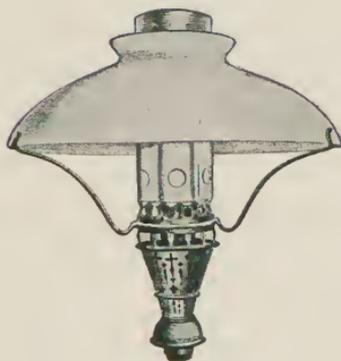
4. When reading, the light should fall over the left shoulder, to prevent shadows on the page.

Questions. — 1. Years ago, how did people light their houses?

2. What are some disadvantages of burning gas?

3. When are candles used?

4. Why should there be a shade on the lamp or globe used for reading?



THE BEST READING LIGHT

XVII. SEEING.

How to use our Eyes.

Good Eyesight. — We are fortunate if we have good eyesight. If we can see to read distinctly from our books, that is well. If we can also see to read distinctly from the blackboard, and can see what is at a distance on the street without pain in our eyes or heads, our sight is probably good.

Why we wish Good Eyesight. — If we can see well, it is easier to go about. We can read the signs on the cars and streets, and so we can save much time. We can read notices put up for the public. We can also keep out of danger more easily. If we keep our eyes open, we can see holes in the sidewalks, runaway horses, etc., and avoid many accidents. Did you ever see a blind boy feeling his way along the street with his cane? He has to find in that way where all the crossings, sidewalks, posts, and trees are.

The Pleasure of Seeing. — Did you ever think of all the beautiful things that we enjoy which a blind person has never seen? The faces of our friends, the flowers and trees, fine views, and beautiful pictures and buildings help very much to make our lives happy.

Earning a Living. — How necessary it is to have good eyes in earning a living! We need to see clearly if we are to be doctors, lawyers, farmers, mechanics, engineers, chemists, sailors, teachers, housekeepers, or booksellers. It is true that many blind people earn a living. They are often good musicians or have other ways of earning money. Still, they could do better work if they had the use of their eyes.

Helen Keller. — If you never knew a blind person, perhaps you would be interested to read about Helen Keller. She has written the story of her life and has told us how she became blind when she was only two or three years old. As a little girl, she was determined to be educated like other people. She had a hard time to learn the sign language and to read other people's lips. But she persevered, and she has even graduated from college.

Blind People. — Often blind people must depend very much on others. They can, however, do many things for themselves. Books are made with raised letters so that they may feel the pages and read. Schools for the blind teach them how to read and to work with their hands, and so make many lives happier.

The Protection of our Eyes. — Our eyes are very sensitive. They are situated at the front of our heads and are very much exposed to blows, dust, and cinders. So they need to be protected. Our eyebrows, eyelids, eyelashes, and tears protect our eyes. The eye is situated in a bony hollow, and the upper rim of the hollow forms

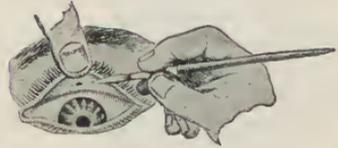
the brow. The hair on the brows keeps dust and perspiration from falling into the eyes. The brow also shades the eye from very bright light and receives any blows that might injure the eye. Some people have much more prominent eyebrows than others.

How the Eyelids Help. — If the eyebrows are the awnings to the eyes, then the eyelids are the blinds. They help to regulate the amount of light admitted to the eyes. They also help to protect the eyes from anything that would hurt them. Do you know what the tears are for? They are to keep the front of the eye moist and to bathe it to remove any particles of dust. Winking is bathing the front part of the eyes. The eyelashes also help to keep out the dust.

A Cinder in the Eye. — When we are traveling, sometimes a cinder falls into one of our eyes. What shall we do — rub it? That is the worst thing to do, for we rub the cinder over the eye and scratch it. Sometimes closing the eyes and blowing the nose rather hard will remove the cinder. If necessary, the lashes of the upper lid may be taken between thumb and forefinger and the lid gently drawn out and down over the lower lid, or either lid may be turned back and the particle removed on a clean soft cloth or tuft of cotton. When our fingers are soiled, we should not touch our eyes.

Parts of the Eye. — Did you ever think that we cannot see our own eyes? We may, however, look at the eyes

of a friend. A better way to examine the eyes is to look in a mirror, for then we may see the reflection of some of the parts of our own eyes. We see a round, dark spot in the center, which we call the pupil. This is really a hole to let in the light. Around this opening is the colored part of the eye, the iris. It may be blue, brown, or gray. This is the curtain of the eye which helps to regulate the amount of light that enters the pupil. The iris is shaped like a doughnut. The "white" of the eye is a thick, tough coat. There are many other parts which we cannot see but which are very important.



REMOVING A CINDER

The Eyes of Animals.— The eyes of all animals are not alike, although the main parts are similar. Can you tell about the eyes of a dog, a cat, a horse, and a cow?

Poor Eyesight.— Every one does not have good eyesight, for we meet many people who wear glasses to help them to see. Some people can see an object clearly only by holding it near the eye. These people are called near-sighted. Others cannot see near objects as well as distant ones. These persons are far-sighted. Some people cannot tell one color from another, finding it especially hard to distinguish reds and greens. They are color-blind.

