**Activity 2: Epigenetics Review**

**(Topic 8 Environmental Influences)**

1. Go to the class website ([www.scienceperks.weebly.com](http://www.scienceperks.weebly.com)).

2. Watch and take notes on the Topic 8 Lesson Video.

3. Click on Topic 8 Additional Resource: *Lick your rats*.

4. Work through the webpage, watching the videos, reading the passages, and completing the two tutorials: “Which kind of Mother rat are you?” and “Investigate the Difference between High and Low Nurtured Rats.”

5. Answer the following questions after completing the activity. You may write on a separate sheet of paper or place answers on the back of this page.

1. Explain how a high-nurturing mother rat shapes her pup's epigenome, and what that pup's response to stress will be.
2. In rats, does licking by the mother activate, or deactivate her pup's GR gene?
3. Explain how cortisol and the GR protein work together in the brain to relax a rat pup. You may draw a diagram.
4. The rat nurturing example shows us how parental behavior can shape the behavior of their offspring on a biochemical level. Relate this to humans and think about the personal and social implications. Record your thoughts.

6. If you have time left, use it to work on your Environmental PSA activity (due Friday) or your Project Hope and Healing website (due March 20).