NAME: _____ DATE: _____

WILDLIFE CROSSING DESIGN CHALLENGE

STEP 1: **The Challenge**

With your group, read and think about the quote and the challenge description.

"... The wild borders of the world have hardened into edge cities and millions of miles of highway, making them prime places for animals to be extirpated [rooted out and destroyed]. Car and truck strikes are responsible for the vast majority of known deaths of Florida panthers, as well as black bears and key deer, among other animals. As many as a quarter of those killed in a given year are kittens, cubs, or fawns."

—Cynthia Barrett, in *Path of the Panther: New Hope for Wild Florida*, by Carlton Ward, Jr.

THE CHALLENGE:
Design a structure or pathway to help your assigned animal move safely across the human-built obstacle.

Criteria
Your design must include the following:

- Labeled drawing of a design
- 3-D model
- Explanation of use
- Where would you build it, and why there?
- How would the organism use the path?
- How would you ensure that the organism uses the path?

Constraints

- Time: One class period to design and build
- Materials: Use the materials provided to build your model.

STEP 2: **Identify the Problem**

Review your assigned Animal Profile Card. Answer the following questions:

- Why does this organism need to travel across the obstacle?
- What abilities does this organism have that we should consider when creating a design?
- What limitations does it have?
- What additional information do we need about the organism or obstacle before beginning our design?

Write a problem statement:

Design a _____ for the _____ to move around _____ .

This is important because_____

_____

STEP 3: **Brainstorm and Draw Possible Solutions**

Spend 5 minutes brainstorming possible solutions, writing down all ideas.

Discuss each possible solution. Decide which one would be best for your animal. Consider the following:

- Does the animal have the ability to cross this bridge/pathway?
- Does the bridge/pathway reduce encounters with humans?
- Does this idea meet all the challenge criteria?
- Can this model be built within the time constraints?
- Do we have the materials and ability to build this model?

Determine the best features for your model. Draw the design and label all key components.

STEP 4: **Build a Model** 20 MIN

Using the materials provided, build a model of your design.

Prepare to present your design by answering the following questions:

- ► Where would you put your bridge or pathway? Why?
- ► How would the organism find the path?
- ► How would the organism use the path?

STEP 5: **Present and Record**

Present to your peers and record feedback. After you determine revisions needed below, revise your drawing to reflect these ideas.

- "Glows" (the positive feedback):

- "Grows" (questions and ideas for improvement):

- Revisions needed: