Neuropolis Squad

(From: GVL)

Help a team of forensic scientists investigate a car accident that left one person dead and another seriously injured. Was it an accident or foul play? Was alcohol involved?

To get started go to: http://nsquad.rice.edu/
Select Episode 1 to get started but be advised, each episode requires about 20-30 minutes and if you exit before you finish you will have to start that episode over again.
Be sure to answer all the questions as you progress.

Episode 1

1. List all the items collected from the crime scene.
2. Truth or Trash Challenge – write truth or trash after each statement.
   a. Alcohol gives you energy.
   b. Beer has less alcohol per ounce than wine or liquor.
   c. Drinking coffee helps you sober up.
   d. Alcohol makes you sexier.
   e. Teen drivers have more alcohol related crashes than drivers over 21.
   f. Drinking different kinds of alcohol in one setting will make you more drunk.
   g. Alcoholics drink too much because they lack will power.
   h. Vomiting is the body’s defense to prevent alcohol poisoning.
   i. Alcoholism is a treatable disease.
   j. Almost every teen drinks alcohol.
3. Complete the Information about the crash victim:
   a. Name:
   b. Gender:
   c. Weight:
   d. Case History Notes –
   e. External Examination –
4. Summarize the contributions of each of the following Body Detectives:
   a. Antistius –
   b. James Marsh –
   c. Matthieu Orfila –
   d. Alexander Gettler –
   e. Mildred Trotter –
   f. Sir Alec Jeffreys -
5. Alcohol is a drug that makes you drowsy and slows down your ability to think and react. These type of drugs are collectively called what?
6. The liver makes bile, what is the function of bile?
7. What percent of the alcohol is absorbed into the bloodstream from the stomach?
8. What percent of alcohol is absorbed by the small intestine?
9. What organ filters out alcohol from the blood?
10. List three causes of fatty liver.
11. What is the condition that can occur as a result of liver cells damaged by hepatitis?
12. List two causes of cirrhosis.
13. The slide of Cody Mara’s liver showed that he had what condition?
14. What seems to have happened to Bryce in the lab at the end of episode 1?

Episode 2

1. What did the police find in Cody’s car that indicates he went to The Pit prior to the crash?
2. What are 4 symptoms of alcoholism?

THE PIT CAFÉ AND BAR

3. What helps the body metabolize chemicals?
4. What is the first enzyme to break down alcohol in the liver?
5. What does the Blood alcohol concentration (BAC) measure?
6. List four factors that can affect a person’s BAC.
7. On average, how many servings of alcohol can the liver metabolize per hour.

THE TOXICOLOGY LAB

8. Which three fluids are normally used to test for ethanol?
9. Which method is used to screen fluids for ethanol?
10. Is alcohol present in any of the following blood samples?
    a. C. Rice –
    b. J. Wong –
    c. J. Mendoza –
    d. Z. Gupta –
    e. C. Mara -
11. Which subject did the “iConcentrate” data NOT confirm the use of alcohol?
12. What was Cody Mara’s BAC?
13. When does alcohol moves out of the bloodstream into the watery organs.
14. Name the two processes by which alcohol is eliminated from the body.

Episode 3

The Dragon’s Lair

1. In Danger Road, the tokens made driving more difficult. What drug do these tokens represent?

Chateau Q

2. What do the sections of DNA known as genes contain instructions for making?
3. List four factors that influence alcohol use.

SUNRISE TREATMENT CENTER

4. Describe the functions of the different parts of the brain:
   a. Prefrontal cortex -
   b. Brain stem -

Adapted from N Squad. Source: http://nsquad.rice.edu/index.php
c. Cerebellum -
  d. Hippocampus -
  e. Nucleus Accumbens -

5. What is plasticity?
6. Alcohol can reduce the size of which two brain areas that undergo extensive wiring during adolescence?
7. List three symptoms of alcoholism linked to neuroadaptation.
8. Why is alcoholism considered a disease?
9. Name 2 methods used to treat alcoholism.

**FORENSIC BIOLOGY LAB**
10. Whose DNA is on the Blu Dog beer can from the crash scene?