**PBS Evolution**

**The Evolutionary Arms Race**

**Predator and Prey**

1. What unusual adaptation does the rough-skinned newt have?
2. The common garter snake is able to prey on the rough-skinned newt. Does it suffer any ill effects?
3. Is there any disadvantage of the snakes having resistance to the toxins?

**Antibiotic-Resistant Tuberculosis**



1. Are micro-organisms predators? Explain.
2. What discovery gave humans an advantage over bacteria?
3. What does tuberculosis do in the body when active?
4. How does tuberculosis spread from person-to-person?
5. Explain the events that led to the evolution of antibiotic-resistant TB in the prisoner.
6. How are prisons ideal incubators for multi-drug resistant TB?
7. Why aren’t second-line antibiotics available for use in the prisons?
8. One of the scientists describes multi-drug resistance as a “man-made problem”. How are they over-used?

**AIDS and FIDS**

1. What normally-fatal disease is found in nearly every wild cat in the world?
2. This disease is considered to be non-lethal in wild cats. What is the proposed explanation for this?
3. About 10% of Caucasians are immune or resistant to HIV. What event occurred in Europe that may have created **selective pressure** for this trait?

 **Symbiosis**

1. Define mutualistic symbiosis –
2. Give one example of mutualistic symbiosis.
3. Describe the relationship between the Atta leaf-cutter ants and the fungus they cultivate.



1. What pest invades the fungus gardens that the ants maintain?
2. Why don’t the fungus gardens develop resistance to the bacterial antibiotic?

**Allergies and Asthma**

1. In the study of asthma rates of children living in the Bavarian countryside, what factor seemed to lower the rates the most?
2. Do you think it is unnatural or unhealthy to expect to live in a germ-free world? Explain.