I think the whole of the ground floor was used as the camp hospital; the next floor up was used as dormitories for the girls; while the boys were in the top floor. In my dormitory there were, I think, 7 of us, with our mattresses around the large room. In the centre were 3 or 4 long benches with some wood on the right of each seat on which we could rest an exercise book or text book.

The 12 girls in our class came into our room for lessons. We had some text books but not in all subjects. In History and Science, for example, the teachers had to dictate notes for us to write in pencil in our exercise books. (No ink there.) These books were mostly of poor quality paper (I still have a few of them). There were few spare exercise books and sometimes we had to rub out our writing and start again on so-called fresh paper. To this day several older and younger ex-pupils recall this rubbing procedure.

My Biology exercise book was of better quality, and you can read 17 pages of pencil writing and diagrams. I am impressed with how much we covered that Spring Term, 1945, in rather difficult conditions. Our Science teacher, Miss Lucia, was well liked and most thorough in her work. There were no practical facilities for science experiments. *(See footnote).*

How long was a school day? I don’t remember, but shorter than in pre-war days. We boys in my year had jobs to do, mainly half-hour and later one-hour sessions pumping water into one of three large water towers in the camp. (Occasionally the water in the towers got dangerously low. It fell to us boys to do extra pumping through the night to top up the water. We would be woken up in turn by a teacher to do a half-hour stint, even in a bitterly cold winter’s night.) The girls worked in the laundry in the basement of the hospital building.

There were some domestic chores to do e.g. cleaning our dormitories, making coal balls in the winters from coal dust and soil, and chopping what wood we could find for kindling. I do not recall doing any homework in the evenings. I think the reason was the poor lighting.

Besides our formal reading we were able to read books from a small library. In Peking, people about to be moved to Weihsien were asked to pack two or a few extra books to set up a library. I think that, aged 14 in the last year, I was too young to be allowed to borrow books, so a teacher would borrow them for me.

We at Chefoo had lost a lot of teaching time in the autumn of 1942 prior to moving across the city to our first prison camp: Temple Hill. Here we had morning lessons at first, and later on one or two periods in the afternoon. At the end of the war those of us going back to the UK had no schooling during the autumn, what with preparing to
leave camp, a fortnight in Tsingtao, a month in Hong Kong and then the journey to the UK (arriving home on December 14th).

Our age group (mainly 15 in August 1945) are reckoned to have lost the equivalent of one to two years schooling from 1942 to the end of 1945.

Older Chefoo boys and girls took the Oxford School Certificate exams in a range of subjects. The staff had kept past papers to help set the exams. After the war Oxford University accepted these exam results. One lady, now aged 84, told me of the subjects she took in the summer 1944 in Weihsien: English Language, English Literature, Latin 1 & 2, French, Mathematics (Arithmetic, Algebra and Geometry), Religious Knowledge, General Science, Chemistry. Not History, but she and others were taught a course in History by Miss Burtt, a Quaker missionary from Yenching University, Peking. This ex-Chefoo girl has shown me a wonderful Chemistry exercise book that she had written up from a Chemistry book written in camp by Eric Liddell for a class of older pupils.

I still have my elementary General Science text book. The first owner had it in 1938. I also have my Latin “Caesar” text book, and the Latin Primer, first used by a Chefoo pupil in 1935! During Latin lessons we had to balance these two books on our knees, and write in the exercise book on the wooden side piece by each bench seat.

I know very little about the Chefoo Prep School in camp (for the youngest pupils), nor about other Schools in camp for pupils from Peking, Tientsin, and Tsingtao. (I do know that my father first worked as a carpenter, then in the shoe-repair shop, then as a stoker in one of the large Kitchens, then as a baker, and finally, for the last 6 months, he became headmaster of the Primary School for non-Chefoo Weihsien children.) Perhaps some of those ex-pupils will write to Topica or the Weihsien website about their schooling. I was captain of the Chefoo softball team of our age group that played the “Weihsien” team as they were called. Zandy Strangman was their captain and I have corresponded with him in recent years.