Wearing Glasses.— Some troubles of the eyes can be relieved by wearing glasses. Even children sometimes

need to wear glasses, and they should be willing to wear spectacles. The glasses are usually made to order.



FITTED SPECTACLES

They should fit not only the eyes but also the nose and the face. They should also fit comfortably. They need to be kept clean, bright, and free from moisture. Care should be taken in playing not to break or bend the glasses.

Testing the Eyes. — In some schools, the eyes of all the children are tested to make sure that they are using them in the right way and are not straining them. If our eyes are good, we should be able to read large printed letters at some distance. When our eyes are tested, we read letters on a test card at a definite distance.

Care of the Eyes. — In order to have good, strong eyes, we must take the best of care of them. Some children have the habit of rubbing and handling their eyes. This makes them red or inflamed, and is injurious. We need to protect our eyes as much as possible from blows and from dust. The eyes need to be kept clean by washing each morning thoroughly with warm water.

When Reading. — There are many things to think about when we are reading. We should be sure that the light is good. Light for reading should be bright and steady, not dim and flickering. Reading at twilight is very harmful to the eyes, as the light is not bright enough then. A lamp or a drop-light on the table gives a better light

for reading or sewing than a gas jet on the wall or on the chandelier. The position of the book also needs to be considered. It should be held upright and one foot from the eyes. If this is not a comfortable distance, the eyes need attention. The light should come over the left shoulder and fall directly on the page without throwing shadows. The lamp should be shaded and should not allow the light to fall into the eyes.

Positions in Reading. — Sometimes we see children reading with their books in their laps. This is a bad habit, and one likely to injure the eyes. Reading while lying down is still more harmful, as it brings a strain on the eyes. When we are ill and cannot run about, there is danger of reading too much. Then the eyes, as well as the rest of the body, are weak, and they need to rest. Playing quiet games or looking at pictures is better than reading when ill. It is important to sit erectly while reading and writing since it strains the eyes to bend over such work. To read while one is riding in cars and carriages is injurious, because the book or paper is constantly jarred. Very fine print is injurious to the eyes.



CORRECT POSITION IN READING

Other Suggestions. — As little work as possible should be done by artificial light. Serious eye troubles are apt to follow measles, scarlet fever, chicken pox, diphtheria, or meningitis, and the eyes should be examined by an oculist after the occurrence of these diseases.

Diseases of the eye are easily spread through the use of a common towel, and the general use of towels in schools, stores, or other public places is to be avoided.

Summary. — 1. Good eyesight protects us from many dangers and gives us much pleasure.

2. The eyes are very sensitive.

3. They are protected by the tears, the eyebrows, the eyelids, and the eyelashes.

4. In order to see, spectacles are sometimes necessary.

5. They should be properly fitted to the eyes, the nose, and the face.

6. For reading, the light should be bright and steady.

7. The reader's book should be held about twelve inches in front of the face.

Questions. — 1. Can you read distinctly words on the blackboard?

2. Can you read signs on the street cars, or on the stores on the opposite side of a street?

3. How may blind people earn a living?

4. How can a cinder be removed from the eye?

5. What parts of your eyes can you see in the mirror?

6. Is it well to read with the book in the lap?

7. Is it well to read when lying down, or when sitting in the bright sunlight out of doors?

8. What is the condition of one who is cross-eyed?

XVIII. THE OTHER SENSES.

Hearing, Touching, Smelling, and Tasting.

Hearing is very Important. — We have already seen how important it is to have good eyesight. It is also desirable to hear well. If we cannot hear, we are in danger from cars, wagons, and fire engines when we are crossing the street. It is very awkward to talk with our friends if we do not hear readily. People often have to come very close to us or to talk very loud. Repeating what has been said and talking loud is tiresome. Persons who are hard of hearing lose much enjoyment. Not only is it difficult for them to hear their friends, but they often lose pleasure when at lectures, concerts; theaters, and churches.

Test for Hearing. — As our eyes can be tested for seeing, so can our ears be tested for hearing. Many people are slightly hard of hearing in one ear, but not enough so to be annoyed by it. The ears are tested by listening to a ticking watch or to a low whisper at a certain distance.

The Ear. — The ear is a very delicate part of the body. We see only the outer ear. This is merely a trumpet

to gather the sound so that we may hear better. Within the head is the most delicate part, called the inner ear. This is the part that is connected with the brain. Between the outer and the inner ear is the middle ear, which is connected with the throat. When we have a cold in the head or throat, it sometimes extends to the middle ear, and we do not hear as well as usual. This deafness gradually goes away. One cold after another may, however, help to make one permanently hard of hearing. A cold never does us any good.



THE
OUTER
EAR

How to protect the Ears. — Sometimes children have the ear-ache when they are out in very cold or stormy weather. Their ears may need to be protected. Small children usually wear hoods. To-



EARS PROTECTED FROM THE COLD

boggan caps, hoods, and caps with lappets for the ears keep out the cold and the rain. It is not well to wear cotton in the ears regularly. But

once in a while, in very stormy weather, it does no harm. Cotton may be used to protect the ears when bathing at the beach if the water is very cold or rough.

