Disease Detectives Facts Test

Matching: Match the definition with the correct word.

1. Prevalence Rate	A. An educated guess made after information is gathered and viewed. Research is done to test whether the hypothesis is true or not
2. Case	B. The study of disease and health in human populations
3. Diagnosis	C. Personal behavior or lifestyle, an environmental exposure, or a family trait that might cause or add to a health problem
4. Relative Risk	D. A study type that uses *cases* (with the health problem) and compares them with *controls* (without the health problem) to find out what may have caused the problem. A type of retrospective study
5. Epidemiology	E. The number of all current cases in a population during a certain time.
6. Risk Factor	F. A way to describe who has the health problem by place and time. For example, researchers defined a case as a baby born in Cameron County between 1986 and 1991 with a diagnosis of anencephaly.
7. Hypothesis	G. A testing study. The study asks groups of people to try treatments, and then looks at which treatment leads to better health.
8. Case Control Study	H. A comparison of the risk of disease in one group compared to the risk of disease in another group.
9. Case Definition	I. A study that watches people to see if their health habits or traits relate to diseases. The researcher does not change a person's habits or give them any treatments as in an experimental study. There are two types, prospective and retrospective.
10. Experimental study	J. A study type that finds people with and without a disease and then goes back to find out if their health habits could have caused the disease.
11. Observational Study	K. The occurrence of a pre-defined health problem in a person
12. Retrospective Study	L. A study that starts to watch people over time in the future. The study looks at the habits of a group of people and then follows them to see who gets a disease and who doesn't.
13. Cluster	
14. Prospective Study	N. A judgment about the name and type of illness affecting a person
	O. A group of cases close in time and place.

Fill-in-the-blank

Beside each disease indicate the causative agent (virus, bacterium, protozoan, none of the above). If the answer is "none of the above", explain what causes the disease.

15. Cancer _____ _____
16. Lyme disease _____ _____
17. Influenza _____ _____
18. Anthrax _____ _____
19. Rabies _____ _____
20. Diabetes _____ _____
21. H.I.V. _____ _____
22. Giardiasis _____ _____
23. Plague _____ _____

Short Answer

Write a short response to each question.

24. Epidemiology is the study of the occurrence, transmission, avoidance and cure of disease. Explain how epidemiologists do this with influenza each year. Be sure to address each of the four steps listed above in your answer.

25. Explain why influenza virus must have constant surveillance by epidemiologists. What does this pathogen do each year (how does it change)? What does H5N1 mean?

26. Approximately how many people die from the flu each year in the U.S.? What is the best method to avoid getting the flu?

27. Influenza spreads in respiratory droplets caused by coughing and sneezing. If your were the doctor, how would you prevent the spread of the flu? What would you do with individuals who have the flu? Be sure to address each age group (children, adults, and the elderly).

28. Who is considered to be "high risk" for getting the flu? Why are they at high risk? Why should vaccination of every person be avoided?

29. Each year the FDA must develop a new vaccine to fight off the flu. For the 2006-2007 influenza vaccines will contain the following:

    - an A/New Caledonia/20/99 (H1N1)-like virus;
    - an A/Wisconsin/67/2005 (H3N2)-like virus (A/Wisconsin/67/2005 and A/Hiroshima/52/2005 strains);
    - a B/Malaysia/2506/2004-like virus (B/Malaysia/2506/2004 and B/Ohio/1/2005 strains)

    The first two are from a "type A" strain and the last one is "type B." Explain why persons are vaccinated with both type A and type B each year. What about type C?

30. Once vaccinated against the flu, it takes about two weeks before your body is "protected" from the flu. Explain why this is (hint: think about antibodies).

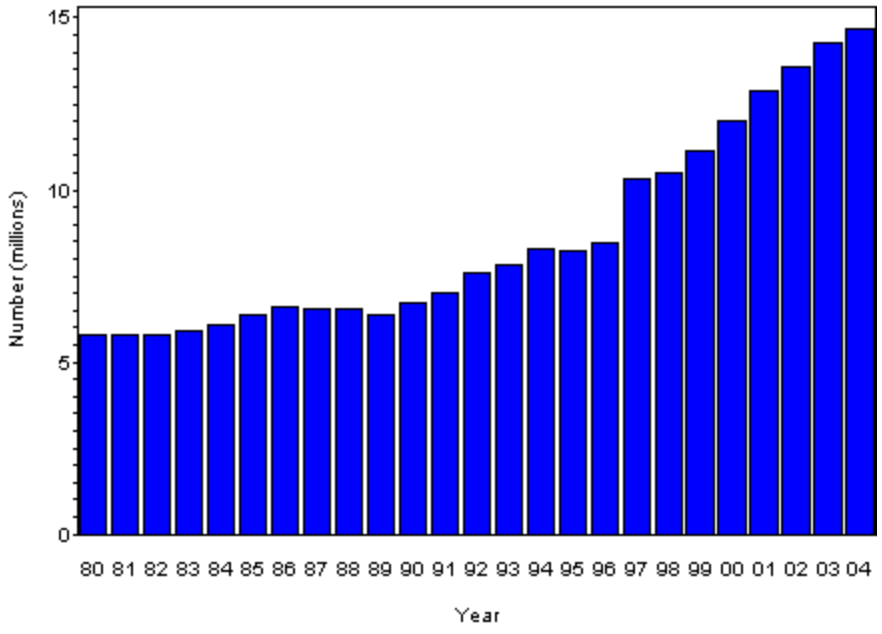
31. Explain what diabetes (type 1 and type 2) does to the body. Discuss type 1 diabetes and type 2 diabetes. Are there other types of diabetes?

32. What are the risk factors for diabetes?

33. What are the treatments for diabetes (types 1 and 2)?

34. Explain why the following has occurred with diabetes.

Number of Persons Infected with Diabetes by Year



35. Briefly define the following words:
    a. Autoimmunity-

    b. Beta cells –

    c. Blood glucose –

    d. Hyperglycemia –

    e. Hypoglycemia –

    f. Insulin –

    g. Nephropathy -

    h. Pancreas –