

# Turtle Crossing

**Grade Level:**

3-5

**Time Needed:**

2.5 hours

**Materials:**

- Connecting Wildlife Habitat Under and Over I-90 Video  
<https://www.youtube.com/watch?v=9cO9NXD3Ynw>
- Create a Safe Pathway for Turtles Design Sheet  
<https://www.teachengineering.org/activities/view/cmu-2561-turtle-bridge-engineering-design>
- Construction paper
- Pencils, markers, crayons
- Tape, glue
- Rulers
- Repurposed craft supplies (ex. egg cartons, paper towel rolls)
- Kids Rally for wildlife crossing bridge Video  
[https://www.youtube.com/watch?v=Tj\\_AU\\_D3leQ](https://www.youtube.com/watch?v=Tj_AU_D3leQ)

**Overview:**

Millions of animals are killed every year trying to cross roads. In some areas with wide expanses of freeway and wide center strips, people are creating animal crossings both over and under freeways. These crossings save the lives of both animals and people who are less likely to hit large animals that can cause serious accidents. They also contribute to increased genetic diversity because wildlife can now reach members of their species previously isolated by the highways. This diversity contributes to better healthier populations, thus helping ensure the species' continued survival.

This lesson discusses these crossings and allows students to create a crossing for a small animal. It also shows real students urging their communities to build more crossings in their local areas, demonstrating that kids can contribute to a better world by advocating for animals.

**Essential Questions:**

- Why should we care about killing animals as they try to cross the road?
- In what ways does the building of animal crossings help create a healthier world?
- How would the animals feel about having to cross the road with or without a safe passageway?

### Turtle Crossing (continued)

#### Standards:

##### Next Generation Science Standards:

- 3-LS2-1. Construct an argument that some animals form groups that help members survive.
- LS4.D: Biodiversity and Humans Populations live in a variety of habitats, and change in those habitats affects the organisms living there.
- 3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost

##### National Council of Social Studies:

- Investigate the impact of human activities on the environment. This enables them to acquire a useful basis of knowledge for informed decision-making on issues arising from human-environmental relationships.
- How do people interact with the environment and the consequences of those interactions?
- Express interest in and concern for the use and misuse of the physical environment.

##### International Baccalaureate:

- Pedagogical leaders provide opportunities for student voices to be represented in the school. (0402-03-0300)
- The school provides opportunities for students to take ownership of their learning through the personal project and community project. (0402-06-0221)
- Teachers ensure that there are clear examples of connections to local and global contexts in the curriculum. (0403-03-0100)

#### Objectives:

- Describe the purpose of animal crossings.
- Examine various types of such crossings.
- Analyze the reasons different types of crossings are built.
- Document the kinds of animals most often killed on local roads.
- Create a crossing for a small, slow local animal trying to cross a familiar road.
- Develop a plan to present your crossing idea to a real audience.

### Turtle Crossing (continued)

#### Procedure:

**Hook:** (can be several days before actual activity)

1. Show the video: Connecting Wildlife Habitat Under and Over I-90  
<https://www.youtube.com/watch?v=9cO9NXD3Ynw>.
2. Discuss:
  - Have any of the students seen a wildlife crossing? If so, what did it look like?
  - What kind of wild animals live in your area? List them on the board as students mention them.
  - Can students tell what kinds of animals are most often hit by cars in your area?
  - Are the same kind of animals often hit in the same locations? If so, why do you think this is?
  - What can they do to determine what kinds of animals are most often hit?
3. Ask students to observe, over the next \_\_\_\_ days, and keep count of how many animals and what kinds of animals they see lying on the road.

#### Dead Animal Count

(example from Midwest)

\_\_\_\_ Squirrels    \_\_\_\_ Opossum    \_\_\_\_ Raccoons    \_\_\_\_ Deer    \_\_\_\_ Coyotes

\_\_\_\_ Groundhogs    \_\_\_\_ Skunks    \_\_\_\_ Turtles    \_\_\_\_ Snakes    \_\_\_\_ Other

#### Activity Day(s):

1. Create groups of 3 or pairs. Ask each group to tally the number of each kind of animal their group counted.
2. Recreate the list of animals on the board, and ask each group to tell you how many of each kind of animal they counted.

## Turtle Crossing (continued)

3. Graph all the information if you have the time. Allow each group to select its type of graph.
4. Ask if any particular kind of animal was represented more than the others. *You can either choose to make the bridge for that kind of animal or for the turtle as explained by Teach Engineering.*
5. If you decide to use turtles, here's a way to make some cute ones for the model. Egg Carton Turtles  
<https://www.pbs.org/parents/crafts-and-experiments/create-egg-carton-turtles>.
6. At this point, you can follow the instructions for building the turtle bridge from Teach Engineering: Create a Safe Pathway for Turtles  
<https://www.teachengineering.org/activities/view/cmu-2561-turtle-bridge-engineering-design>.
7. Some suggestions for shortcuts:
  - It will be much easier if you distribute the *Create a Safe Pathway for Turtles Design Sheet* first.
  - You can change the name of the animal if you use a different one. The .docx version of the sheet can be downloaded and edited.
  - You can skip all the preliminaries and just look at *Materials* and *Procedure*.
  - Depending on your time, you can probably skip the research piece, and replace it with a local Google map satellite view, or a topographic map of your community.
  - Save the *Improve* and *Reflect* sections of the Design Sheet for after the designs are completed.
8. Allow time for design and construction.
9. Display all of the bridges and allow time for students to walk around and examine them.
10. Finish the *Improve* and *Reflect* sections of the Design Sheet, focusing on whether the students' bridges meet the needs of the animals they built it for. Discuss.

### Turtle Crossing (continued)

11. You may want to ask them to fill out the *Making Sense* sheet **if** you are fulfilling engineering standards.
12. Once you have finished the building project, show the video:  
[https://www.youtube.com/watch?v=Tj\\_AU\\_D3leQ](https://www.youtube.com/watch?v=Tj_AU_D3leQ). There are places where the sound quality is bad due to highway noise, but most of it is audible enough for students to understand the point.
13. Discuss any ideas students may have about helping animals in their own community.
14. Discuss the essential questions.

#### Notes:

- You may want to ask different groups to create a bridge for different kinds of animals.
- If you have the time, follow up on their ideas for helping animals in their own community by developing an actual plan. Examples:
  - Letters to officials about the issue
  - Inviting officials to the class to discuss the issue
  - Making a video for the whole school about the the issue
  - Making signs for the street the school is on asking people to watch for animals