The Deaf and Dumb. — There are some children who are nearly as unfortunate as the blind children. They are the deaf and dumb. Sometimes a child becomes deaf when very young. Then he cannot hear his friends talk, and so he himself does not learn to talk. We call these children deaf and dumb, although many of them can be taught to speak. They are usually sent to a special school. There great care is taken to teach them to talk and to read their friends' lips so that they can tell what is being said. Among themselves they have a deaf and dumb alphabet, and they can talk very rapidly with their fingers.

How to keep Good Hearing. — We hardly know how much we depend upon our ears, and often take little care to keep them well. Children sometimes do harm by pulling one another's ears. Boxing the ears may injure the hearing. Blows on the head and other injuries sometimes harm the ears as well as the eyes. Another bad practice is to shout suddenly in a person's ear. All sudden and loud noises should be avoided whenever it is possible. Sometimes children put hard objects like peas into their ears. The moisture makes the peas swell, grow larger, and become hard to remove. Often it is very painful to have such things taken from the ears, and a physician has to be called. All this is unnecessary trouble. Ointments should not be used in the ear to stop pain. Heat applied on the outside will usually relieve the pain unless a physician is needed.

TOUCHING.

Importance of the Sense of Touch. — While the sense of touch is not as important as seeing and hearing are, yet we learn much by it. We can feel with nearly any part of our bodies, but best with the ends of our fingers.

What we learn by the Touch. — Did you ever watch a blind person feeling a new object for the first time? The finger tips go carefully over it. We can learn by touching the size of objects whether they are large or small. The shape, too, is easily discovered, whether the corners are square or rounded, and the sides flat or



LEARNING BY TOUCH

curved. Touching is the best way to tell the temperature of an object, if it is not hot enough to burn the fingers. Then, too, we may tell by feeling what the material is, whether it is leather, silk, fur, feathers, cotton, or wool. The texture of an object can readily be felt,

whether rough or smooth, coarse or fine.

How the Touch helps Us. — Sometimes the sense of touch tells us to keep out of danger. When we feel a cold draft on our necks, we are warned to move. When we are near a hot stove, our sense of feeling tells us to go farther away.

SMELLING.

How we Smell. — The lining of the nostrils is very delicate. It is by means of this lining that we are able to smell. As we breathe the air through the nostrils, the odors affect the delicate lining.

Sense of Smell. — Some people can smell much more keenly than others. There are animals also that have a very delicate sense of smell. We have all read stories about dogs that have found their way home from a long distance. Cats, too, are very quick to smell their food. Do you know any other animals that have a keen sense of smell?

Why we need to Smell. — Smelling is another sense that adds to our enjoyment. A large part of the pleasure obtained from such flowers as sweet peas, heliotropes, roses, and violets, comes from their fragrance. The sense of smell helps us to select good food. One of the sure signs of decaying food is the disagreeable odor. That should always warn us to be careful. Odors may tell us of other dangers, as impure air, smoke, and gas.

How to preserve the Sense of Smell. — Since smelling adds to our happiness in life, we should guard against its injury or its loss. A cold in the head often injures the sense of smell. Sometimes we cannot smell in the least when we have a cold. The sense gradually returns, however, as the cold disappears. Hay fever and catarrh also tend to destroy the sense of smell.

The Handkerchief. — A clean handkerchief is one more sign of a neat girl or boy. We may lend some articles of our clothing if we like, but not the handkerchief which we are using. Like the toothbrush, towel, and comb, it is our personal property.

TASTING.

How we Taste. — Did you ever think how wonderful the tongue is? Let us see what it does. First, it helps us to talk. We should be able to speak few words without it. Then it is very important in eating. While our teeth do the chewing, the tongue helps to swallow the food. We also taste our food by the help of the tongue. The parts of the tongue that do the work of tasting are so small that we cannot see them.

The Tongue. — Did you ever look at your tongue? The doctor looks at it when you are ill, and it helps him to tell what is the trouble. The tongue is very strong and is mostly muscle. It needs to be strong to do its work. It is attached to a small bone in the throat and extends down farther than we can see. When we are well, it is bright red from the pure blood. When we are ill, it may be yellow, and it is sometimes very rough and dry. The tiny tasting parts are at the back of the tongue. For this reason we can taste better at the back of the mouth than on the tip of the tongue.



THE TONGUE

Use of Tasting. — Tasting, as well as smelling, helps us to choose good food. We immediately put aside food that has turned sour or food that has some unusual taste. Our sense of taste warns us against impure food and poisons that would make us ill. Tasting also adds to our pleasure, for we enjoy a good meal that is well seasoned and nicely cooked. If we could not taste our food, it would all seem alike.

- Summary.** — 1. The ear is very delicate.
2. Children should never pull or shout in one another's ears.
3. We learn much through the sense of touch.
4. This sense adds greatly to our pleasures, and warns us of danger.
5. We should avoid colds, in order to keep the senses of smell and hearing in good condition.
6. The sense of taste is located on the tongue.
7. The tongue also helps in swallowing food, and often shows whether we are ill.

