

4. Explain how air is drawn into the lungs. What would happen if an opening were made in the left wall of the thorax in a living animal?
5. Give an account of the structure of the kidneys. What is their function?
6. Write an account of the structure of the ear, and explain how the various parts aid in producing the sensation of sound.
7. What are the general physiological properties of nerves? Distinguish between sensory and motor nerves. Explain clearly what you understand by the term "reflex-action."
8. What is the general form and structure of the brain? What do you know of the arrangement of the white and the grey matter of the brain, and of the difference between the two? What are the chief functions of the brain?

BOTANY.

1. Distinguish between single and compound leaves. Describe some of the chief modifications of leaves for various purposes. What kinds of plants are without foliage-leaves?
2. What elements are essential to the growth of plants, and from what sources are they derived? Describe experiments which support your statements.
3. What do you understand by *osmosis*? What part does osmosis play in the nutrition of the plant?
4. For what different purposes is water required in the plant? What do you understand by transpiration, and how does it take place? What is the purpose of transpiration?
5. What is nectar, and in what parts of the flower may it be found? What useful purpose does it serve?
6. Give an account of the influence of light on the growth and nutrition of the plant.
7. Describe fully the structure of any dicotyledonous flower, and show how the fruit is formed from the flower. Distinguish between true and spurious fruits, and give examples of both kinds.
8. In what respects do the Monocotyledons differ from the Dicotyledons?

Maori.—For Junior Civil Service. Time allowed: 3 hours.

1. Translate into English the following:—

Na, ko tenei wahine, ko Te Huhuti, i pera tahi ano ia me Hinemoa. Ko Hinemoa, nana i kau te roto o Rotorua. Na, ko Te Huhuti nana i kau tahoe te roto o Te Roto-a-tara. No Ngatika-hungunu tenei wahine a Te Huhuti, te tupuna wahine o Te Hapuku; te tikanga i kau-tahoetia ai e ia te roto o te Roto-a-tara, he kawenga na te humarietanga o Te Whatui-apiti; no konei i kau-tahoetia ai e ia taua moana; no reira kihai ia i tawhitawhi kia whakaaroaro ranei, kia aha ranei, kao! ko tana whakaaro i penei na, "Ahakoa nui te moana, me aha? engari me whakamataua! a mana ka totohu, he ahakoa? a mana e u, e pai ana."

Na, titiro ra, e hoa ma, ki te whakaaro o tenei wahine, kihai hoki i tawhitawhi tana whakaaro, notemea, kua whakaarorangi noa ake tona ngakau ki te atahuatanga o Te Whatui-apiti, te kuku o tona manawa. Na, ka kau ia, a ka u ki te kainga o Te Whatui-apiti; e u kau atu ana ano ia, inamata kua kitea ia e te whaea o Te Whatui-apiti. Na, oho whakarere taua ruruhi; katahi ia ka titiro atu ki a Te Huhuti, ano te kiri! me he pari-tea, ko te turanga mai ki uta o te wai, ka haere atu ki te kuia ra, te ahunga atu; heoi ra, ka titiro atu te ruruhi ra ki te atahua mai o te wahine raka, ana na! me he haeata e toea ana i te taka a rangi—koia ia ko te rite o tuawahine.

—*Sir George Grey's Legends.*

2. Translate into Maori the following:—

When the maiden arrived at the brink of the fountain and was about to dip her calabash into it, she heard some one behind her and, turning suddenly round, ah! there stood a man close behind her; yes, there was Ponga himself. She stood quite astonished for some time, and at length asked, "What can have brought you here?" He answered, "I came here for a draught of water." But the girl replied, "Ha, indeed! Did not I come here to draw water for you? Why, then, did you come? Could not you have remained at my father's house until I brought the water for you?" Then Te Ponga answered, "You are the water I thirsted for." And, as the maiden listened to his words, she thought within herself, "He then has fallen in love with me," and he sat down, and placed himself by her side, and they conversed together, and to each of them the words of the other seemed most pleasant and engaging. Why need more be said? Before they separated they arranged a time when they might escape together, and each of them returned to the village to wait for the occasion they had agreed upon.—*Sir George Grey's Legends.*

3. Put the following into Maori:—

They could not cook their food for want of firewood.

If we start early we should reach the settlement in the evening.

What is the matter with that dog? See, he is limping on one leg.

What is the price of potatoes now by the kit?

Thomas went by land to Foxton, and George went by ship.

Although it was very late, he saw me across the ford: was he not very kind?

A great many people have been ill this season with the new sickness; it is very weakening, and persons attacked with it have to take great care of themselves.

4. Put the following into English:—

Ahakoa nui noa toku ngenge, tohe tonu au ki te haere.

He nui te mate o taku tamaiti inanahi, a kua pai haere te mate inaianei.

I ui mai ia ki au, ko ahea rawa koe haere ai ki Tauranga.

I haere maua ko Tamati.

Kua ora ake a Ani inaianei.

Ka mea atu a Ihenga, "Haere mai kia kite."