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.

**1. Entity: Enclosure**

* Attributes:
* Enclosure Number (Primary Key): Unique identifier for each enclosure.
* Habitat Type: Type of habitat, such as forest, tundra, etc.
* Size: Size of the enclosure in square meters.
* Main Feature: Describes the main feature of the enclosure, such as a stream or a cave.
* Relationships:
* Animals: Multiple animals can be placed in an enclosure.
* Species: Each enclosure can be matched with multiple species with a record of the maximum number of animals allowed for each species.

**2. Entity: Animal**

* Attributes:
* Animal ID (Primary Key): Unique identifier for each animal.
* Name: The animal’s name.
* Date of Birth: The animal’s date of birth.
* Diet: Information on what the animal eats.
* Description: A brief description of the animal.
* Relationships:
* Enclosure History: Records the enclosures where the animal has been kept, with start and end dates for each stay.
* Species: Each animal belongs to a particular species.
* Notes: Allows zoo keepers to add notes about each animal, such as “not eating well today”.

**3. Entity: Species**

* Attributes:
* Species Name (Primary Key): Unique name of the species.
* Description: A description of the species.
* Habitat Type: Type of habitat suitable for this species (e.g., forest, tundra).
* Relationships:
* Compatibility: Links to other species to define compatibility ratings between them.
* Enclosures: Each species can be associated with multiple enclosures, with a record of the maximum number allowed for each enclosure.

**4. Entity: Species Compatibility**

* Attributes:
* Species A (Composite Primary Key with Species B): References the name of the first species in the compatibility rating.
* Species B (Composite Primary Key with Species A): References the name of the second species in the compatibility rating.
* Compatibility Rating: A rating from 1 to 5 indicating how well the two species coexist, with 5 being the highest compatibility.
* Relationships:
* Species: This entity links two different species to define compatibility between them.

**5. Entity: Animal Enclosure History**

* Attributes:
* Animal ID (Composite Primary Key with Enclosure Number and Start Date): References the animal being placed in an enclosure.
* Enclosure Number (Composite Primary Key with Animal ID and Start Date): References the enclosure where the animal is placed.
* Start Date (Composite Primary Key with Animal ID and Enclosure Number): The date the animal started staying in this enclosure.
* End Date: The date the animal was moved out of the enclosure (nullable if currently in the enclosure).
* Relationships:
* Animal: Links to the specific animal.
* Enclosure: Links to the specific enclosure.

**6. Entity: Animal Note**

* Attributes:
* Note ID (Primary Key): Unique identifier for each note.
* Animal ID (Foreign Key): References the animal to which the note pertains.
* Date: Date when the note was made.
* Note Text: The content of the note.
* Relationships:
* Animal: Each note is related to a particular animal.

**7. Entity: Enclosure Species Limit**

* Attributes:
* Enclosure Number (Composite Primary Key with Species Name): References the enclosure where the species is allowed.
* Species Name (Composite Primary Key with Enclosure Number): References the species allowed in the enclosure.
* Max Number Allowed: Specifies the maximum number of animals of this species that can be in this enclosure.
* Relationships:
* Enclosure: Links to the specific enclosure.