

Zoo Exhibit Design

How can we keep endangered Komodo Dragons in chilly Minnesota? How do dolphins stay healthy in a land-locked state?

These questions can be answered by looking at different concepts of zoo exhibit design. Exhibit design utilizes many practical applications of mathematics in solving these types of questions.

Animal exhibits should be designed with the best interests of the animals, the zoo staff and the public taken into account equally.

The “best interest” of zoo animals can be directly related to their overall health. An animal’s health is affected by many different needs such as adequate space, proper environmental conditions, places to hide, activities, social behavior, water availability, safety and materials used to build the exhibit. Zoo designers try to imitate an animal’s natural living space as closely as possible by controlling these various factors.

The exhibit must also be easily accessible for the keepers and others members of the staff that need to service the exhibits (i.e. trimming trees, cleaning, etc.) The location of fences, gates, holding areas and water in the exhibit must be planned out accordingly.

For the viewing enjoyment of the public, designers must consider where the animals will be most visible, how much of the exhibit the public will actually see and that the physical appearance of the exhibit appears "healthy" for the animals.

Zoo exhibit design not only takes into account the habitat of a specific animal; it must also consider the complete environment where many different animals make their homes, such as the Asian Tropics. These types of exhibits are called “immersion exhibits”, because they immerse the visitor in the feeling of being in the tropics with temperature and humidity controls, the sounds of running water and many native plants and birds.

In these questions, students will gain an understanding of how various math skills can be used to develop different zoo exhibits and the effort required in maintaining them.