- Questions.** — 1. Why is good hearing important?
2. What do we mean by the deaf and dumb alphabet?
3. When is it well to protect the ears?
4. Where is the sense of touch very delicate?
5. What is tickling?
6. What animals depend very largely on the sense of smell to find their food?
7. Why should you not lend the handkerchief that you have used?
8. Where is the sense of smell situated?
9. How may the sense of taste be injured?
10. How does a good sense of taste warn us of danger?

XIX. REST AND RECREATION.

Why we need Them.

Need of Rest. — There are times when our dogs and cats are very active. They frisk about and are ready to play with almost anything that is in motion. But they do not play always. They need also to rest. We often see them lying down and taking a nap after a frolic. We, too, need to rest after working or playing.

Why we need Rest. — If we wear the same dress day after day, it will some time wear out and need to be mended. So it is with our bodies. They are wearing out constantly, and we must give them time to rest and to be repaired. Our muscles and nerves become tired and need to be refreshed. Sometimes our eyes and heads are tired from studying, and we need to rest them for a time. Perhaps our feet are tired from standing or our backs ache from sitting still. Whatever parts of our bodies are tired, they need to rest. No one can be always at work.

Working All the Time. — If we try to work all of the time, we soon become very tired. Sometimes we are so tired that we cannot rest enough at night. Each day we become more and more tired, till at last we are ill. Our bodies have not been able to repair the damages of

each day's work. Then we have to take a long rest until we are well again. It is not always pleasant to do this. It is better to rest enough each day and to keep well.

Rest Often. — When our heads are tired from study, we can often rest them in a few minutes. Then we are ready to study again. Sometimes we become tired when we are taking a long bicycle ride. If we stop and rest or walk for a few minutes, the change will refresh us. When we are out walking we may become tired. Sitting for a few minutes will often rest us so that we can go on. In this way short rests, if taken often, will help us all day.

An Hour's Rest. — Did you ever need to rest during the day for a longer time than just a few minutes? Many people find that they are not as tired at night if they stop and rest for an hour at some time during the day. Just before or after dinner or luncheon, in the middle of the day, is a good time for this. A rest of even a half hour before luncheon or tea is also good. Some people are very busy and cannot take the time, or are very strong and do not need to rest during the day. Many people, however, like to rest for fifteen minutes or for half an hour at some time during the day.

Ways of Resting. — There are many ways of resting. When we are tired of standing, it rests us to sit or to lie down. Sometimes, after we have been in bed all day, it is restful to sit up or to walk about a little. After we

have been sitting still in school most of the day, it rests us to run out of doors. Games refresh us after studying. A quiet evening at home with an interesting book or game is a pleasant way of resting after working all day. When we are resting one part of our bodies we may be using another part.

What we mean by Resting. — It is not always necessary to sit still or to lie down in order to rest. Sometimes a change of work will refresh us. If we have been studying for some time, our heads may be tired. A change to some work with our fingers or feet, such as sewing or doing errands, will rest our heads. Sometimes we are tired from working with our fingers. Then we enjoy reading for a time. In resting we may change from one kind of work to another. A change of work or play is usually a rest. When we want a complete rest, we should neither work nor play. Then we should lie down very quietly, and if possible go to sleep.

A Complete Rest. — Sometimes we are so tired that we need a complete rest. We need to sleep. When asleep, we are resting all parts of our bodies. Our eyes are closed and we see nothing. We hear nothing. We should lie still and rest our muscles and nerves. Lying down and keeping very quiet is a good way to rest. We should be sure that we have a complete rest every night. Then we feel fresh and bright in the morning. Sound sleep at night is necessary if we are to keep well and to grow strong.

Sleeping.— We have seen our cats taking a nap. Some of us have dogs, and have often seen them rolled up asleep on the rug. Some of us sleep with our brothers or sisters, and have seen them asleep. How quiet brother is! His arms and limbs are limp and can easily be moved. His muscles and nerves are resting now. Does he breathe? Oh, yes, slowly and steadily. Did you ever feel his pulse? It is slower than when he is awake. The other parts of his body also are resting. If he did not eat a hearty meal before going to bed, his stomach is at rest. His mind, also, should be quiet. Sometimes our minds go on thinking and we dream at night. Our sleep rests us more when we do not dream.



A COMFORTABLE BED

Helps in Sleeping.— Children often play so hard that they are tired and sleepy when bedtime comes. Usually, it is a very short time before they are fast asleep. Grown people do not always fall asleep so easily. In order that we may sleep well, the bedroom should be in good condition. It should be clean, dustless, and in order. It should receive as much care as any other room in the house. A thorough cleaning once a week, with a daily dusting and putting in order, will usually be enough to keep it clean.

It is well to have the room darkened, as the eyes rest better. In summer, the bright morning light should not fall directly upon the eyes. If the bed is placed so that it is not opposite a window, the light will be better for the sleeper. A light should not burn all night in the bedroom except in case of sickness. A lamp or a gaslight uses part of the air, forms impure gases, and makes the room too light. Even in case of sickness, a small light in the next room or hall is much better than one in the sick room. The light should be shaded, and should be as dim as possible.

Fresh Air in the Bedroom.— While the sleeping room may be moderately warm, it should not be warm enough to sit in. Many people feel better after sleeping in a cold room. Whether the room is heated or not, it should have plenty of fresh air. The best way of obtaining this is through the open window. A window sash lowered a few inches at the top may let in enough air on cold, windy nights, while in warm weather the open window and doors can hardly give us too much fresh air.

