Youth's Department.

BIBLE LESSONS.

SUNDAY, DECEMBER 28TH, 1862.

Read—JOHN xviii. 1-18: The apprehension of Christ. JOSHUA i.: Joshua succeedeth Moses.

Recite—JOHN xvii. 1-3.

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SUNDAY, JANUARY 4TH, 1862.

Read—JOHN xviii. 19-40: The trial of Jesus. JOSHUA ii.: The two spies at Jericho.

Recite—JOHN xviii. 10, 11.

"SEARCH THE SCRIPTURES."

Write down what you suppose to be the answers to the following questions.

207. Have we any information in the Bible concerning Christ after he ascended to heaven?

208. Will wicked men always despise Jesus?

Answers to questions given last week:—

205. Elijah was *taken* up in a chariot of fire sent for him. Jesus was received "by a cloud" out of the sight of his disciples, indicating that he had the power in himself.

206. The High priest appearing before the mercy seat in the tabernacle, which was to be "an everlasting statute," Lev. xvi: 2, 34. Hebrews ix. 7, 9, 12.

The garden on the sand.

Once on a time, some little hands
Planted a garden on the sands
And with a wish to keep it dry,
They raised a wall five inches high.
Within the wall, and round the walks,
They made a fence of slender stalks;
And then they formed an arbor cool,
And dug in front a tiny pool.
Their beds were oval, round, and square,
Thrown up and trimmed with decent care.
In these they planted laurel twigs,
And prickly holly, little sprigs
Of ash and poplar, and, for show,
Bright daffodils, and heart's ease low;
With pink-edged daisies by the score,
And buttercups, and many more.
One rose they found with great delight,
And stuck it in with all their might.
This finished, then they went away,
Resolved to come another day.

The sea meanwhile with solemn roar,
Approached and washed the sandy shore;
But all this time it did not touch
The little spot they loved so much;
And many strangers passing by
The garden spied with smiling eye,
But no one ventured to disturb
A single plant, or flower, or herb.
Still, when the children came again,
They found their labor all in vain:
The flowers were drooping side by side;
The rose and heart's-ease—all had died:
No one could make them grow or shoot,
Because they had not got a root;
And then the soil, it was so bad,
They must have withered it they had.

Now so it is that children fail,
Just like the garden in my tale;
They have good wishes, pleasant looks,
Are busy with their work and books;
Their conduct often gives delight,
And you may fancy all was right,
But by-and bye, with sad surprise,
We see how all this goodness dies;
Instead of being rich with fruit,
They fade away for want of root.

Oh! pray that He who only can
Renew the heart of fallen man,
May plant you in His pleasant ground,
Where trees of righteousness abound;
So shall you be in early youth
"Rooted and grounded in the truth."

A Million and a Billion.

We are perpetually hearing of millions, and of how many millions it will require to do this or that. We have a good idea what a million of dollars will do, but we very much doubt whether one person in a thousand has a correct idea of the quantity or number contained in a million. For instance, if you would ask a person how long it would occupy him to put down a million dots with a pen upon a sheet of paper, he will generally tell you something so far from the fact as to be laughable. Permit us, therefore, to say, for we have tried the experiment more than once, that it would occupy an expert penman about fourteen days, supposing him to work bank hours (that is six) incessantly, doing nothing but putting dots on the paper, or dipping his pen in the ink. This will give our readers some idea of the quantity or number contained in a million.

Let any one try it, by laying his watch on the table, close to the paper, and work for ten or twenty minutes, then add and multiply. But what is a million compared to a billion? It is a mere nothing. What, then, is a billion? A very short answer will suffice for a very long story. It is a million times a million. But who could count it? No man! A quick bank teller can count one hundred and sixty or seventy a minute; but let us suppose he could go as far as two hundred. Then one hour will produce 12,000, a day 288,000, and a year, or 365 days, 105,120 000. Let us suppose, now, that Adam, at the beginning of his existence, had begun to count, had continued to do so, and was counting still, he would not now, according to the usually supposed age of our globe, have counted near enough. For, to count a billion, he would require 9,520 years, 34 days, 5 hours, and 20 minutes. Now, supposing we were to allow poor Adam twelve hours daily for rest, eating and sleeping, he would need 19,024 years, 60 days, 10 hours, and 40 minutes.

We believe a common water-pail would hold a billion grains of sand from the sea-shore. This sand is the debris of rocks and stones. How many millions of years, then, were these rocks and stones rolling in the ocean to produce them? What, then, is the age of the globe we inhabit? It is as much beyond human comprehension as is the speed of comets through immeasurable space!—*Investigator.*

A Visit to the Great Pyramids of Egypt.

BY REV. D. A. RANDALL.

On a beautiful spring morning in the month of March, I left Grand Cairo for a donkey ride to the great Pyramids of Gizeh, eight or ten miles distant. An hour's ride brought us to Old Cairo, upon the banks of the Nile. An Arab boatman, with a great turban upon his head, and a long, loose robe dangling about his ankles, literally lifted "Lily Bob"—the sentimental name by which my donkey-boy distinguished his little beast—into his rude craft, and we were

AFLOAT UPON THE NILE.—I at once lost sight of the ramble upon the shore, and forgot the perplexities of bargaining with boatmen, in the strange sensations that came over me. Our helmsman spread his rude lateen sail to take advantage of both wind and current, and as the waters came rippling against the boat, they seemed speaking to me strange events of by-gone days. And this particular place, of all others, seemed calculated to awaken remembrances of the past. As we gained the current of the river, we floated directly down upon Roda, a beautiful little island, whose grassy banks and shady groves have long been the resort of pleasure-parties from Cairo. But beautiful landscapes, pleasure-parties, and even the great Nileometer itself, which marks the place, all lost their interest, when I remembered that this very spot was the traditional place of the exposure of

THE INFANT MOSES.—The story of this great leader and law-giver in Israel was fresh in my mind. With what crushing weight that edict of a cruel and persecuting ruler, that doomed their children to death, must have fallen upon the hearts of the mothers of Israel! What an hour of deep, agonizing trial was that, when a daughter of Levi, under the pressure of that cruel decree, took an ark of bulrushes, and daubed it with slime and pitch, and put the child therein, and laid it in the flags by the river's brink!—How vividly the picture passed before my mind, as I thought I could see the Hebrew mother, swayed by the conflicting emotions of hope and fear, wrestling with God, in earnest struggle of a holy faith, that he would open a way for the salvation of her child! And I almost fancied I caught glimpses of that faithful sister, Miriam, half concealed among the shrubbery of the bank, as she watched with anxious solicitude the fate of her infant brother! But an eye that watched with more untiring vigilance, and a hand that could direct a mother's plans, and a prince's steps, were there. It was a wonderful beginning of a strange and eventful life! "Is it possible," I mused, "that I am standing so near the scene of these remarkable events? Are these the waters that went rippling by the ark of the infant Moses, and over which he afterwards stretched his wonder-working rod, transforming them into a terrific torrent of blood!"

APPROACH TO THE PYRAMIDS.—The Nile was crossed; Gizeh, upon the opposite bank, from which this group of the Pyramids is named, was left behind. We had now a ride of four or five miles across the open plains, and through beautiful groves of palms, the huge structures all the time in sight, but so far distant one could form no just conception of their size. Indeed, the general impression of travellers, as they approach them, is one of disappointment; but they should suspend their judgment till they have ascended their rugged sides. Soon we reached the boundary line, where the rich vegetation of the valley, and the barren, changing sands of the desert, side by side keep up a perpetual warfare. So marked was this boundary-line, it was but a step from one to the other. The gray forms of those great sepulchral monuments were now just before me; their huge forms seeming rapidly to increase as I approached them. At a distance, they appear perfectly smooth and pointed at the top; as you approach them they assume a more ragged outline, and the top of the largest one appears a little flattened. They stand upon a rocky eminence, their base elevated about one hundred and fifty feet above the plain, just at the foot of the range of hills behind which lies the vast ocean of sands constituting the great Lybian desert.

THEIR IMMENSE SIZE.—Of this group of Pyramids there are three; one is quite small; of the other two, one is called Cephrenes, the other Cheops, from the two kings by whom they are supposed to have been built. Cheops is the larger of the two, and in point of size is the king of all the Pyramids, and to this one we will turn our attention. Of its vast size, one does not at first, even when he stands by its side, form any adequate conception. Standing, as it does, upon its firm foundation of native lime-stone rock, amid the perpetual sterility of bleak and barren sands, without tree, or house, or hill, with which to compare it, there is seen no standard by which to test its magnitude. The figures of its present dimensions are easily given—base, each side, 732 feet, perpendicular height 456 feet. But this is not its original size. The vandal hands of the Caliphs were laid upon it, the granite casement that constituted its smooth exterior, torn off, and layer after layer of the huge limestone blocks removed to build the palaces and mosques of Grand Cairo. They seem to have quarried from it with as little reverence for its magnificence and antiquity, and with as little compunction of conscience, as though it had been only a bed of native rock in the hill-side. Its original base is estimated at 764 feet for each side, and the perpendicular height a little over 480 feet. The present base covers an area of nearly thirteen and a half acres.

