



PLTW Virtual Learning

7th and 8th Grade Design and Modeling

April 15, 2020



Lesson: Zoo Animal Enclosure Design Challenge Day 3

Objective/Learning Target:

Students will use their research to design a brainstorm sketch of an animal enclosure.

Warm-Up:

Get out your Zoo and Animal notes from the past 2 days.

Read through your animal notes. Circle/Underline all the information that will be important for designing your animal's habitat.

Lesson Introduction/Background Information:

Today you are the expert in the type of habitat that will give your animal the best quality of life while in the zoo. Take everything you circled in your notes and begin brainstorming your design.

On the next slide I have an example of my notes and my thinking process to get me to a design.

It may take multiple attempts and a couple designs to get the best enclosure.

Hippopotamus

Teacher Example:

1. What climate/temperature does your animal live in?

Tropical
Hot
Africa

This means they are used to the heat. I can have an open enclosure for summer. Need a house for colder weather.

2. What does their habitat look like?

Rivers and Lakes

Will need to have a water source.

3. How big is your animal?

9.5-14 feet
1.5 to 4 tons

4. Does your animal live alone or in groups? How big of a group?

10-30

5. Does your animal live close to other animals?

Fish, birds, turtles, crocodiles

Maybe I could incorporate other animals to make a more natural environment. No crocodiles because they are a predator.

6. Does your animal have to be aware of any predators?

When they are young crocodiles, lions, hyenas, and leopards

7. What does your animal eat?

Graze on short grasses up to 150 lbs

Will need a grassy area

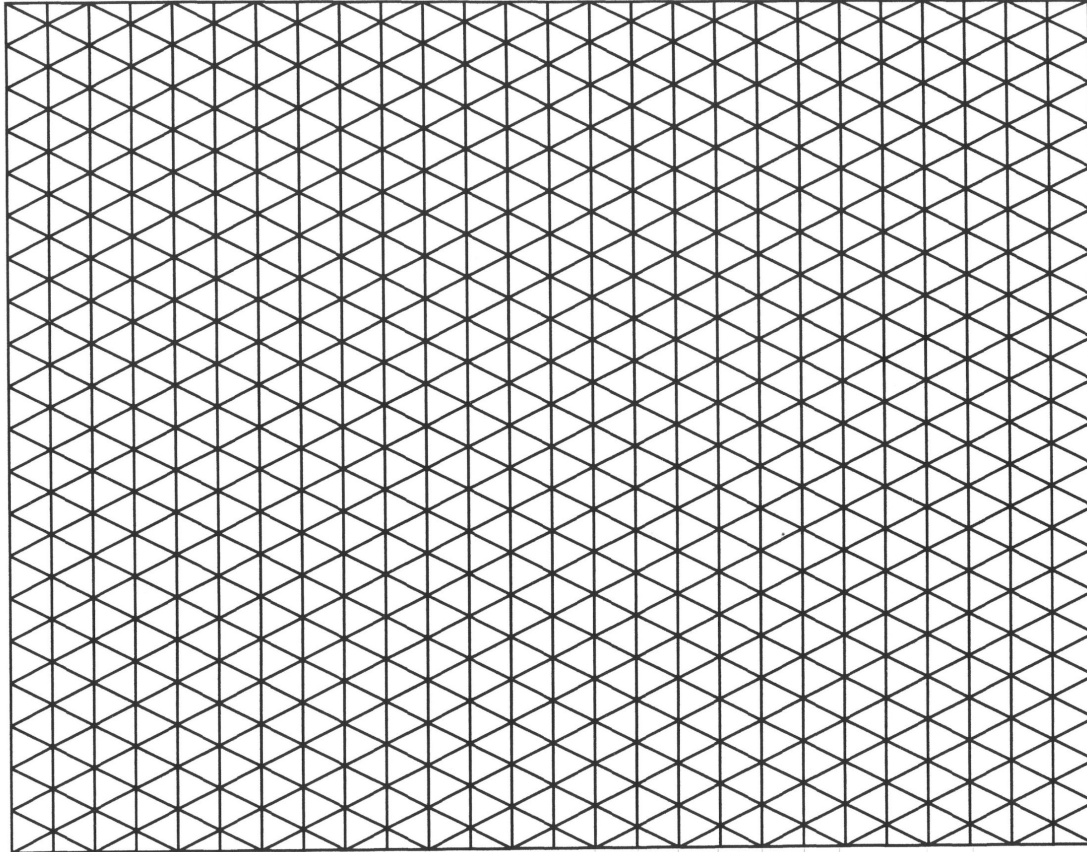
8. What type of activities does your animal do? (run, climb, etc.)

Swim. Hang out in the water most of the day.

Because they are in water most of the day, have underwater viewing for zoo visitors?

Practice:

Draw a brainstorm sketch of an animal enclosure.



Be sure to think about how and where visitors will view your animal and add that to your design.

Self-Assessment:

Check your animal has everything they will need to survive.

In the warm-up you underlined/circled everything in your notes that would be important to designing your animal enclosure. Now circle each piece of your brainstorm sketch that matches an important topic in your notes.

Is your design complete? What do you need to add/take away?

Repeat slides 7 and 8 until you have the optimal design.

Extend Your Learning/Continued Practice:

Draw a final copy of your design. Make sure it is neat and free of errors. Add color and details.

This will be helpful for you tomorrow when we draw our Computer Model.