A bedroom should be quiet. If other persons are talking or stirring about, some one may be kept awake. Many persons prefer to sleep alone in a room. They certainly have better air, and are not likely to be awakened. Many a boy or girl, however, must share a room with some other member of the family. Two small beds in the same room are better than a large bed shared by two.

A Comfortable Bed.— After the bedroom has been made as healthful as possible, we wish to think about the bed.

A good spring is very essential for a comfortable bed. A spring that is neither very loose nor very hard is most comfortable. Then we need a good mattress; one filled with hair or with air is desirable. A feather bed is not as good as a mattress.

Making a Bed. — Much of the comfort of a bed depends upon the way in which it is made. The lower sheet should be pulled smooth and tight, and tucked in well all around so that no wrinkles remain. The upper sheet need not be pulled up so high, but should be well tucked in at the bottom, a foot or more. Then one or two blankets may be added, tucked well in at the bottom. The spread is put on after the blankets, and may be tucked in at the sides as well as at the foot or may be allowed to hang. The pillows go on the bed last, and may stand as straight as possible. Did you ever make a bed at home? Perhaps you can learn how.

What helps us to Sleep. — All the bedding should be clean and changed often enough to be kept clean. The lighter and warmer the bedding is, the better it is. It is very important to keep warm in sleep. Not only the feet, but the entire body, should feel warm. If we go to bed hungry, it is sometimes hard to go to sleep. A glass of hot milk will help to make us sleepy. Sometimes, if people are worried, they do not sleep well. A peaceful mind, a clean body, a comfortable bed, and a healthful bedroom all help us to sleep.

Sunday and Holidays. — People who work day after day find that they occasionally need an entire day for rest. This is one reason why Sunday, or one day in every seven, is set apart as a day of rest. It is good for people to be out of doors part of the time on Sunday if they are indoors during all the rest of the week. It is not a day, however, when people should make a great noise and disturb their neighbors. On Monday we should feel refreshed and strengthened after the day of rest.



IN THE LONG SUMMER VACATION

A holiday is the time for a general good time. Indoors or out of doors we may enjoy ourselves, taking care not to make ourselves sick. Christmas, Washington's birthday, the Fourth of July, and Labor Day we all like to celebrate. Can you name other holidays?

Long Vacations. — How eagerly we look forward to the vacation in summer! We have such good times in the country and at the beach! And we do not forget the

Christmas vacation. Then, too, what a merry time we had last Thanksgiving!

Games in Summer. — How short that week seemed when we camped at the beach! The days were not long enough for rowing, swimming, bathing, and canoeing. Perhaps the mountains entertained some of us. We climbed the hills, and swam in the ponds and lakes. What



PLAYING HOCKEY

fine long tramps we had! The children who stay at home in the summer know, also, how to have a good time. They, too, can camp out, although only under a tent in the yard. They can walk and drive, and ride a wheel to the nearest park or beach.

Good Times in the Snow. — What fun the snow brings! When the first snow comes, we are eager to take out the sleds and the double-runners. Hurrah for the hills!

Sleighting? Oh, yes, we all enjoy speeding along a good road behind a spirited horse. Of course you have helped to make a snow fort, and a pile of snowballs, too! How we drove those boys out of their fort!

When the snow is very deep, what fun it is to go on snowshoes and skees! Do you remember the story of



CURLING

Colonel Peary, who traveled for months on snowshoes? He went across Greenland on a sea of ice and slept out of doors on the ice. How would you like that?

What the Ice Brings. — It is hard to tell which we like better, the ice or the snow. How we pity children who live in the tropics, where there is no snow! What fun it is to skate! How we fly over the ice when we play hockey! We almost forget when dinner time comes.

Did you ever go tobogganing? You can make a

toboggan slide when the cold weather is likely to last a long time. It is truly an icy coast. It is so steep and slippery that you cannot walk up the coast, but have to go at one side. You go down so fast that you almost hold your breath.



AN ICE BOAT

The ice boat takes us even faster than our own skates. It takes us long distances over rivers, large ponds, lakes, and bays. Ice sailing is even more fun than sailing through the water. There are boats so built that they can sail both on the ice and in the water.

Summary. — 1. We need to rest in order that the body may be repaired.

2. A few minutes' rest every hour helps us to keep in good condition through the day.

3. Sleeping is the best rest.
4. The bedroom should be clean and have plenty of fresh air.
5. The bed clothing should be warm but light in weight.
6. Sundays and holidays are days of rest.

Questions. — 1. What parts of your body are sometimes tired?

2. What are some ways of resting?
3. What is the best way to take a complete rest?
4. Why should a bedroom be dark?
5. Should bedroom windows be open at night? Is night air injurious?
6. How do you make a bed?



HER PONY

XX. GROWING STRONG.

A Great Leader. — Theodore Roosevelt was one of the greatest leaders that the world has ever seen. He was a strong man, a brave man, a courageous man. He was a great American. Perhaps you have read about his adventures among the tigers and elephants in Africa. In all of his activities, he needed a strong body as well as a keen mind.