*Footnote

Here is a story about collecting frogs in the stream OUTSIDE camp, as told by my brother Theo at a Fiftieth Anniversary Celebration of Liberation banquet in Weifang, 17th August 1995.

“In Weihsien camp we did not have the apparatus necessary for the practical of Physics or Chemistry, so our Science studies had to be restricted to Biology. To complete our studies of Biology we had to know how frogs grow and what makes them ‘work’; to achieve that we had to dissect frogs to find out. The problem was that we didn’t have any frogs.

But then came the answer: the skies opened up, down came the rain and up came the frogs— but in the stream outside the camp. So we went to the Japanese and explained that we wanted to go and collect frogs in order to cut them up. They thought this was unnecessarily barbaric but, nevertheless, gave us permission to do so. I was one of the frog-collectors. We set off outside the camp and all was going well until, at one point, we had to cross the stream. The Japanese guard had polished his boots and didn’t want to get them dirty, so he handed me his rifle, jumped over the stream and beckoned me to follow. I had no wish to cause trouble, so I waded across-through the cool water—holding the rifle over my head. When I got to the other side, I handed the rifle back to the guard—with a grin.

When we had finished collecting frogs, we had a lovely swim in the stream watched by all our friends on the top floor of the hospital block. Some weeks later however, when the Americans, including an Old Boy of our school, arrived by parachute, the laugh was on us because while the rest of the school was out in the fields gorging on the treasures dropped by parachute, we were indoors doing our final revision and sitting our examinations.

However, it was all worthwhile in the end because we were all successful.”
Physiology.

Digestive System - The Alimentary Tract is it easier to swallow things Notice of Food. Foods are made up of 1. They contain carboxydrates - consist of C, H, O. These are in the same proportion. 2. Starch, C, H, O. 3. Sugars. 4. Fats. 5. Proteins. 6. N. as well as C, H, O. 

Digestive enzymes which changes one substance only, causing it to change chemically, to small amount changes a large quantity. It doesn't change itself.

Stomach - tube connecting mouth with 

Oesophagus tube connecting mouth with stomach. Stomach walls made up of longitudinal + circular muscles. Food well mixed with digestive juices. Gastric juice contains 0.2% HCl which helps to kill germs, stops the growth + smell of food. Set of salivary glands secretes saliva, helps the teeth to work. The salivary glands have three things: 1) Moistures food, mak changes proteins into soluble peptides.

© Peter Bazire
There is no digestion of starch or fats in the stomach but the fats are liquified.

Small Intestine

About 20 ft. long, 1" wide. The first 12" is duodenum. A U-shaped loop in which lies the pancreas from the pancreas and to the liver ducts open into the duodenum. Pancreas—secretes pancreatic juice—contains 3 enzymes—(1) acts on starch (2) acts on proteins. It decomposes the fats forming fatty acids & glycerine. These acids combining with certain alkalies forming soluble soaps.

The liver—the largest gland in the body—secretes bile which passes into the gall-bladder, passes into the duodenum. The bile works with the pancreatic juice in the digestion of the fats.

The walls of the small intestine are covered with a large number of finger-like projections called villi. Between the villi at the base are many small glands whose secretions complete the digestive process. The food is now made soluble.

In each villus is an artery & a vein, a lacteal tube. The sugar & soluble peptones pass through the thin walls into the bloodstream & go to the liver. The fats made soluble enter the lacteal & are carried to the lymph circulation & enter the bloodstream in the left jugular vein.

Large Intestine

Its work is to absorb into the blood most of the liquid so that the waste from the digestive process becomes much more solid.
The Heart + Blood Circulation

The heart is a muscular organ which lies in the chest cavity between the lungs. It is divided into two parts, each half into valves. The blood leaves the heart by arteries from the ventricles, flows back to the heart in veins which enter the auricles. The left ventricle is the most muscular part of the heart. By its contraction it forces blood through the arteries to all parts of the body except lungs. The two auricles contract then the two ventricles.

