

# Secrets of the Hibernators **STEM Kit**



**M**armots, ground squirrels, and black bears are fascinating animals who hold answers to many of the problems that humans face. One serious problem is obesity. Shedding extra weight is very difficult for many of us, but is a normal part of their annual cycle. Another human problem that they have apparently solved is avoiding bone loss during long periods of inactivity during hibernation.

**Big Concepts:** Nature of science, metabolism, hibernation, bone structure, and climate

**Scientific Inquiry Skills:**

- Graphing Body Mass Index
- Measuring temperature dependence of metabolism
- Analyzing bone structure under microscope
- Use of science notebook

**Grade Levels:** 6th grade and up

**Number of Kits per Set:** 15

**Student Group Size:** 2

**Time Required:** 90-120 minutes

**Web page:**

[cns-eoc.colostate.edu/hibernators.html](http://cns-eoc.colostate.edu/hibernators.html)

**Funding:** National Science Foundation

**Faculty Collaborator:** Drs. Greg Florant & Seth Donahue

These kits are used for STEM Friday field trips, teacher workshops, and are available through the EOC Lending Library.



College of Natural Sciences  
Education & Outreach Center



Colorado  
State  
University

## **CNS Education & Outreach Center Mission Statement**

The College of Natural Sciences Education & Outreach Center is an incubator for innovation in STEM education. We serve both CSU and 4th-12th grade students and faculty through a variety of programs. Many of our programs focus on authentic scientific research experiences that aim to promote enthusiasm for the STEM disciplines, especially for students traditionally underrepresented in these fields. Particular emphasis is on finding new ways to promote scientific creativity and innovation, attributes essential for global challenges in the 21st century.

Learn more:

[www.cns-eoc.colostate.edu](http://www.cns-eoc.colostate.edu)

## **STEM Fridays**

STEM Fridays are facilitated by CSU undergraduate students studying to become science teachers, mentored by EOC staff. The science content has been developed at the EOC to give students a mini scientific research experience in a safe university laboratory setting. All content is tied to Colorado Science Education Standards and is compatible with the Next Generation Science Standards.

Learn more:

[www.cns-eoc.colostate.edu/cnseocstemfriday.html](http://www.cns-eoc.colostate.edu/cnseocstemfriday.html)

## **EOC Lending Library**

The EOC has a variety of STEM materials and kits available for weeklong loans by classroom and informal educators. Please visit the following link to see which kits are currently available.

Learn more:

[www.cns-eoc.colostate.edu/stemkits.html](http://www.cns-eoc.colostate.edu/stemkits.html)

*Discovery Begins Here*