

Taxonomy

Student

Instructor

Institution

Course

Date

1.Sorting of shells

A) Gastropods

Spiral shaped

a) Tower of babel

Cone shells

- a) The magician cone
- b) The captains cone
- c) The marble cone
- d) Omaria cone
- e) The Hebrew cone
- f) The astrologers cone
- g) Circumcision cone

Mitre shaped

a) The cone shaped mitre

B) bivalve

Cowrie shells

- a) the tiger cowrie
- b) the ringed cowrie
- c) Queen Isabela's cowrie

- d) The money cowrie

Zigzag shaped

- a) Zigzag nerite

Distorted anus

- a) The noble frog shell
- b) The distorted anus

Ducal mantle shape

- a) The Ducal mantle

2. the characteristic of reasoning used to sort the cells.

The logic that was utilized to sort the cells was based on the quantity of shells present and the forms of the shells themselves. We divided cells into two groups based on the number of shells they had: gastropods (which had a single shell) and bivalve (which had two shells). We sat down to divide the two groups into subgroups depending on the shapes of the objects. We divided the gastropods into three types: cone-shaped, spiral-shaped, and mitre-shaped. In the bivalve, we categorized them according to their shapes, which included the cowrie shape, the ducal mantle shape, the distorted anus shape, and the zigzag shape, among others.

3. other information about mollusk that had each cell would have been helpful to know when sorting shells.

The mollusks can be found almost everywhere on the planet, and it would have been beneficial to classify them according to where they were found. The majority of them live in water, although some do as well on land, mainly in wet areas. We could also make advantage of the adaptation of its feet to various functions, as most mollusks move with the help of a muscular structure known as a foot. The feet of different kinds of mollusks are suited for diverse tasks, such as crawling, excavating, and collecting prey. Adaptations include: Finally, we may use what they eat as a form of classification, for example, carnivores eat prey, herbivores eat green matter, and omnivores, which eat both prey and green matter, for example.

4. definition of taxonomy based on what was done.

It is the classification of organisms into groups according to a set of criteria based on the similarities or differences in their characteristics that is known as taxonomy.

5. which type of mollusk was chosen as first outgroup of the phylogenetic tree? and two ways in which it differs from the rest.

To represent the first outgroup, the tower of Babel was chosen. Essentially, it is a gastropod with a univalve shell and a distinguishable head. In comparison to other gastropods with cone and mitre shapes, as well as other bivalves, it has a more rounded shape. Because one of the revolving ribs is more prominent than the others, the shell has whorls that are angular in appearance. Its sculpture is comprised of a series of big spinning ribs with elevated lines in between. The shell is whitish in appearance, with enormous dark brown or practically black dots on the ribs, which are surrounded by a pale border. It can also be found in large quantities in aquatic environments.

6.what the branches of phylogenetic tree represent

They represent the evolutionary relationships

7.example from click and learn in which cell texture, color or shape was not reliable indicator of evolutionary relationships. what was more reliable indicator in that case.

The Carnos omaria. One feature that distinguishes it from other coned shells is the presence of toxins in the shell, which are not detectable in the shells of the organism.

8 a) using the phylogenetic tree shown show venom system most likely evolved

When the common ancestor of turrids and cone snails evolved, the development of the venous system took place.

b) suggest atleast one scenario from where venom system developed

The venom system of miters, turrids, and cone snails evolved in a single ancestor, but it was lost in cone snails due to a mutation.

9.how does phylogenetic tree in click and learn compare to groups made in q1

The groups formed in q1 and the evolutionary tree are closely related since they are based on shell pair and shell shape, which are both important characteristics of shells. It also demonstrates how they diverge from the big groups of gastropods and bivalve based on evolutionary ties to subgroups depending on their forms, as opposed to the broad groups based on evolutionary relationships.

10.which other characteristic could be used to build phylogenetic tree

DNA sequence

Behavioral characteristics

Developmental characteristic