But one may read these figures again and again, and yet form no just conception of the immense magnitude of the structure. It is only when we begin to calculate and make comparisons with other heights and structures, that we can at all appreciate the mountain mass of stone that lies before us. Let any one accustomed to measure land, or estimate the size of lots, lay off in his mind a square piece of ground containing thirteen acres; and many a man who has thirteen acres thinks he has quite a farm. Let him imagine this great field all covered over with huge blocks of stone, laid closely side by side. Then begin and pile layer upon layer, drawing in each successive tier a little, as the farmer does his sheaves in finishing his grain stacks. On you go, piling them higher and higher, till you reach the tops of the tallest forest trees and you have only, as it were, laid the foundation. Stone is added to stone—you have overtopped Bunker Hill Monument—you have reached the height of the gold-tipped spires of the tallest church steeples in our largest cities, and yet the altitude of your cloud-towering pile is scarcely half completed! Eighty feet makes a very tall tree, and yet six such trees, standing one upon the top of the other, would scarce measure the height of this enormous structure, as it was left by the hand of those who reared it?

HOW THEY WERE BUILT.—Herodotus, who visited Egypt 445 B. C., gives us some account of the herculean labor here performed. The stones were brought from the mountains on the opposite side of the valley of the Nile. The first work was a giant causeway or road, over which these enormous stones could be transported. Ten years, he says, one hundred thousand men were employed in this part of the work. After the building of the road came the levelling of the rocky hill, the cutting out of the subterranean chambers, and the elevation of the huge masses of stone. This, the same writer says, occupied *three hundred and sixty thousand* men twenty years longer! The first layer of stones were easily put in their places, the second were elevated by the aid of machines, or derricks. Then, as the height of the mass progressed, there were series of board-steps, corresponding to the number of layers of stone; as the work proceeded, these machines were planted along the ascent, and the stones elvevated from step to step. The apex reached, and the last limestone layer of the pinnacle in its place, triangular blocks of granite were fitted into these successive series of steps, beginning at the top and walking downwards, leaving constantly a smooth surface above the workmen as they descended.

Such is the structure we have come to examine, and which now stands before us in all its huge proportions. What an immense labor! What countless years of human toil! What a story of crushing despotism, and hard-handed, slavish servitude! But they were built, and here they stand, and here they have stood for thousands of years, defying the wasting hand of the barbarian, the storms of the desert, and the lightnings of heaven; looking down in proud contempt upon the fierce conflicts of human passion, as conquering nations have come to deluge with blood, and heap with carnage, those beautiful plains above which they lift their lofty heads!

The bargain with the Arabs, the ascent, and how we felt, and what we thought when on the summit, will be given to the reader hereafter.

"One at once."

A humble woman, who is employed as a "Bible reader," lately remarked, while relating her efforts to win souls to Christ, "I think we do not fetch souls to Christ right. We should bring them to Him *one at once*, and He will receive them. I find that when I pray and labor for one sinner at a time, that that soul is almost sure to be converted."

There are in Christ's service those who are faithfully striving to win souls to Him, but who as pastors, Sabbath school superintendents or teachers, must of necessity deal with their fellow creatures in the mass. Their hearts are often saddened because so few lay hold on eternal life. May not such catch a gleam of light from the experience of this poor, unlettered "Bible woman," and find sweet refreshment amid their thronging duties, by gently leading sinners to the Savior "one at once?"

It is strange that the experience of so many ages should not make us judge more solidly of the present and of the future, so as to take proper measures in the one for the other. We dote upon this world as if it were never to have an end, and we neglect the next as if it were never to have a beginning.

It was a beautiful thought of the ancients that man first learned *music* from the pines and oaks singing in the breeze, and the laughing brooklet, gurgling down the sunny slopes, to nestle in the bosom of the meadows.

