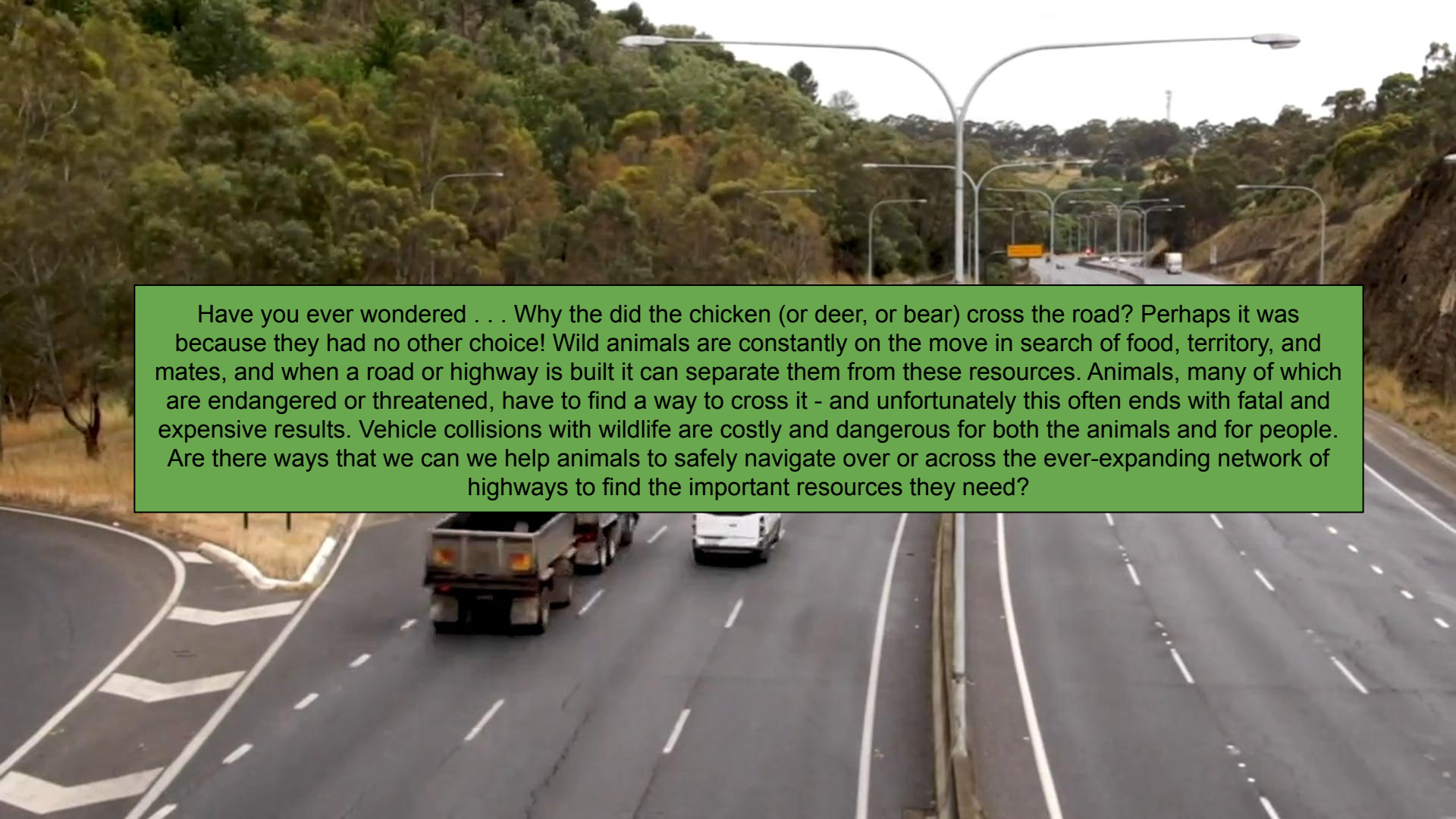
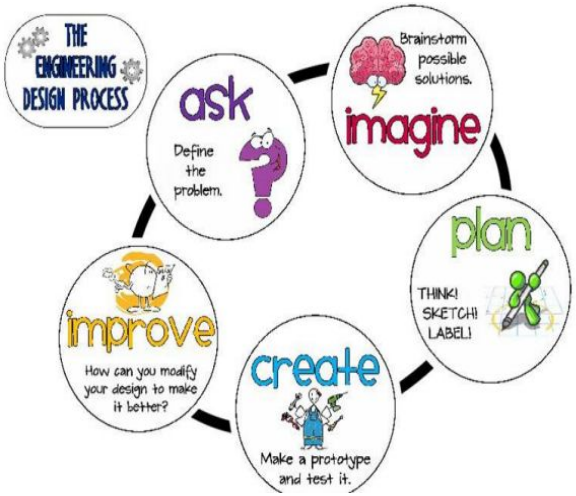