How Roosevelt grew Strong. — As a boy, he was too sickly to attend school. But he was determined to become strong. So he resolved to exercise regularly in a gymnasium which his father fitted up for him at home. He also took many long walks studying the birds and flowers.

He kept up his efforts for better health even as a young man in college. He practiced boxing and wrestling and made trips into the country. Later, he took up polo and horseback riding. Then he went West and became a ranchman. At this time, he became so strong that he gloried in the excitement and dangers of life on a cattle ranch.

Every boy and girl should know what he believed about a healthy body. Read it at the top of the next page.

THE CREED OF THEODORE ROOSEVELT.

“ I believe in honesty, sincerity, and the square deal, in making up one’s mind what to do — and doing it. I believe in fearing God, and taking one’s own part. I believe in hitting the line hard when you are right. I believe in speaking softly and carrying a big stick. I believe in hard work and honest sport. I believe in a sane mind in a sane body. I believe we have room for but one soul, one loyalty, and that is loyalty to the American people.”

THEODORE ROOSEVELT.

A Test for Growth. — If we are to have strong bodies, it is important to find out whether or not we are growing as we should. We have already learned how to find out how tall we are by measuring against the wall. Some schools have a regular measuring rod which is divided into inches. Attached to this is a smaller rod which may be moved up and down along the upright rod. When a child stands against the measuring rod, the short rod is placed on a level with the top of his head. Then the inches read on the rod show how tall the child is. We should be measured once every month and keep a record of the figures. Can you find out the answers to these three questions?

1. Am I growing taller each month?
2. How much taller am I growing?
3. How much taller should I be for my age and weight?

You can find the answer to the last question by studying one of the following tables.

Another Test. — It is still more important to study your weight from month to month. If your school has no scales perhaps your class can go to a near-by grocery store. It is important to use the same scales each month and to be sure that they are correct. Can you answer these four questions about your weight?

1. How much do I weigh?
2. How much should I weigh for my age and height?
3. How much have I to gain?
4. How much did I gain last month?

Perhaps you would like to keep the record of your height and weight on a card like the one below.

A GOOD HEALTH CARD.

Month	Height	Actual weight	Standard weight	To gain
Sept.				
Oct.				
Nov.				
Dec.				
Jan.				
Feb.				
Mar.				
Apr.				
May				
June				

Name

Age

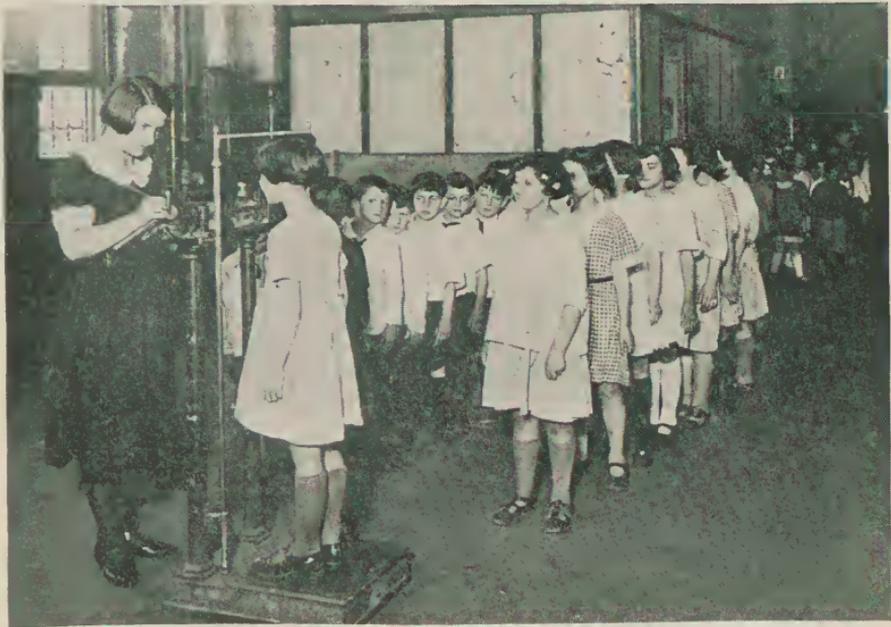
A Standard Weight. — By studying the height and weight of many thousands of children, it has been found that a boy or girl of a certain age, when in good health, should measure and weigh about a certain amount. This is called the standard for that age. A boy or girl from eight to eleven years of age should gain each month about one-half a pound.

STANDARD HEIGHT AND WEIGHT.

*Boys.**Girls.*

Height inches	<i>Boys.</i>			Height inches	<i>Girls.</i>		
	10 years	11 years	12 years		10 years	11 years	12 years
47	54			47	53		
48	56	57		48	55	56	
49	58	59		49	57	58	
50	60	61	62	50	59	60	61
51	63	64	65	51	62	63	64
52	65	67	68	52	65	66	67
53	68	69	70	53	68	68	69
54	71	72	73	54	70	71	72
55	74	75	76	55	73	74	75
56	78	79	80	56	77	78	79
57	81	82	83	57	81	82	83
58	84	85	86	58	85	86	87
59	87	88	89	59	89	90	91
60	91	92	93	60		94	95
61		95	97	61		99	101
62		100	102	62		104	106
63		105	107	63		109	111
64			113	64			115
				65			117
				66			119

Bringing the Weight to Standard. — In this connection, it is very important to practice the health habits that we have already learned. Can you name the eight most important ones? If you have forgotten them, it may be that you have also forgotten to practice some of them. Let us turn to page vi and read



WEIGHING PUPILS IN SCHOOL

them once more. Here is another essential fact. In order to grow, a child must eat enough of the right kind of food. A warm lunch at noon is a great help. Even at school, the children under the care of a teacher may sometimes prepare one hot dish to be eaten with their lunches brought from home. A lunch of milk

and crackers in the middle of the morning session is often all that is required to raise a child's weight to standard. It is possible for children to run and play



PUPILS DRINKING MILK

too hard. Then a short rest in the middle of the day with plenty of fresh air is soon followed by an increase in their weight.

Endurance is another Test. — Did you ever read the story of Dr. Wilfred Grenfell adrift on an ice-pan? You remember that Dr. Grenfell is a missionary doctor who lives on the coast of Labrador. His patients are scattered for many miles over that bleak and rugged coast. He makes his visits in a large sled with a team of fine, great, Esquimo dogs. At one time, while travelling out over the frozen bay, the ice began to break

up and drift out to sea. All day and all night he had to fight for his life against cold, wind, water and hunger. This shows how our very lives may sometimes depend upon a quick mind and a strong body. He had with him his little dog, Jack, who saved his life by leading the heavier dogs from one piece of ice or ice-pan to another.

Little Jack. — Would you like to read what Dr. Grenfell has written about Jack? “I own a beautiful little black spaniel, that goes everywhere I go. He is a regular little chum. He does everything but talk to me, and I can generally understand him without that. He is a real little optimist and he cheers me up a hundred times. He is a truer and more valued friend than many on two legs that I have known, and who could talk only too much. He saved my life by his intelligence when out on an ice-pan when I had no other chance left me. He was as cheerful, facing death out there with me, as when he sits up by my knee for his breakfast. I love the little fellow.”

Be prepared. — How can we tell whether or not we are prepared for any unusual test or even for the daily duties? In the army, soldiers are inspected to find out if they are ready for action. A company of men is marched out on the parade ground. Then an officer walks down the line to examine each soldier. He looks at his uniform, his gun, his position in standing and his general appearance. The company marches back and forth in general parade to show how fit the

men are. Now we all need something of an inspection to keep us up to our best appearance.

The Daily Inspection. — In some schools, a daily inspection comes directly after the opening exercises



DAILY INSPECTION IN SCHOOL

to see if the pupils are ready for duty. How is this done? First, we should make sure that all of our outer garments, as scarfs, coats and sweaters, are removed. Rubbers, overshoes and gaiters are not needed in the schoolroom.

Our Hands. — Then we look at our hands. They should be clean and free from cuts. If the skin is whole and smooth instead of rough and chapped, it

will keep diseases out. The nails are also important. If free from dirt and cut round like the shape of the ends of the fingers, they are more attractive. A black rim around the nails means an untidy child. Biting the nails is a very unpleasant habit as it spoils the looks of the nails. Sometimes biting the skin at the side of the nails makes hangnails and results in sore finger tips.

Our Faces. — Clean faces, ears and necks are a great addition to our good looks. A boy's hair should be clean, smooth and well combed. A girl's hair is sometimes her greatest attraction. A shampoo every two weeks will make it soft and silky. Then it may be arranged with a fresh ribbon in a pleasing manner.

Good Teeth are Vital. — Hard, strong teeth are among our greatest helpers. To make them strong, we need to eat some hard foods, like bread crusts and some foods containing mineral salts as milk, eggs and cereals. But we should never try to crack nuts with our teeth. The teeth need to be kept clean to prevent them from aching. If particles of food are allowed to remain around the teeth they will in time cause the teeth to decay. A clean tooth never decays. If a dentist examines our mouths at least once or twice a year, he can see if any teeth have begun to decay. If a cavity in a tooth is cleaned and filled, further damage is prevented. Never wait until a tooth aches before seeing a dentist. Let us remember to brush our teeth after each meal and before going to bed at night.

The Toothbrush. — To keep our teeth, we need to use a suitable brush in the right way. A toothbrush should be rather small to reach easily to the back teeth. The bristles should not be too stiff, but irregular in length so as to reach in between the teeth. It is important that each person has his or her own brush so that diseases cannot be carried from one person to another. The separate brushes may be hung on their own hooks in the bathroom. Then with care, we may find our own brush. A clean toothbrush is necessary for clean teeth. The brush may be rinsed out in clean water after each using. At least once a week, it should be thoroughly cleansed in hot water. A little salt or borax may be added to the water.

Other Helpers. — A tooth paste or powder will help to remove the particles of food and cleanse the gums. The school nurse or dentist can suggest a good kind of tooth paste. Sometimes a mouth wash made of water with a little salt or soda is used to cleanse the mouth after brushing the teeth. A dental floss may be used when it is not convenient to brush the teeth.

