**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_**

|  |  |  |
| --- | --- | --- |
|  | **Activity 3 – Think About It!**  |  |

**Background information:**

Alcohol (ethyl alcohol) is the intoxicating ingredient in beer, wine, and liquor. When drinking these beverages, the alcohol is absorbed (rapidly) into the blood and is carried to the brain. The amount of alcohol in the brain is proportional to the amount in the blood. That is why law enforcement officials have blood alcohol tests performed on people suspected of drunk driving and certain other legal offenses.

The blood alcohol concentration (BAC) is expressed as a percentage of alcohol in blood. For example, if there is 1 ml of alcohol in every 1000 ml of your blood, then your BAC is 0.1% (1/1000 x 100% = 0.1%).

The same amount of alcohol is present in one bottle of beer, one glass of wine, or one shot (1.5 ounces) of liquor. Each of these is defined as "one drink."

The table below shows several things:

1. The BAC after various numbers of drinks (defined as above)
2. How body weight affects the BAC
3. How BAC changes with time after the last drink

|  |  |  |  |
| --- | --- | --- | --- |
| **# Drinks (as defined above)** | **Body Wt. (lbs.)** | **BAC - 1 hr after last drink** | **BAC - 3 hrs after last drink** |
| 2 | 100 | .06 | .02 |
|   | 120 | .05 | .01 |
|   | 140 | .04 | .01 |
|   | 160 | .04 | 0 |
|   | 180 | .03 | 0 |
|   | 200 | .03 | 0 |
| 3 | 100 | **.10** | .06 |
|   | 120 | **.08** | .04 |
|   | 140 | .07 | .03 |
|   | 160 | .06 | .02 |
|   | 180 | .05 | .01 |
|   | 200 | .05 | .01 |
| 4 | 100 | **.13** | **.10** |
|   | 120 | **.10** | .07 |
|   | 140 | **.09** | .06 |
|   | 160 | **.08** | .04 |
|   | 180 | .07 | .03 |
|   | 200 | .06 | .03 |
| 5 | 100 | **.16** | **.13** |
|   | 120 | **.13** | **.10** |
|   | 140 | **.11** | **.08** |
|   | 160 | **.10** | .06 |
|   | 180 | **.09** | .05 |
|   | 200 | **.08** | .04 |
| 6 | 100 | **.19** | **.17** |
|   | 120 | **.16** | **.13** |
|   | 140 | **.13** | **.11** |
|   | 160 | **.12** | **.09** |
|   | 180 | **.11** | .07 |
|   | 200 | **.10** | .06 |

Numbers in red meet or exceed the legal definition in most states of intoxication. BAC can vary depending on how rapidly the drinks were consumed, how much food was in the stomach, and the drinking history (which can produce some tolerance, which may lead to addiction).

How much the effect of alcohol is depends on how the drinking is spread out over time. But alcohol is metabolized slowly, and the effects accumulate with each drink. In general, we can say that consuming the following amounts in a couple of hours can produce the following results:

* Five drinks or more produce severe sensory (reduced awareness) and motor impairment (staggering).
* 10 drinks or more produce BACs of .30 to .39 and cause stupor, unconsciousness, and death (for some).
* 12 drinks or more produce BACs of 0.40+ and cause unconsciousness, absence of breathing, and death.

**Please answer the following questions:**

1. Which contains more alcohol, a 12-oz can of beer, a glass of wine or a shot of whiskey?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. If a person weighing 100 pounds were to drink one six-pack of beer, what would his or her BAC be after one hour? … after 3 hours?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. After 5 drinks, who will have a higher BAC, a person weighing 160 pounds or a person weighing 180 pounds?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. After one hour, suppose a person weighing 120 pounds has 5 drinks and a person weighing 140 pounds has 6 drinks. Which person will have the higher BAC?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. How many drinks does it take for a person weighing 100 pounds to become legally intoxicated after one hour?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A person weighing 120 pounds who had been drinking over three hours is having difficulty seeing, is staggering, falls easily, and is not very aware of surroundings. How many drinks do you suppose this person has consumed?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Death occurs after drinking excessive amounts of alcohol rapidly is caused by:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_