Have you ever wondered . . . Why the did the chicken (or deer, or bear) cross the road? Perhaps it was because they had no other choice! Wild animals are constantly on the move in search of food, territory, and mates, and when a road or highway is built it can separate them from these resources. Animals, many of which are endangered or threatened, have to find a way to cross it - and unfortunately this often ends with fatal and expensive results. Vehicle collisions with wildlife are costly and dangerous for both the animals and for people. Are there ways that we can we help animals to safely navigate over or across the ever-expanding network of highways to find the important resources they need?

- Ask
What is your design challenge?
What are your criteria (what does your design need to be able to do?)
What are your constraints?

- **Ask** - define the design problem
- **Explore** - what are some possible solutions?
- **Model** - build a prototype
- **Evaluate** - test your prototype, how can you improve it?
- **Explain** - tell about your design solution




Help **one** of these Australian cuties by **building a structure** that will allow it to cross the road safely! **Click** on each to learn more about their habits and habitats.

Brainstorming

[wildlife bridges video]

[types of bridges]

Species name:

Describe the natural habitat of your species.	
Does your species travel by land? Does it live in the trees?	
Is your species solitary, does it live alone? Does it live in a family group or herd?	
When does your species eat- day or night?	
What does your species eat? Is it a predator or a prey animal?	
Describe any unique behaviors that your species exhibits.	
What are some things that should be taken into account about your species and their lifestyle and challenges when designing your bridge?	

Try to draw things to scale as much as possible. You will use paper at home, then upload the picture here.

- **5.ETS1.A.1:** Define a simple design problem reflecting a need or a want that includes specific criteria for success and constraints on materials, time, or cost.
- **5.ETS1.B.1:** Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
- **5.ETS1.C.1:** Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Priority Standard	Unwrapped Concepts (students need to know)	Unwrapped Skills (students need to be able to do) I can Statements	Bloom's Taxonomy Levels	Web's DOK
5.ETS1.A.1	A simple design problem reflecting a need or a want that includes specific criteria for success and constraints on materials, time, or cost.	-I can **describe** the constraints of limitations on their design, which may include the following: Cost, Materials, Time Stimulus Material	Comprehension/ Understand	1
5.ETS1.B.1	Multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	-I can **generate** and **compare** multiple solutions to a problem to come up with the best one.	Synthesis/Evaluate Application/Apply	4 2
5.ETS1.C.1	Fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	-I can **carry out** the **investigation**, collecting and recording data according to the developed plan.	Analysis/Analyze Evaluate/Synthesis	3

Rubric

Engineering Design Process	Use of all steps of the engineering design process is evident. 3	Some steps of the EDP are evident,but not all. 2	No evidence of using the EDP is present. 1
Define the problem	Clearly defines the problem		
Participation	Listened 100% of the time and participated in class.	Listened most of the time and partially participated in class.	Did not listen well and did not participate class.
Presentation	All Google slides are complete and design was drawn on paper	Most slides are complete and design was drawn on paper	Did not complete all slides and/ or did not complete design on paper

Total points: