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

The Angel Warehouse

The Angel Warehouse stores items for its parent company. The warehouse is organised into bays, which are storage areas, but the items themselves are stored in bins. Each bay contains a number of bins. Each bay is identified by a unique bay number and the bay location and the height of the bay are recorded. Each bin has a different number within the bay, always starting with bin no. 1, and while some bays have only 5 bins some have over 50. The size of each bin is recorded.

Some bays have a parking spot for one fork lift to help move items round the warehouse and lift items into bins. Each fork lift is allocated to a bay. Each fork lift has a unique equipment number and the maximum carrying weight of the fork lift needs to be known. Some fork lifts are petrol driven while some are electric.

For all bins the maximum loaded weight must be known.

When an item is taken into the warehouse it is assigned a unique number and the date is recorded as well as the item weight. Bins can store a number of items and when an item is put in a particular bin this date is also recorded. Items can be moved back and forth between bays and bins to optimise the warehouse storage.

Answer:

Bay (Entity)

Attributes:
Bay Number (Primary Key) – uniquely identifies each bay.
Location – records the location of the bay.
Height – records the height of the bay.

Bin (Entity)

Attributes:
Bin Number (Primary Key) – uniquely identifies each bin within a bay.
Bay Number (Foreign Key) – associates each bin with a specific bay.
Size – records the size of the bin.
Max Loaded Weight – maximum weight the bin can carry.

Fork Lift (Entity)

Attributes:
Equipment Number (Primary Key) – uniquely identifies each fork lift.

Bay Number (Foreign Key) – identifies which bay the fork lift is allocated to.
Max Carrying Weight – records the maximum weight the fork lift can carry.
Power Type – records whether the fork lift is petrol-driven or electric.

Item (Entity)

Attributes:
Item Number (Primary Key) – uniquely identifies each item.
Date Stored – records when the item was brought into the warehouse.
Weight – records the weight of the item.

Bin/Item (Entity)

This entity will represent the many-to-many relationship between Item and Bin, because items can be moved between different bins, and each bin can hold multiple items.

Attributes:
Item Number (Foreign Key) – identifies the item stored.
Bin Number (Foreign Key) – identifies the bin where the item is stored.
Date Placed in Bin – records the date the item was placed in the bin.