

Classification Detectives with Bea the Bee

Learning objective: To be able to recognize that living things can be grouped in a variety of ways by exploring classification keys.

Use your scientific knowledge to help Bea sort different organisms. Answer the questions below using full sentences and clear reasoning.

Bea the honeybee is busy mapping out the creatures she finds in the meadow. She needs your help to group these animals correctly using their shared characteristics.

Word bank: vertebrate · invertebrate · classification · organism · habitat · characteristics · dichotomous · species

1. Bea finds a beetle and a sparrow. Explain why these two animals must be placed in different groups if we are using the presence of a backbone as our first classification step. (2 marks)

2. Compare and contrast the features of a fish and an amphibian. Why might a scientist struggle to classify an organism that spends part of its life cycle in water and part on land? (3 marks)

3. If you were designing a classification key for woodland animals, why is 'color' a poor characteristic to use for identification compared to 'presence of fur' or 'number of legs'? (2 marks)

4. Justify your answer: Is a spider an insect? Use your knowledge of body segments and leg count to explain your reasoning. (2 marks)

5. What might happen if a new, undiscovered species was found in a remote forest? Describe the steps a scientist would take to place it into an existing classification group. (3 marks)

Draw: Draw a dichotomous key that sorts these four animals: a butterfly, a dog, a salmon, and a frog. Use clear 'Yes' or 'No' questions at each branch of your key.



Extension challenge: Research a 'hidden' invertebrate in your local garden. Create a 'Wanted' poster for it, describing its habitat, what it eats, and its specific physical characteristics that helped you classify it as an invertebrate.