<table>
<thead>
<tr>
<th>PART</th>
<th>DIGESTIVE JUICE</th>
<th>ENZYMES</th>
<th>WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouth</td>
<td>Saliva</td>
<td>Ptyalin</td>
<td>Starts changing starch into sugar</td>
</tr>
<tr>
<td>Stomach</td>
<td>Gastric juice</td>
<td>Rennin</td>
<td>Curdles milk</td>
</tr>
<tr>
<td></td>
<td>Pancreatic juice</td>
<td>Enzymes</td>
<td>Action 3 classes of food</td>
</tr>
<tr>
<td>Liver</td>
<td>Bile</td>
<td>Pancreatic enzymes</td>
<td>Acts on fat</td>
</tr>
<tr>
<td></td>
<td>Pancreatic juice</td>
<td>Small intestine</td>
<td>Food absorbed in small intestine</td>
</tr>
</tbody>
</table>

Diagram: Heart and Blood Circulation
Arterial System

- To Arm
- Head
- Subclavian
- Pulmonary
- R.A.
- R.V.
- L.A.
- L.V.
- LUNG
- Aorta
- Liver
- Hepatic
- Small
- Intestine
- Renal
- Iliac
- Leg

Venous System

- From Arm
- Head
- Jugular
- Subclavian
- Liver
- Hepatic
- Portal
- Renal
- Iliac
- Nervous
THE BLOOD

The blood is composed of the plasma and red and white corpuscles. (a) The plasma is a colourless liquid, two thirds of the bulk of blood. It is water containing many substances in solution—salty, sugars, etc. to supply the food for distribution. (b) Red corpuscles: 5,000,000 in 1 cu. mm. of blood. — minute disc shaped. The capillaries in the villi are cells bicconcave. O 2. red colour is due, carried to the liver, in the portal to a compound of iron called haemogoblin which carries 02 to the tissues that need it.

1. The process of respiration. The blood carries 02 from the waste product that it carries to the kidney. (b) red corpuscles 5,000,000 in 1 cu. mm. of blood. — minute disc shaped. The capillaries in the villi are cells bicconcave. O 2. red colour is due, carried to the liver, in the portal to a compound of iron called haemoglobin which carries 02 to the tissues that need it.

2. The distribution of food. The dissolved food absorbed by the kidney is taken up by the liver which breaks it up and distributes it to the tissues.

3. The removal of waste products. CO2 and water vapours are taken to the liver which breaks it up and distributes it to the tissues.

4. Defence against Disease. Harmful bacteria enter body through much larger than the red shaped dice, poison called toxins. The blood like an amoeba live a few weeks. They are formed in the bone marrow, they kill bacteria, they kill bacteria.
"Signaling Chemical Messengers"

In certain parts of the body, there are formed minute amounts of soluble substances called hormones. These are carried by the blood to other parts of the body, and cause them to carry on certain activities.

6) The Distribution of Heat
The blood flowing through active tissues is warmed; it flows over the body, most of the heat of the body is produced in the liver and muscles, it regulates the temp. of the body by supplying more or less liquid to the sweat glands.

7) The Formation of Clots
The plasma contains a soluble protein called fibrinogen, the white corpuscles in blood flowing from a wound make a ferment called fibrin, ferment, that turns the fibrinogen into a sticky network of threads, the red corpuscles are entangled.

Through the capillary walls of arteries and veins, the plasma or digested with dissolved food and oxygen and some white corpuscles called lymph. The blood goes to every part of the body, the lymph takes to food and O₂ to every cell, the products from the cells to the blood. The lymph drains into lymph spaces and into a system of tubes called lymphatics which finally empties into the left jugular vein.

Expiration
This is the process by which each cell of the body takes in O₂ and gives out CO₂. The circulation of the blood is needed because of the distance of the cells from the outer air, it is between the lymph and the cell that respiration takes place.

