Enterprise Education: Enclosure Design

Aim:
To design an enclosure for an animal of your choice.

Background
Enclosure design is very important for the welfare of animals in zoos. It is also important for Zoo visitors to be able to see the animals in a suitable environment. The Welsh Mountain Zoo was opened in 1963 and is a registered charity. Some of the enclosures in the zoo are now in need of updating but building new ones can be very costly. The last one to be updated was the Swamp Wallaby enclosure and cost in the region of £20,000. The next enclosure to be up dated is for our Snow Leopards.

The Task:
You should work as a team to devise an enclosure design for an animal of your choice.
You may wish to make a 3D model of the enclosure.
You should discuss and develop your ideas to achieve this.

Visit to the Welsh Mountain Zoo
Research information on existing enclosures in the Zoo.
Survey the zoo's enclosures from the animals' and visitors' perspective.
identify questions you need to ask Zoo staff (you will be given the opportunity to meet Zoo staff if your group has booked a session. If not, please get a teacher to e-mail all your questions to the Zoo using education@welshmountainzoo.org)
Gather any other information you feel may be important or useful.
You can use the separate Enclosure Design worksheet to help you gather information about the existing enclosures at the Zoo

Back at school
Plan the project and give each member of the group specific tasks These may include:
- Research about the animals, both in the wild and in captivity
- Materials to be used
- Public perception
- Budgeting of project and presentation of cost sheet

Presentation
- Develop a presentation using power point outlining each members' roles and responsibilities
- Say how you planned the project and worked as a team
- Reflect on what you learned, what skills you used and what you might have done differently
- Present your finished enclosure design and your budget sheet for the project.

Things to consider:

The animals
- How big are they?
- How many are there?
- How active are they?
- Where do they come from in the wild and what kind of habitat are they found in?
- How much space do they need?
- Where do they spend most of their time in captivity?
- What do they need in their enclosure?
- Do the animals need privacy?
- Can they be mixed with other animals?

The keepers
- How can the keepers feed the animals the correct food and provide them with clean water without them escaping and sometimes without going in with them?
- How can the enclosure be kept clean in order to minimise the risk of disease?
- What if the animals needed moving for veterinary treatment?

The public
- Visitors want to be able to see the animals.
- Visitors generally like to see more 'naturalistic' enclosures. They are better for the animals and better for conservation education.
- Should the animals be visible all the time or should they have somewhere to hide? Many visitors don't stop very long if they can't see the animals very easily.
- Public perception of freedom. Do visitors prefer to see animals behind bars, mesh or glass?
- Where should the animal information signs be placed?
- What should be on the signs?

Building materials
- What materials would you use for:
  The   floor (sand, soil, concrete)?
  The barriers
  The shelter
  Other structures
- Are the materials:
  Non-toxic
  Hard wearing
  Easy to clean
  Strong and safe enough to keep the animals in
  Environmentally sound, i.e. from a sustainable source

Environmental Enrichment (Ways to improve the quality of life for the animals)
- Toys
- Scatter feeds to encourage foraging
- Feeding at different times
- Ways to make the animals work for their food.
- natural features like water, rocks or trees

Budgeting
When working within a business, each project has to be clearly budgeted in order for a company to develop a business plan. Budgets for new projects have to be predictable in order for them to be permanently adopted.

You will also need to consider the following:
The wages paid to the staff working on the project
Resource costs
Cost of any equipment used