**HHMI Pocket Mice Video**

**BACKGROUND**

The rock pocket mouse (*Chaetodipus intermedius*) is a small rodent in the Heteromyidae family. Even though it looks very much like a mouse, pocket mice are more closely related to pocket gophers than to true mice. We show the classification and Heteromyidae phylogeny below:

**Kingdom**: Animalia

**Phylum**: Chordata

**Class**: Mammalia

**Order**: Rodentia

**Family**: Heteromyidae

**Subfamily**: Perognathinae

**Genus and species**: *Chaetodipus intermedius*

**QUESTIONS**

1. Why do the pocket mice in the dark lava environment have white underbellies?
2. What drives the differences in mouse fur color?
3. How does a dark mouse appear in a population of light mice?
4. What is a mutation?
5. Are mutations bad?
6. What does the Mc1R gene do?
7. How do you get a population of dark colored mice?
8. Did the mice on each of the dark lava flows have the same mutation?
9. Is evolution a random process?
10. Why would coat color matter to a nocturnal animal? (thinking question – not in video)