External Respiration

Air passes to the lungs by the way of the nostrils, pharynx, larynx, trachea, bronchial tubes.
The Nose
As the air passes up nostrils it is moistened, warmed & purified.
Pharynx - Pass of the mouth air waves pharynx through the glottis. Larynx or voice box. This is connected to the lungs by the straight tube called the trachea or wind pipe. Strengthened by incomplete rings of cartilage lined by mucous secreting membrane to trap any dust. The trachea divides into 2 tubes called bronchi which lead to the lungs. Lungs, a mass of minute air-sacs have extremely thin walls and are rich in blood capillaries.

Enlarged involuntarily by raising of the ribs by strong muscles, the flattening of the diaphragm-muscular partition. It is the enlargement of this cavity that causes air to be inhaled. After a short pause, the muscles relax, compressing the lungs, forcing air out.

Internal Respiration
The energy needed by a living organism is set free within the tissues. It is a result of the process of internal respiration, i.e., the combination of food carbon dioxide + hydrogen + energy of reaction: C₆H₁₂O₆ + 6O₂ = 6CO₂ + 6H₂O + energy. Sugar + oxygen + water + energy. The process is slow, but those by the tissues. Here the O₂ in the air passes into the blood, joins with the hemoglobin. Sue in performing activities some heat is produced, CO₂ are formed as waste products.

The Mechanism of Breathing or How We Breathe - The lungs and heart are in an air-tight cavity - this is
Excretion

Excretion is the process by which wastes are eliminated from the body. The chemical changes which are always taking place in the body result in certain waste products: CO₂, H₂O, and nitrogenous products pass from the tissues into the blood. CO₂ plus some H₂O escape from the lungs, some is passed out through the skin as sweat. The N₂ compounds are carried in the blood to the liver—there made into urea: CON₂H₄. This goes into the blood again and is carried to the kidneys.

The kidneys—glands fastened to the back wall of the abdomen—consist of a mass of fine tubes surrounded by blood capillaries, bound together by connective tissue. The renal artery takes blood to and from the kidneys. The cells of walls of the tubes remove water, dissolved gases, and salts, from the blood in the capillaries and this liquid is called urine and is carried from each kidney to the bladder.

Unicellular animal—found in mud of fresh water. One kind lives in man. The Structure. The clear outer protoplasm is called ectoplasm. The inner granular protoplasm is called endoplasm. Near the middle is the densest protoplasm called the nucleus. This controls and directs all the activities of the cell.

Movement. The ectoplasm projects from the endoplasm and forms a pseudopodium (false foot). If it touches a small object suitable for food, the pseudopodium rounds and encloses the object with a film of water. This is called a food vacuole. The protoplasm secretes an

The cell contains a contractile vacuole.
acid substance which kills the organism then breaks it up. The cytoplasm changes shape with the nucleus. There is an alkaline secretion cell becomes dumbbell shaped. The resultant solution is absorbed finally splits in two. This cellulose diffuses through the whole cell. The indigestible remains are left behind. GROWTH—Result of intake of food is growth.

SECRETION The waste liquid is drained into a contract. water and salts in solution from soil the vacuole which suddenly empties.

RESPIRATION No breathing movements take place. 

ROOT Functions of root. 

1. To absorb branches of the same structure.  
2. Fibrous roots e.g. grasses—no branches of the same structure.  
3. Adventitious roots e.g. ivy—roots which do not grow from the main first root.  
4. Willow and Periwinkle put out these roots at put in cold boiled water. no fade the cut stem.

O₂ movement ceases. REPRODUCTI SPECIAL FUNCTIONS OF ROOTS! 

Nucleus lengthens becomes ⌀ ⌀achment e.g. carrot, beet, radish (2) Climbing—dumbbell—distorted, in the middle: ing. e.g. ivy (3) Propping e.g. Banyan tree
STEM

Main functions of stems.
1. So act as a transport for water and manufactured food. 2. To hold the leaves, flowers, and fruits in a position suitable to do their work. 3. Transverse section of a sunflower stem.

