Dichotomous Keys

Introduction

A dichotomous key is a method of identification in which groups of organisms are repeatedly divided into two categories. With each sequential division, more information is revealed about the features of a particular organism. When the organism no longer shares its totality of selected characteristics with any other organism, it has been identified. When using a dichotomous key, use immutable features that do not change over time. A key can be presented as a flowchart or a series of paired statements.

Invertebrate Phyla

Phylum	Key Features	Additional Information
 **Porifera**	○ Asymmetrical body shape ○ No opening to body cavity ○ Sessile organism (non-motile) ○ *Example:* Sea sponges	
 **Cnidaria**	○ Radial body symmetry ○ One opening to body cavity ○ Stinging cells (cnidocytes) *Example:* Jellyfish, anemones	
 **Platyhelminth**	○ Bilateral body symmetry ○ One opening to body cavity ○ Flattened body (↑ SA:Vol ratio) *Example:* Flatworms, planaria	
 **Annelida**	○ Bilateral body symmetry ○ Two openings to body cavity ○ Has ringed body segments *Example:* Earthworms	
 **Mollusca**	○ Bilateral body symmetry ○ Two openings to body cavity ○ May possess a shell *Example:* Snails, squid, bivalves	
 **Arthropoda**	○ Bilateral body symmetry ○ Two openings to body cavity ○ Chitinous exoskeleton *Example:* Insects, arachnids	

Method

1. Use online resources to conduct research into the different invertebrate phyla listed in the table
2. Include additional information on the distinguishing characteristics of each invertebrate phylum
3. Use this information to construct a dichotomous key (flowchart) that identifies each specific group

Results

Discussion

1. Suggest, with supporting evidence, which phylum a crustacean (e.g. crab) would belong in

2. What are some limitations of using dichotomous keys to identify species