Cleaning the Teeth. — It is important to learn just how to brush the teeth so as to remove all of the particles of food. We drop a little tooth paste on to the brush, add a few drops of water and then brush the teeth up and down and round and round. We are careful to brush the inside and outside of both upper and lower teeth. The back teeth are very important. Then we rinse the mouth with clean water. It is the

aim to have each child own and use a toothbrush and have the teeth put in order by a dentist. If every child is free from dental defects, a class may be one hundred per cent perfect in this respect.



TOOTHBRUSH DRILL

A Toothbrush Drill. — Perhaps you would like to practice brushing your teeth in a toothbrush drill.

A TOOTHBRUSH DRILL.

Attention! (All in line, elbows close to side with brushes in right hand and cups in left.)

1. Ready — Dip! (Wet the toothbrush.)

2. Outside surfaces.

Left side — ready — count 1-16 — Dip!

Right side — ready — count 1-16 — Dip!

Front — ready — count 1-16 — Dip!

3. Inside surfaces.

Upper left side — ready — count 1-16 — Dip!

Upper right side — ready — count 1-16 — Dip!

Upper front — ready — count 1-16 — Dip!

Lower left side — ready — count 1-16 — Dip!

Lower right side — ready — count 1-16 — Dip!

Lower front — ready — count 1-16 — Dip!

4. Chewing surfaces.

Upper left side — ready — count 1-16 — Dip!

Upper right side — ready — count 1-16 — Dip!

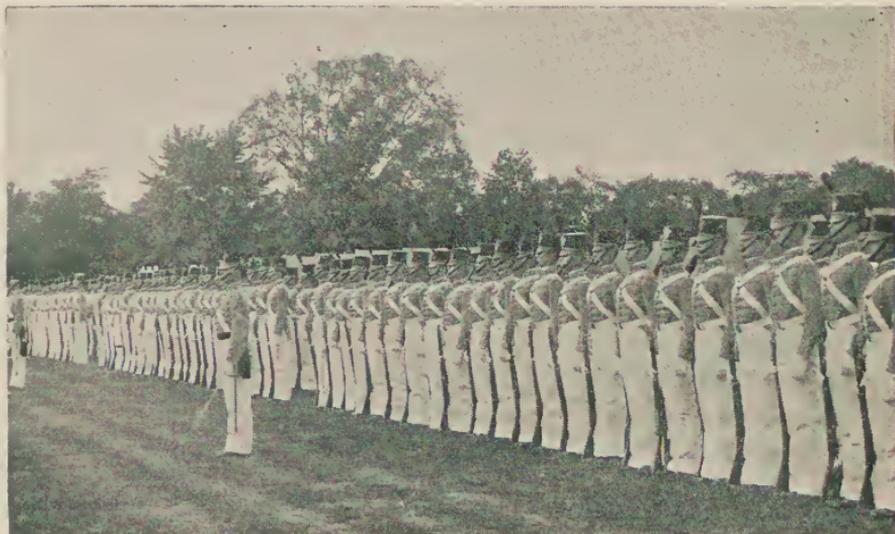
Lower left side — ready — count 1-16 — Dip!

Lower right side — ready — count 1-16 — Dip!

The Clothing. — While we do not want to think too much about our clothes, we should see that they are mended, the rips sewed up and the buttons sewed on. If clean and well brushed, we present a much neater appearance. We must remember, however, to see that our underclothing is also whole and clean if we wish to look well dressed. In addition, a clean handkerchief is very necessary. A handkerchief is never to be borrowed or loaned, as diseases are sometimes carried in this way.

Dressing the Feet. — Our feet need thoughtful care if we are to be at our best. Our stockings should

be snug, smooth and above all, well mended. If changed often, every two or three days, our feet will be more comfortable and in a healthier condition. Our boots protect the feet and should be thicker in cold weather than in summer. Rips need to be sewed,



WEST POINT CADETS IN CORRECT POSITION

holes patched, soles tapped, and lacings tied to make a neat appearance. Well blacked shoes not only look better but last longer. We have already learned that the shoes should be broad enough to allow the muscles of the foot to work easily.

Correct Position. — As we finish our morning inspection we must pay some attention to our sitting and standing positions. Good habits in this respect mean doing our daily studying with much less fatigue.

It also means that our bodies will grow straight and even with both sides alike. We should be sorry to have one shoulder or one hip higher or larger than the other. With erect body, upright head and squared shoulders, we are ready for daily tasks.

Summary. — 1. Growing strong is our first duty.

2. A clean tooth never decays.
3. Thin-soled shoes are dangerous in damp and cold weather.
4. Cleanse the teeth and mouth after each meal and before going to bed.
5. Regular bathing is not a luxury, it is a necessity.
6. How we eat is just as important as what we eat.
7. To be prepared, we need to practice the eight health habits.

Questions. — 1. Can you answer “yes” every morning to the following questions?

2. Are your hands and face clean?
3. Is your hair smooth and well cared for?
4. Are your nails tidy and well cut?
5. Do your teeth look clean?
6. Have you a toothbrush of your own, and do you use it in the right way?
7. Is your clothing clean and well brushed?
8. Are your shoes well fitted and kept clean and blacked?
9. Do you bathe every day?
10. Is at least one window open in your bedroom every night?
11. Do you eat breakfast before coming to school?