Structure of a root

- Region of maturity
- Region of root hair growth
- Region of growth
- Root cap

New root hairs grow below the shortest roots. There are 3 main regions (1). A ring of vascular bundles containing the transport systems. (2). Pith in the center. (3). Cortex covered round the outside with skin.

Between the xylem and the phloem, there are a large no. of delicate cells called cambium. It is in these cells that growth takes place and causes the stem to widen.

Special functions of stems

1. Climbing e.g. morning glory, a stem bearing prickles e.g. rose, tendrils, etc. beans suffer.
2. Protection; a stem may protect a plant from being eaten by bearing prickles.

Epidermis—skin for protection. The lateral roots have exactly the same structure and functions as the main root. They originate within the main root.
hairs, spine
3. Food storage e.g. potatoes, iris

LEAVES
Without green leaves, animal life would be impossible. It is the only structure which manufactures food.

Structure of a Green Leaf

- epidermis
- palisade mesophyll
- spongy mesophyll

- epidermis
- stoma
- guard cells

The cross section of a leaf consists of three parts: a middle mesophyll, upper lower tough thin epidermis. The mesophyll is green owing to the presence of chlorophyll - it consists of two layers - the upper palisade layer where the cells are arranged in order. These contain more chlorophyll. The spongy tissue which is thicker the cells are irregular in arrangement + shape. The air spaces are cells. The lower epidermis has a number of small openings called stomata. Photosynthesis is the plant process of sunlight combining H2O from the soil + CO2 from the air forming carbohydrates + liberating O2. So show that light is necessary.

Exp 1 Cover a leaf with light-proof paper for several hours. Boil leaf in water then in spirit, wash + then add iodine. The leaf in brown showing no starch.

To know that chlorophyll in excess use a variegated leaf partly green + partly white. Make a sketch showing the green parts. (Afternoon)
Test it for starch. Result: only only the green parts contain starch.
Frog

External Appearance: Streamlined about 1" long empties into the exterior shape to move through the water quickly. Nostrils + large eyes placed so that the frog can breathe. The respiratory organs of a frog see large mouth for catching food, the external eardrum is circular, ear drums behind the eyes. No neck, long powerful hindlimbs; the nostrils are opened in the floor of the mouth, the glottis is closed. The nostrils close, the glottis opens; the floor of the mouth is raised. Air is forced into the lungs. Exhange of gases, change places, dead layer protective of skin. Must then the abdominal muscles contract and the air is forced into the mouth. The floor of the mouth, the air is forced out through the nostrils. The lungs simpler, not so efficient, as man. Mouth Breathing.

1. Lungs, 2. Skin, 3. The lining of the mouth.

Mouth Breathing 1. When the tadpole lowers its limbs with 5 webbed toes, short fore limbs for landing 4 digits, feet. The skin is loose, moist, raices. Exehange of gases, change places, dead layer protective of skin. Must then the abdominal muscles contract and the air is forced into the mouth. The floor of the mouth, the air is forced out through the nostrils. The lungs simpler, not so efficient, as man.

1. Lungs, 2. Skin, 3. The lining of the mouth.

Digestive System: Rather simpler than man. No salivary glands. Volts food, gelatine very short, stomach narrower. Flat reman, small intestine about 4'-5' long, no appendic. Large intestine.
The circulatory system.

The heart, taist 14. At the back of the heart is a triangular bag called the sinus venosus which empties into the right atrium. The blood from the right leg does not go directly into the ventricle but into the sinus venosus, which empties into the right atrium. This blood goes straight into the left auricle. The sinus venosus empties into the left auricle. The pulmonary veins carry the pure blood goes straight into the left auricle. The sinus venosus empties into the left auricle. The pulmonary veins carry the pure blood goes straight into the left auricle.

The trunci arteriosi starts from the ventricle through the aorta. The aorta goes to all parts of the body. In all cases the aorta breaks up into capillaries which connect with the veins.

