

For the scenario below identify the entities, their attributes and appropriate keys

Finsbury Happy Zoo

Finsbury Happy Zoo's concept is to show animals together in their habitats. They have a number of enclosures of different habitat types (such as forest or tundra), different sizes (square metres), each having a main feature (such as a stream or a cave). Animals of different species share the same enclosure. Each enclosure has a unique number and there can be several enclosures with the same habitat but with a different main feature or of a different size. Each animal has a unique ID, and their name, date_of_birth, diet and description are stored. When an animal is put in an enclosure, the start date is recorded, and if they are transferred to another enclosure the end date is recorded. Zoo keepers may need to make a note about a particular animal, for example "not eating well today" and this is recorded along with the date. To make sure the animals don't eat each other a species compatibility table is maintained which has the following information; speciesA, speciesB, compatibility_rating (5 for happy neighbours to 1 for bitter enemies). Species are identified by their name, and a description of the species and their habitat type are recorded. Species are matched against enclosures by Zoo staff, and if suitable the maximum number of animals of a particular species for a particular enclosure is recorded to prevent overcrowding.

Answer:

Enclosure (Entity)

Attributes:

Enclosure Number ID (Primary Key) – unique identifier for each enclosure.

Habitat Type – records the type of habitat (e.g., forest, tundra).

Size – records the size of the enclosure in square meters.

Main Feature – records the key feature of the enclosure (e.g., stream, cave).

Animal (Entity)

Attributes:

Animal ID (Primary Key) – identifies each animal.

Name – the name of the animal.

Date of Birth – the birth date of the animal.

Diet – the type of diet the animal follows.

Description – additional details about the animal.

Species (Entity)

Attributes:

Species Name ID (Primary Key) – identifies each species.

Description – details about the species.

Habitat Type – the type of habitat suitable for the species.

Species Compatibility (Entity)

Attributes:

Species A (Foreign Key) – identifies the first species.

Species B (Foreign Key) – identifies the second species.

Compatibility Rating – a rating (1-5) indicating the compatibility of the two species (5 being very compatible and 1 being not compatible).

Animal/Enclosure (Entity)

Attributes:

Animal ID (Foreign Key) – identifies the animal assigned to the enclosure.

Enclosure Number (Foreign Key) – identifies the enclosure the animal is in.

Start Date – records the date the animal was placed in the enclosure.

End Date – records the date the animal was transferred out of the enclosure.