

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.

Animals (Entity)

Animal ID - 1239712793 (primary key)
Animal name – Zebra
Species - Equus grevyi (foreign key from Species)
Date of Birth – 10/02/2009
Diet – Grass
Description – A large black and white Zebra

Enclosure (Entity)

Enclosure Number – 54 (primary key)
Habitat Type – Aquarium
Enclosure Size – 200 square metres
Maximum Number of Animals - 16

Species (Entity)

Name – Loxodonta Africana (primary key)
Description – A large Grey African Elephant
Habitat Type – Savannah (foreign key from Enclosure)

Animal Transfer (action Entity)

Transfer Number (primary key)
Start Date – 04/04/2019
End Date – 04/03/2021
Enclosure Number – 123 (foreign key from Enclosure)
Animal ID - 123123 (foreign key from Enclosure)

Animal Note (action Entity)

Animal ID – 2093 (foreign key from Animals and primary key)
Note – Has a bad leg

Species Compatibility (Entity)

Species A – Tiger (foreign key from Animals)

Species B – Sheep (foreign key from Animals)

Compatibility Rating – Happy Neighbours

Example Queries:

1. Which enclosure is the smallest?
2. What animals are suited to the Savannah type enclosures?
3. How many animals have a diet of Fish?
4. When did all the tigers arrive to the zoo?
5. How many notes were made in March?