



Episode 4 - The Tree Lobsters

Thank you for joining us on *The Buzz*, a next generation science show, where YOU are part of the cast. Season One of *The Buzz* is an odyssey through ecosystems science, from the minuscule building blocks that form our environment to the global effect of switching those blocks around.

In our final episode of the season, a look at garden pollinators leads to talk about murder hornets, recently introduced to the US. This inspires Harv to share a cautionary tale about introduced species when Harv reveals how a steamship ran aground on his Lord Howe Island home, and unleashed a terror that made his once plentiful species *-Dryococelus australis-* into one of the rarest animals on Earth. We learn that locals called Harv's kind 'Tree Lobsters'- a term he finds deeply offensive, because it evokes a time when his relatives were used as bait to catch fish. What with extinction of some species, the radical ecological shifts that non-native wildlife can wreak, and the pervasive threat from climate change to our very way of life, facing such challenges can feel completely overwhelming. However, there are millions of people working to overcome these and other challenges. We take a look at some of the major climate influencers around the world, and at ways to speak out for the causes we support- whatever they may be.

Project: Protest Signs & Ways to Channel Energy



Given how many causes we care about, finding the energy to tackle them all can feel impossible. But people all over the world use techniques to amplify their voices and make real change. So can you.

Suggested Materials:

- A cause that you care a lot about
- Poster board, cardboard or some other material suitable for making a sign
- Markers, paints or other material suitable for painting and writing on your sign
- Ruler, stick or other object to serve as a handle for your sign
- Tape, for fastening the handle to your sign
- BONUS- access to the internet, to learn the name and contact info for your elected officials, and to learn about organizations of people who care about the same things that you do

Project Previews & Supplemental Materials

Adam & Harv will make a protest sign using methods similar to this:

[How to Make Protest Signs](#)

Tool for identifying your elected officials in the US:

<https://www.usa.gov/elected-officials>

Some of the Next Generation Science Standards Addressed:

MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. [Clarification Statement: Emphasis is on recognizing patterns in data and making warranted inferences about changes in populations, and on evaluating empirical evidence supporting arguments about changes to ecosystems.]

MS-LS2-5. Evaluate competing design solutions for maintaining biodiversity and ecosystem services.* [Clarification Statement: Examples of ecosystem services could include water purification, nutrient recycling, and prevention of soil erosion. Examples of design solution constraints could include scientific, economic, and social considerations.]

ETS1.B: Developing Possible Solutions

There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. (secondary to MS-LS2-5)

LS2.C: Ecosystem Dynamics, Functioning, and Resilience

Ecosystems are dynamic in nature; their characteristics can vary over time. Disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations. (MS-LS2-4)

Biodiversity describes the variety of species found in Earth's terrestrial and oceanic ecosystems. The completeness or integrity of an ecosystem's biodiversity is often used as a measure of its health. (MS-LS2-5)

LS4.D: Biodiversity and Humans

Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling. (secondary to MS-LS2-5)