**Germ Killing –ANTIBIOTICS WS - KEY**

1. Alexander Fleming discovered penicillin in 1928.

2. *Penicillium notatum* is a species of mould and it belongs to Kingdom Fungi.

3. Some deadly bacterial infections that were quickly eliminated with the advent of penicillin are: Syphilis, Gangrene, and Tuberculosis.



****

**WHAT ARE ANTIBIOTICS?**

**4. Most antibiotics fight bacteria because bacteria are cellular organisms that can live freely and use their own enzymes. Viruses are not as easy to target because they are non-cellular and they live parasitically in a host’s cells and hijack the enzymes and raw materials of the host cell.**

**5. Prokaryotic cells are smaller simpler cells than eukaryotic cells. Prokaryotic cells have no membrane bound organelles and they lack a true nucleus.**

****

**6. Bacteria damage a body by putting out toxins or by directly invading and damaging bodily tissues.**

**KINDS OF ANTIBIOTICS**

**7. The four main families of antibiotics are as follows:**

**a) Penicillins/Cephalosporins**

**b) Sulfas**

**c) Macrolides (Erythromycin)**

**d) Trimethoprim-Sulfamethoxazoles (TMP’s)**

**8. The most widely used family of antibiotics is the penicillin/cephalosporin family.**

**9. Penicillins/cephalosporins act by inhibiting some of the key enzymes involved in cell wall synthesis.**

**10. Common side effects of penicillin/cepha use include, diarrhea, rashes and hives. Some individuals may experience an anaphylactic reaction (inflammation causing the blocking of the airway).**

**11. Desensitizing is a process of gradually introducing a drug or a chemical to an individual who has allergic sensitivity to the drug. The method injects small amounts of the drug over a long period of time, the dose is gradually increased.**

**12. The most commonly used macrolide is “Erythromycin”.**

**13. Macrolides work by targeting prokaryotic ribosomes, by doing so, protein synthesis is shut down. Prokaryotic ribosomes are a different shape and size than eukaryotic ribosomes.**

****

**14. Erythromycins (and other macrolides) have been commonly used to fight bacterial bronchitis, chlamydia, and Pertussis (Whooping Cough).**

****

****

WHOOPING COUGH - Pertussis

15. The most common side effect of macrolide use is upset GI (gastrointestinal)

**16. Sulfa-based antibiotics fight bacteria by shutting down the prokaryotic enzymes involved in DNA replication.**

**17. Sulfa-based antibiotics are not as commonly used as they once were because many of the bacteria they have been used on are now resistant and a fair amount of the population experience allergic reactions to these meds.**

**METHODS OF TAKING ANTIBIOTICS:**

**18. Antibiotics are taken orally, intravenously, and sometimes taken topically for skin or eye infections.**

**ANTIBIOTIC RESISTANCE**

**19. When you start taking an antibiotic you wipe out many of the bacteria in the first few days, but some bacteria are a bit more resistant so they need to be exposed to the med for a longer period of time before they will die. If you stop taking the antibiotic prematurely you leave behind the somewhat resistant bugs to flourish and reproduce to give rise to a strain that is more resistant than the original population.**

[**http://www.youtube.com/watch?v=VQhIz2LqrYA**](http://www.youtube.com/watch?v=VQhIz2LqrYA)

**20. A virus can get into a bacteria and inject its DNA, causing the bacterial DNA to get mutated.**