Animal Enrichment
Virtual Classroom Extension

Grade Levels
Grades K – 5

Objectives
These activities are designed to start your at-home students in recognizing themselves as scientists and in thinking critically about problem-solving. The goal is to teach concepts through discovery and to encourage using scientific thought processes. Feel free to adapt the lessons provided to better suit your students' abilities. Take these ideas, make them your own, and your students will have a greater chance of success.

Materials
Paper, pens or pencils. Optional: ruler, graph paper, animal-safe household items that can be used to create animal enrichment.

Procedures
1. Ask your at-home students to reflect on what they have learned from the Animal Enrichment: Primates video (https://resourcelibrary.clemetzoo.com/Area/21). Consider using the following questions to guide the discussion:
    a. What is enrichment and what were some examples of enrichment seen in the video?
    b. What are the benefits of giving animals enrichment?
    c. How do natural behaviors play a role in determining what type of enrichment to use?
    d. How can you find out what an animal's natural behaviors are?
2. Ask them to share some ideas of how they might be able to gather information about an animal in their own neighborhood (a pet or local wildlife) in order to design an appropriate enrichment item.
3. Explain that you will be designing an enrichment item for an animal. If your at-home student chooses to create an item for a pet or for local wildlife (like birds in your backyard), you may be able to physically give the finished item to the animal and your at-home student can observe how the animal uses it. If your at-home student chooses to create something for an exotic animal, such as a monkey or a dolphin, you would not be able to physically give items to those animals, so in this case explain that their creation would be a prototype. This means it would be a model to demonstrate what an item would look like. Prototypes and models are important parts of the design process and are very helpful in problem solving.
4. Before your at-home student can create an enrichment item, they must understand the natural behaviors of their chosen animal. One way to learn about behaviors is through observation. Check out the Grizzly Bears video that talks about observing animal behavior to learn more about how to scientifically observe animal behaviors (video can be found here: https://www.clevelandmetroparks.com/about/education/virtual-classroom/grizzly-bears; lesson plan can be found here: https://resourcelibrary.clemetzoo.com/Document/2508) . If you do not

have access to the animal behavior video or to the animal behavior observation sheet on Cleveland Metroparks Zoo's Online Resource Library, have your at-home student record observations on a piece of paper. They should make notes of the different behaviors they see their chosen animal doing. If they want to observe an animal that you do not have easy access to, like a monkey or a dolphin, try observing animals through online videos. There are many videos showcasing animal behavior in the videos section of the Online Resource Library.

5. After observing their chosen animal, have your at- home student design an enrichment item for that animal. Remind them to keep the behavioral observations in mind as they design. Enrichment should encourage natural behaviors. At home students can use paper to draw out what the enrichment would look like. They should also label the drawing with the purpose or function of each part of their design and create a list of materials needed to make it.
6. Older students can use a ruler and/or graph paper (if available) and make their design using an appropriate scaling technique. For instance, one square on a piece of graph paper might equal one inch of an object.
7. As at-home students are designing their enrichment items, discuss what they are adding to the object and why.
8. If they will not be building the item, discuss what they did and why. How would they build it?
9. As an additional discussion topic, consider asking your at-home student how people might also need enrichment.

Optional: Build the enrichment Item

10. Allow your students to build the item. Ask them what they would need to build it. Some items may not be readily available in your house. Discuss with your students' what alternatives you could use. This will allow them to practice critical thinking and real-world problem-solving skills. If the item will be used by an animal, ensure that all items that will be part of the enrichment are safe for the animal to have. Don't give any potentially harmful item to an animal.
11. If the completed enrichment item is for a pet, allow the pet to have it. Have your student observe the animal closely and keep notes of how the animal interacts with it.
12. Afterwards, talk about the experience with your student. Some questions to ask include: What did you notice? Did the animal use the enrichment the way you thought it would? Did the animal use it in a way that was unexpected? What would you do differently or change about the item if you were to do it again? Why would you change that?

Ohio Academic Science Content Standards
Grade K Life Science Topic: Physical and Behavioral Traits of Living Things K.LS.2: Living things have physical traits and behaviors, which influence their survival. Grade 1 Life Science Topic: Basic Needs of Living Things 1.LS.1 Living things have basic needs, which are met by obtaining materials from the physical environment.

Ohio Academic Technology Standards
Grade K-2 Design and Technology Topic: Identify a problem and use an engineering design process to solve the problem. K-2.DT.2.e. Communicate design plans and solutions using drawings and descriptive language. Grade 3-5 Design and Technology Topic: Identify a problem and use an engineering design process to solve the problem 3-5.DT.2.c. Generate, develop and communicate design ideas and decisions using appropriate terms and graphical representations.