The simple inherit folly; but the prudent are crowned with knowledge.

Agriculture, &c.

A question about Manure.

SHOULD MANURE FERMENT AND DECOMPOSE IN THE BARN YARD OR THE FIELD?

It is the general practice in this country to allow the manure formed in the barn-yard during the winter to remain there until seeding time in the fall. Is this an economical plan? Does not manure undergo considerable loss in the yard during the warm weather of summer?

It has been calculated by those who have had experience and the means of ascertaining, that for every ten hundred weight of dry fodder, hay or straw used, the farmer may expect from twenty to twenty-five hundred weight of manure, *in the spring.*

This ten hundred weight of dry food and straw will, as before stated, produce from twenty to twenty-five hundred weight of fresh dung, which at the end of six weeks, will weigh but twenty-one hundred; at the end of eight weeks, but twenty; when half rotten but from fifteen to seventeen; when entirely rotten, but from ten to thirteen.

Thus, we see that, by the time the manure is fully rotten, one-fourth of the weight is lost, and the mass is diminished in bulk one-half. These remarks apply to manure which is left exposed to the action of the sun and rain.

The main loss is in water; but there is a very large loss in ammonia and other volatile substances, which are evaporated by the heat of the sun, or washed out by the rain.

The question, then, is: Would it not be better to haul the manure out to the field in the spring and plow it under, so that what loss by decomposition and fermentation does take place may be absorbed by the soil?

If enriching the soil was the only object in view, it would, without doubt, be most economical to plow the manure under as soon as possible after it is formed; but there are other points to be considered, as, for instance, the state of the soil with regard to texture.

If the soil is light and very open, it would not be economical to plow in long or fresh manure, for it would have a tendency to make it still more so; the rain would wash the soluble portions of the manure too deep before they could be absorbed by the soil, and in this way a greater loss might be created than if the manure had remained in the barn-yard. But in heavy or common soils it is undoubtedly more economical to plow in the straw and other manure while in a long and fresh state, for it will then have a tendency to render the soil more open and permit a more free passage of the air.

English farmers think this is by far the better plan, for it converts the whole field into a heap of compost, and fermentation goes on slowly, and as fast as the volatile portions are given off they are absorbed and retained by the soil.

The crop for which the manure is applied must also more or less influence the manner of application. If the crop is one which grows quickly and soon reaches maturity, it would not be economical to apply long, fresh manure for the plant would be done growing before the manure was sufficiently decomposed to affect it much. But if, on the other hand, the crop is one which grows slowly, and it is desirable to furnish it with nourishment throughout its whole growth, then long manure will better accomplish the effect desired than common fermented or decomposed manure.

I consider that I obtain more from my manure by spreading it on the sod and plowing it under for corn, than I do by keeping it *even with the best care*, until fall, and applying it to the oats stubble to be plowed in for wheat.

I think that the corn crop appropriates what would be lost by evaporation, had the manure been retained in the barn-yard in the usual way. And when seeding-time comes in the fall, the manure is thoroughly incorporated with the soil, and is ready to fertilize the wheat as soon as it begins to grow.

I do not find from several trials that the oats are sensibly affected by the manure, as I do not turn it up when plowing for oats.—*Germantown Telegraph.*

NEW WAY TO DESTROY STUMPS.

We are indebted to one of our exchange papers for the following useful piece of information. This beats the far-famed stump puller.

"A correspondent of the Rural Register writes that Journal that Mr. John Barnes of Baltimore removed a troublesome stump from near his house in the following manner: 'Last fall, with an inch auger, he bored a hole in the centre of the stump ten inches deep and put into it about half a pound of oil of vitriol and corked the hole up tight. This spring the whole stump and roots extending through all their ramifications were so rotten that they were easily eradicated."

SUBSTITUTE FOR YEAST.

Boil one pound of flour, a quarter of a pound of brown sugar and a little salt, in two gallons of water, for an hour. When milk warm, bottle and cork it close, and it will be ready for use in twenty-four hours.—*Exchange.*

SCOURS IN CALVES.

Nothing is so good to stop this complaint—says the *Mass. Ploughman*—as loam from the field. Calves should be weaned on hay; but they should always have sods of earth beside them in the barn. This is new to us. Carbonate of lime, it is well known, will check the scours; and perhaps it is this ingredient of the loam which renders it efficacious—and if so, pulverized limestone would be most effective.