

Name _____ Date _____

Blood Alcohol Determination Worksheet

Rationale:

The purpose of this activity is to observe and understand the levels of tolerance and impairment due to alcohol consumption.

Information:

Blood Alcohol Concentration (BAC) is the amount of alcohol in the blood at any given time. A BAC of .10 means that a person’s blood contains one part alcohol to 1000 parts blood. The only thing that can lower BAC is time. Factors that can affect BAC are gender, amount of alcohol ingested, weight, speed of consumption, metabolism, food in the stomach (how much and what type), and medications.

TABLE 1: BAC INDICATING EFFECTS ON THE BODY

BAC	EFFECTS
.02 - .03	Some feel mildly relaxed, warm, sociable, talkative, and flushed
.04 - .05	Definite relaxation, very mellow, some impairment, ability to drive safely begins to be limited
.06 - .07	Judgment and driving somewhat impaired, pupils dilated, slightly uncoordinated, thickness of speech
.08	Judgment and driving impaired, the level of intoxication in most states, rapid eye movement, unstable exaggerated moods
.09 - .10	Loss of inhibition, clear deterioration of reaction time and control
.11 - .13	Possible vomiting, drowsiness, loss of critical judgment, impairment of memory and comprehension, impairment of vision
.14 - .15	Obviously drunk, staggering, irrational behavior, no coordination
.16 - .30	Very drunk, may lose consciousness
>.30	Comatose. Death may occur at .35 or higher. BAC's of .45 or higher are fatal to nearly all individuals

TABLE 2 – AVERAGE BAC% BASED ON WEIGHT AND NUMBER OF DRINKS

# OF DRINKS	BODY WEIGHT (LBS)							
	80	100	120	140	160	180	200	240
1	.06	.04	.03	.03	.03	.03	.02	.02
2	.12	.09	.07	.06	.05	.05	.04	.04
3	.18	.14	.11	.10	.08	.07	.06	.06
4	.25	.19	.15	.13	.11	.10	.09	.07
5	.31	.23	.20	.17	.14	.13	.11	.09
6	.37	.27	.23	.20	.17	.14	.14	.10
7	.43	.37	.31	.28	.23	.21	.19	.14

Both tables 1 and 2 contain average data between males and females. Various factors, such as those listed in the Information section above, will affect BAC. When calculating BAC, you should subtract .015% for each hour of drinking. This data is not intended for legal purposes. The sources of this data are listed in the resource section of this lesson.

Scenario 1:

Marisa is a 120 pound female who attended a party where alcohol was being served. She began drinking at 9 pm. After finishing her 5th drink at midnight, she left, driving her own car. She was pulled over about a mile from the party location.

1) Based on the information provided, what is her blood alcohol percentage? Show your work.

2) Describe her characteristics.

3) Is she driving intoxicated according to Texas law? Explain.

Scenario 2:

David is a 240 pound male who met some friends for drinks at a club around 10:30 pm. The bar closed at 3:00 am, but David and his friends wanted to “beat the rush,” so they finished their last drinks at 2:30 and left. Each person drank 6 drinks. When reaching their cars in the parking lot, David noticed that his friend Anthony was stumbling so badly that he decided he was too intoxicated to allow him to drive, so David drove Anthony home.

4) What is David’s blood alcohol percentage? Show your work.

5) Describe his characteristics.

6) Should David be driving? Why or why not?

7) If Anthony had the same number of drinks during the same time, why is he more intoxicated?