# Resilient Ecosystem 🌰 Scenarios 🌰

**Directions:** Read the following scenarios. With your group, discuss how each scenario would impact the food web in your ecosystem. Consider how organism populations would grow or shrink in size depending on food accessibility.

**Scenario 1:** The temperature in the Oak Woodlands ecosystem has risen consistently over the last few years. The summers are hotter, drier, and the heat lasts well into the fall season. Grasshoppers in the Oak Woodlands thrive off heat, and begin producing more and more. Their population quadruples(x4) in size! Grasshoppers love to eat grasses like Brome Grass.

**Questions to consider:**
- If the grasshopper population expands up to 4x its current size, how will other species be impacted?
- Which species will grow?
- Which will reduce in size?
- Can anything be done to control the grasshopper population? (Card info will help you with this question!)
- If this scenario was applied to your ecosystem, what do you think would happen?

**Notes/illustrations:**

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**Scenario 2:** Black Oak trees produce acorns that are large, oily, and nutritious. Many species of animals eat acorns because they are tasty and a great source of nutrition and energy, like squirrels, humans, and birds. A new settler community recently moved to the area and cleared out 50% of the oak population in your ecosystem.
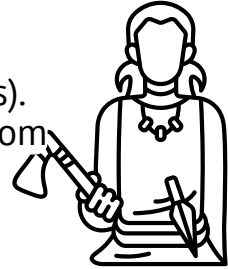
**Questions to consider:**
- If 50% of the Black Oak population is cut down, how is the food web impacted?
- Which species will grow?
- Which will reduce in size?
- Is there anything that can be done to help your food web remain strong?
- If this scenario was applied to your ecosystem, what do you think would happen?

Notes/illustrations:

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**Scenario 3:** Humans are an apex predator in your ecosystem, which means that they consume lots of organisms, but no organisms consume them (with the exception of decomposers). 75% of your human population was forced to migrate away from your Oak Woodland ecosystem because of repeated extreme weather events.

**Questions to consider:**
- If 75% of the human population leaves your Oak Woodlands ecosystem, how is the food web impacted?
- Which species will grow?
- Which will reduce in size?
- Is there anything that can be done to help your food web remain strong?
- If this scenario was applied to your ecosystem, what do you think would happen?

Notes/illustrations: