**Ghost in Your Genes Worksheet**

1. Genes are important in determining what you look like. What else plays an important role?
2. What is the orthodox biological view of inheritance? Aka, how do your parents influence how you look?
3. Why is Angelman’s syndrome called “happy puppet” syndrome?
4. What is the similarity in the cause of Angelman’s Syndrome and Prader-Willi Syndrome?
5. When do children get Angelman’s Syndrome? When do they get Prader-Willi syndrome?
6. What is the human genome project? What did scientists hope would be the outcome of this project?
7. How many genes does the human genome have approximately?
8. What is epigenetics? What does it control? We learned about the mechanism of how yesterday.
9. What syndrome does the little boy Kieran have? What are the symptoms?
10. What does it mean for a gene to be turned on? To be turned off? If a gene is off, do you still have that gene?
11. What happened to the offspring of these mice?

1. What example does Pembrey use of why mothers’ might want to be able to change gene expression in their babies? Hint: it has to do with why birth is dangerous in humans
2. Overkalix is a town in Sweden that has a population important for understanding inheritance. What made it such a useful study population?
3. What hormone scientists measure to test for stress?
4. How did stress in the mothers that were pregnant during 9/11 affect their babies? How did this vary depending on how far along the mother was in her pregnancy?
5. What did the pregnant rat study show? What did this show about genes being turned on and off in offspring of stressed mothers? What does this imply might be true of humans?
6. What impact did cycles of famine and harvest have on lifespan in offspring in Overkalix?
7. At what age is a grandfather sensitive to epigenetic change? At what age is a grandmother sensitive? Why are the ages different for women and men?
8. In the study done on mice exposed to pesticide, how many generations out do they see increased diseases?
9. What does it mean to be a guardian of your genome?

1. Why is this documentary called ghost in your genes?