The blood from the hind legs does not go directly into the ventricle but into the sinus venosus, which empties into the right atrium. This blood goes straight into the left auricle. The sinus venosus empties into the left auricle. The pulmonary veins carry the pure blood goes straight into the left auricle.

The life history of a frog.

The spawn laid in shallow water. The eggs are round, the larger part black, the paler part food underneath. The eggs are surrounded by an albuminous covering. It has several uses: it forms a protection for the delicate eggs, prevents over crowding, gives an anchorage for the mass of the eggs, is unpalatable. After a week the shape of the egg changes. It becomes dumb bell shaped. Then the frog can be seen it's curved body emerging from the limited space. Hatches out after 2 weeks. Twiggles out.
Circulate.

How the heart causes the blood to circulate is developing. The first blood to leave the heart goes to the lungs through a small opening in the chest called the aorta. The next blood is mixed with blood from the liver, goes to the external gills which are developing. The water passes over the gills, goes to the lungs, and then goes to the heart. The blood then goes to the kidneys to be filtered and then goes to the liver to be reused. The blood then goes to the skin to be oxygenated and then goes back to the heart.

The Blood

The red corpuscles are oval with a central oval nucleus. The frog's blood resembles that of a mammal. Excretion. Much CO₂+H₂O is excreted by the kidneys.

The tadpole. When hatched has no mouth. Fixes itself to weed by cement gland. Mouth and anus develop along the alimentary canal. This is straight out first but narrow as it enlarges. Throat projections on either side of head, external gills. An extra gill develops through the side of head, external gills. After a short time, the external gills break through the skin. The kidney, which is developing through the side of head, external gills. An extra gill develops along the floor of the mouth. The tail is shortening. The tadpole is now a frog. Ropes onto land with a short tail, is 4 to 6 months in 3rd year.
To show that CO₂ is necessary, 2 plants were put in the dark for a daying that no O₂ is produced. Then put in 2 bell jars one was fitted. Photosynthesis is one of the most im. up as shown so that the air went into a portant processes in nature. on it animals + plants depend for food supply. Man cannot make food. Photoeams. Source of all energy for living things is the sun, but a greenbe the bell jar. The CO₂ was absorbed by the plant and nothing was absorbed by soda lime. The second soda lime (carbolic acid) was given out by the plant. Something is absorbed by soda lime. The second was left in the light for an hour to bring about the following reaction: CO₂ + H₂O + energy = C₆H₁₂O₆ + O₂

The starch + sugar given off when plants may become fat (most in Dec. photosynthesis takes place. A plant = proteins. Sugar made in leaf was put under a bell-jar, a candle reacts with the hibrites + ethereal gases, the CO₂ found in solution brought to the air from the roots + proteins which some time a lighted taper put into are built up.

 fresh supply of O₂ produced. Exp. pre-
Transpiration is the process by which water is released from the interior of a leaf through the stomata to the outside air.

Significance of transpiration:
1. It helps the plant to get rid of excess water.
2. It is a quick means of carrying the salts of the soil to the leaves.
3. It tends to lower the temp of leaves which prevent the leaves from being overheated on a hot clay soil.
4. Conditions affecting the rate of transpiration:
   a. Relative humidity of the air.
   b. The temperature of the air.
   c. The intensity of the light.
   d. Equal amounts of water put in test tubes - both covered.

Respiration:
1. Equal amounts of water put in one test tube without leaves.
2. Equal amounts of water put in one test tube with leaves.

Leaves cause the stomata to open and decrease transpiration.

Photosynthesis:
1. Leaves cause the conversion of carbon dioxide and water into glucose compounds (sugar C6H12O6) and oxygen (O2) - energy is set free.
free. In plants there are no breathing movements. In dark
ness the O₂ is obtained directly from the air, the CO₂ passes into the
w. In light the photosynthesis + respiration go on together.
Photosynthesis takes in CO₂ and gives out
O₂ — more O₂ is used than is
required for respiration so
uses some of this O₂.