

## What Darwin Never Knew – Video Questions

Watch the video at PBS – it is 2 hours long so you may want to watch over the weekend

[http://www.pbs.org/wgbh/nova/education/lessonideas/3617\\_whatdarwin.html](http://www.pbs.org/wgbh/nova/education/lessonideas/3617_whatdarwin.html)

Hulu: <http://www.hulu.com/watch/206374>

Or on youtube

Answer the following questions in your notebook

1. What are mutations and why are they important?
2. What questions could Darwin not answer?
3. What was the standard view on Evolution at the time of Darwin's voyage?
4. What was seen on the developing embryos of snakes?
5. What happened to the fur of the mice that lived on the darker rocks? Why?
6. What is the human genome project and why was it important?
7. A hypothesis of the human genome project was that the more complex organisms would have more genes than less complex organisms. Was this hypothesis supported by the results?
8. Are all human genes different from the genes of other animals?
9. What do switches do?
10. What do body plan genes do?
11. For the following examples from the movie note the main points. Also note any role mutations or regulation play in these examples
  - a. Mice in Arizona
  - b. Embryo studies
  - c. Flies and wing spots
    - What experiment did they do to explore this
    - How are jellyfish genes used?
  - d. Stickleback fish in lake and manatee
  - e. Galapagos finches
  - f. Neil Shubin research into how fish moved onto land
  - g. Evolution of the human thumb
    - What experiment was done to explore this?
  - h. Research into a cure for muscular dystrophy
  - i. Research into children with neurological problems
  - j. Computer work of comparing genes between chimps and humans