

2. To what is the reference in extract (a). Give a quotation similar in language or sentiment.

3. 'Piety has found friends in the friends of science.' Refer to examples of this in the past and present. Explain the reference in 'Castalian dew.'

4. Explain fully the meaning of extract (c).

5. Paraphrase extract (d).

6. Parse, but (a), proves (a), so (b).

7. 'Surfeited,' 'lewd,' (c). Write notes on the meaning and derivation.

8. Give a sketch of Cowper's life at the time of his writing this poem, and show how his manner of life is reflected in the poem.

9. "If Cowper was not the founder of a new school of poetry, he was the pioneer of a new era."

Explain the meaning of this and discuss the statement fully.

10. Wordsworth speaks of the Task as combining the Philosophical Satire, the Didactic Poem and the Idyl. Discuss the appropriateness of this description.

GRAMMAR.

I.

1. Analyze

For what are men better than sheep or goats,
That nourish a blind life within the brain,
If, knowing God, they lift not hands in prayer,
Both for themselves and those who call them friends?

2. Parse all words in italics.

3. Is 'that' in second line preferable to 'who' or 'which'? Give reasons for your answer.

4. Give the mood of all the verbs in the following sentences, with reasons;—

(a) If these boys were yours, what would you do with them?

(b) Had you been there you would have seen a strange sight.

(c) If my father and mother were not at home they were in London.

(d) If he lost his money he would never be happy again.

5. Correct or justify the grammar of the following sentences, with reasons;—

(a) I called on him and wished to have submitted my manuscript to him.

(b) I had not the pleasure of hearing his sentiments when I wrote the letter.

(c) Having to pass an examination for admission, a few months preparation at a High School is strongly recommended.

(d) I had intended to come before I received your letter.

II.

1. Analyze.

(a) "So live that when thy summons comes to join
The innumerable caravan, which moves
To that mysterious realm where each shall take
His chamber in the silent halls of death,
Thou go not like the quarry slave at night,
Scourged to his dungeon."

(b) "All men think all men mortal but themselves."

(c) "Here rests his head upon the lap of earth.
"A youth to fortune and to fame unknown."

2. Parse all italicized words.

3. Correct, where necessary, giving reasons.

(a) I think I will return home next week.

(b) I expected to have been at home when you called.

(c) I never have nor never will forgive him.

(d) That is seldom or ever the case.

4. Define the terms 'tense,' 'person,' 'strong conjugation.' How many primary tenses are there? Why so many?

5. Explain the basis on which verbs are classified into strong and weak, and illustrate your answer by an example. Conjugate and classify *flow, clay, sit, set, loose, fly*.

6. What is an auxiliary verb? Explain the use of each of the auxiliary verbs? Give examples illustrating both the auxiliary and the notional use of those verbs.

Practical Department.

LESSONS IN CHEMISTRY.

(Continued from last month.)

CHAPTER II.

18. An acid is a body containing one or more atoms of hydrogen, which are capable of being displaced by a metal, either partially or entirely. The term was originally applied to substances soluble in water, having a distinctly sour taste and capable of turning vegetable blue into red. Blue litmus is the common test.

Bases are compounds which never become acids, but which will under all circumstances combine with acids and neutralise them either partially or entirely; the latter are called *Alkalies*.

Alkalies are generally soluble in water, have an acrid, nauseous taste, restore the blue color which has been turned red by acids, turn vegetable blues into green, and browns into yellow. Ammonia, potash, and soda are the common alkalies.

There are two classes of bases.

(1) *Oxides* of the metals, as Ag_2O .

(2) *Hydrates*, which are compounds of metals with hydroxyl (H_2O_2). To this class we must add ammonia (NH_3).

Salts are compounds formed from the union of an acid and a base. There are three classes of acids.

(1) Acids containing oxygen, and having names ending in *-ic* or *-ous*, as nitric acid, HNO_3 .

(2) Acids containing sulphur, instead of oxygen. These prefix *sulph-* or *sulpho-*, as sulphocyanic acid $(\text{CN})\text{HS}$, sulpho-carbonic acid, CH_2S_3 . Some writers use the prefix *thio-*, from *theion* the Greek name for sulphur, as thiocyanic, thio carbonic, thio stannic acids.

(3) Acids formed by the union of hydrogen and another element. These prefix *hydr-*, or *hydro-* as hydrobromic acid HBr , hydrocyanic acid HCN , hydrochloric acid HCl .

The first class are called *oxiacids* and the third *hydracids*. When a portion of water is abstracted from any oxiacid the residue is called an *anhydride*, thus:—

Sulphuric acid —water=sulphuric anhydride.

H_2SO_4 — H_2O = SO_3

2 HNO_3 (nitric acid) — H_2O = H_2O_5 (nitric ")

Acids are merely salts of hydrogen, and the amount of hydrogen present determines the *basicity* of the acid. Thus nitric acid contains only one atom of displaceable hydrogen, hence it is *mono-basic*; sulphuric acid (H_2SO_4) is *di-basic*, and has two atoms of hydrogen; ortho-phosphoric acid, H_3PO_4 , is *tri-basic*, etc.

Salts containing oxygen are of three classes:—

(1) *Normal salts* in which all the hydrogen of the acid is replaced by a metal, or by a group of elements that goes in and out of combination like an element. (N.B. A group like this is called a *radical* and its name generally ends in *-yl* as hydroxyl, HO).

Examples:

KClO_3 , potassic chlorate from HClO_3 .

NaSO_4 , sodic sulphate " H_2SO_4

AgNO_2 , argentic nitrite " HNO_2 , nitrous acid.

$(\text{NH}_4)_2\text{SO}_4$, ammonic sulphate from H_2SO_4

(2) *Acid salts* in which the hydrogen of the acid is partially replaced by a metal or a radical. Examples: carbonic acid, H_2CO_3 yields sodic hydric carbonate, NaHCO_3 , with only one atom of hydrogen replaced. Sulphuric acid, H_2SO_4 yields KHSO_4 , potassic hydric sulphate.

(3) *Basic salts* are derived from normal salts by the substitution of oxygen for an equivalent amount of the radical.