

Reading for the Real World 3

Midterm Test (Units 1-6)

A. Fill in the blanks with the words in the box.

symbolic	minimal	criteria	sophisticated	artificial
tropical	molecular	likelihood	adverse	prominent

1. In tropical climates, the average temperature for all twelve months is at least 18 degrees Celsius.
2. Carmakers perform tests to see how their cars do in adverse conditions, such as icy roads.
3. A hurricane struck the island last week, but because residents were prepared, the damaged was minimal.
4. People were shocked at Dr. Gayle's involvement in the crime because he is such a(n) prominent and respected citizen.
5. One of the most well-known molecular formulas is that of water—H₂O.
6. Artificial limbs are becoming much more high-tech, and many even look quite real.
7. In the story, the girl's white dress is symbolic of her innocence.
8. Special effects in old movies were not very sophisticated, so they look kind of ridiculous to us now.
9. Having parents who are college-educated greatly increases the likelihood that a child will attend college.
10. In the hiring process, one of the most important criteria is how well a person will fit in with his or her co-workers.

B. Match each word with its definition.

- | | | |
|-----------|----------|--|
| 1. trauma | <u>h</u> | a. to find or perceive |
| 2. static | <u>b</u> | b. showing little or no change |
| 3. fossil | <u>f</u> | c. acceptance of behavior outside the norm |

4. detect	<u>a</u>	d. severe or very unpleasant
5. toxic	<u>i</u>	e. having a reasonable chance of succeeding
6. theorem	<u>j</u>	f. the very old remains of a living thing
7. nasty	<u>d</u>	g. a cause of excitement and interest
8. sensation	<u>g</u>	h. a very difficult or unpleasant experience
9. viable	<u>e</u>	i. poisonous
10. tolerance	<u>c</u>	j. a general scientific formula or statement

C. Read the excerpt from “Gene Therapy.” Then answer the questions.

Gene therapy is defined as a way of curing or preventing disease by changing the behavior of a person’s genes. Currently, gene therapy is still in its early stages, with most of it still experimental. There are actually two types of gene therapy: somatic and germline. Somatic gene therapy targets genes in the soma, or body cells. In this way, the genome of the recipient is changed, but this change is not passed on to the next generation. For example, experimental trials in treating cystic fibrosis treat the genes only in the cells of the lungs, and, consequently, the patient’s children would still be at risk of the disease.

In germline gene therapy, genetic changes are made to reproductive cells. The egg or sperm cells of the patient are genetically changed with the goal of passing on these changes to his or her children. In practice, this would mean changing the fertilized egg, the embryo, so that the genetic changes would be reproduced in every cell of the future adult, including the reproductive cells. In fact, germline genetic engineering is not being actively investigated in humans or even large animals at this point. Thus far, the procedures are still too risky and undeveloped. Experimentation has occurred with mice in which genes were added or deleted and the effects have been observed to help better understand gene functions.

Many people falsely assume that germline genetic engineering is already performed all the time, due to news reports about genetic manipulation. But in fact, these reports are either of somatic gene therapy trials or of cloning, which in itself does not alter any genes but merely copies them. Furthermore, even in the field of somatic gene therapy, many factors have prevented researchers from developing successful techniques.

The first problem is in the gene delivery tool—that is, how a new gene is inserted into the body. Scientists have tried to remove the disease-causing genes and insert healthy genes for therapy instead. Most vehicles used these days are viruses. Although the viruses can be effective, other problems may arise. Often, the body reacts against the virus in an immune and inflammatory response. Additionally, the viruses don't always target the right area.

1. Circle T for true or F for false.

Somatic gene therapy ensures that cystic fibrosis is not passed on to the next generation.

T

F

2. Which is NOT true of germline gene therapy, according to the passage?

- a. It involves making changes to an embryo.
- ☒ b. It has not been attempted on any animals yet.
- c. It is still in early stages of development.
- d. It is not the same process as cloning.

3. The word **arise** in the last paragraph is closest in meaning to _____.

- a. progress
- b. increase
- ☒ c. occur
- d. disappear

D. Read the excerpt from “Tough on Drugs.” Then answer the questions.

Certainly, part of Singapore's approach toward dealing with the use of illegal drugs is related to the government's intense concern over national security since gaining independence from Great Britain. The political system that has developed in Singapore depends on the continued use of powers established to deal with communist threats in the Southeast Asian peninsula in the 1950s.

A key instrument in wielding this power is the Internal Security Act (ISA). The ISA was created in 1960 and modeled on the British government's Preservation of Public Security Ordinance of 1955. The ISA has remained part of Singapore's domestic laws since that time. Though the country has been accused of denying basic human rights to its people, there has been little serious challenge to Singapore's legal practices due to other instruments of state control. These measures include controls over the freedom of the press, restrictions on trade unions and associations, and the abolition of jury trials.

In addition to suppressing political dissent by defining it as a threat to Singapore's national security, the ISA allows citizens to be arrested without warrant and detained without trial if they are "suspected of criminal activity." Such criminal activity includes, of course, the sale or use of illegal drugs. The government agency in charge of dealing with drug users is the Central Narcotics Bureau (CNB), which employs Singapore's Misuse of Drugs Act to require anyone to submit to a urine test for drugs. A positive drug test is sufficient justification for detention in a Drug Rehabilitation Center (DRC) for six months. Singapore's DRCs are run by the Prisons Department, which does not subscribe to the idea that drug addiction is a medical problem. Rather, drug addiction is seen as a social and behavioral problem. Therefore, addicts are held responsible for the consequences of their own actions.

From 1975 to 2012, the penalty in Singapore for anyone caught trafficking in illegal drugs was death. As of 2012, the death penalty is no longer mandatory (but remains enforceable), and life sentences are now the norm. In addition to harsh penalties for drug trafficking, Singaporean law also imposes a "presumption of intent" to be a drug trafficker in all cases in which the amount of drugs in the possession of a person exceeds a certain limit, such as 100 grams of opium or three grams of cocaine.

1. Singapore created a communist government after gaining independence from Britain. T **F**

2. How has Britain influenced the law in Singapore, according to the passage?

- a. Singapore eased its security restrictions after Britain accused it of violating human rights.
- b. Britain established strict instruments of control over the people before granting Singapore independence.
- c.** The Preservation of Public Security Ordinance served as the model for Singapore's later security law.
- d. Singapore models its presumption of innocence on the British practice.

3. Which of the following is NOT true, according to the passage?

- a. A person does not have to be convicted of a crime before being sent to a DRC.
- b.** Singapore views addiction to drugs primarily as a health problem requiring treatment.
- c. The death penalty was once mandatory in Singapore for drug trafficking.
- d. The presumption of intent to traffic a drug depends on how much of it a person possesses.

E. Read the excerpt from “Deforestation.” Then answer the questions.

Deforestation occurs for many reasons. In the temperate rainforests of the US and Canada, large areas of forest have been cleared for logging and urban expansion. In tropical rainforests, one of the most common reasons for deforestation aside from logging is agriculture. Because the soil in many tropical regions is often nutrient-poor, and since ninety percent of nutrients in tropical forests are found in the vegetation and not in the soil, many farmers practice an agricultural method known as slash and burn. This method consists of cutting down the trees of an area in the rainforest and burning them to release their rich nutrients into the soil.

This method is sustainable only if the population density does not exceed four people per square kilometer of land. When this is the case, each farm has enough land to let sections of it lie fallow for ten years or more, which is enough time for the land to renew itself. In recent years, however, the population density has often reached three times the optimum number. This results in land being used in a more intensive manner with no chance to recover. Under these conditions, slash-and-burn farming becomes only a temporary solution. Within two or three years, the soil becomes depleted and the farmer must repeat the slash-and-burn process elsewhere.

Deforestation causes changes in the earth’s atmosphere. For example, deforestation in tropical areas disrupts the cycle of rain and evaporation by removing the moist canopy of foliage that trees provide. Undisturbed, this canopy traps about twenty percent of the precipitation in the area; when this moisture evaporates, it causes clouds to form, promoting future precipitation. When trees are cleared away, the canopy is lost and the cycle is disturbed. Rainfall sinks into the earth rather than evaporating into the air, leading to a drier local environment. This can cause the creation of deserts, ultimately raising atmospheric temperatures.

Deforestation is also partially responsible for rising atmospheric levels of carbon dioxide (CO₂). Forests normally decrease the amount of carbon dioxide because the trees consume it and release oxygen. Less forest, therefore, means more CO₂ in the atmosphere, especially when trees are burned, which releases even more CO₂. About 1.6 billion metric tons of CO₂ enter the atmosphere this way every year. For comparison, the burning of fossil fuels releases approximately 6 billion metric tons of CO₂ per year. These rising levels are a cause for concern because they are expected to be responsible for fifteen percent of the increase in global temperatures up through 2025.

1. Logging and agriculture are significant causes of deforestation in tropical regions.

T

F

2. What must farmers do in order to make slash-and-burn farming sustainable?

- a. Burn the land every two or three years
- b. Move to a place with a higher population density
- c. Farm the land in a very intensive manner
- ☒ d. Not farm parts of their land for ten years at a time

3. Which of the following is NOT an environmental effect of deforestation?

- ☒ a. Twenty percent of precipitation is trapped by the canopy.
- b. More rain is absorbed by the earth instead of evaporating.
- b. Less carbon dioxide is consumed by trees.
- d. The burning of trees puts more carbon dioxide into the air.