

LESSON PLAN

TOPIC: ALCOHOL AND THE BODY

SUBJECT: BIOLOGY

LEVEL: 3th E.S.O.

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LESSON OBJECTIVES

At the end of this lesson students will be able to:

- Describe the long effects of alcohol abuse
- Understand the close relationship between the intake of alcohol and all functions human body.
- Be aware of the alcohol-related damage in all systems and organs of the body.

LESSON PREPAREDNESS AND STRUCTURE

It is at the end of the academic year when students have a great knowing about anatomy and physiology of human body.

This lesson plan will be taken at this period of time, as follow:

- ❖ **What do you know about alcohol intake?** This is a pre-test about their previous knowledge of effects of alcohol.
- ❖ **What happens to alcohol in the body.** Information about long-term effects of alcohol intake.
- ❖ **Activities of application.**
- ❖ **What do you know about alcohol intake?** Take the same test to find out what they have learned.

WHAT HAPPENS TO ALCOHOL IN THE BODY

INTRODUCTION

When someone drinks alcohol, it is absorbed by the stomach and small intestine and then passes into the blood. From here, circulates to other parts of the body including the brain.

How quickly the alcohol is absorbed, and how much goes into the blood, depends on a number of factors including:

- the amount and type of alcohol in the drink
- how fast the individual is drinking
- full or empty stomach (food slows down the absorption of alcohol into the bloodstream)
- body size and weight (the same amount of alcohol will have a bigger effect on a smaller person)
- male or female (alcohol is distributed around the body in water; female body has more fat and less water than the male body so alcohol concentrations will be higher in females).

LONG TERMS EFFECTS ON YOUR HEALTH

Mouth:

- Heavy drinkers increase their risk of developing mouth, esophagus, or throat cancer.

Stomach

- On an empty stomach, alcohol passes directly to the blood stream.
- Drinking too much alcohol stimulates gastric juice flow, causing stomach irritation and leading to ulcers.
- Drinking too much alcohol can decrease appetite as a result of increased gastric juice flow, causing malnutrition.

Circulatory System:

- Once in the bloodstream, alcohol is quickly distributed throughout the entire body.
- Alcohol is a 'vasodilator', which means it makes your blood vessels relax allowing more blood to flow through the skin and tissues (feeling warmth).
- As a result, your blood pressure decrease. To compensate, and to make sure your organs get all the blood they need, your heart rate increases

Brain

- Alcohol is a depressant substance, so most of the brain functions are affected by alcohol.
- You can get the following effects:
- You become more talkative, self-confident and less inhibited.
- You can't judge or think as clearly as usual.
- You can have trouble seeing or hearing.
- You can't feel pain as clearly

Kidneys

- Alcohol acts as a diuretic in the body, increasing the amount of urine your body produces. When you drink too much your body ends getting rid of (acaba eliminando) more water than it absorbs, and you become dehydrated
- Excessive urination may lead to thirst and dehydration, that is behind the headache, nausea and fatigue that makes a hangover (resaca).
- Alcohol can increase urine production as soon as 20 minutes after consumption.

Lungs

- Alcohol increases the risk of aspiration - the entrance of foreign material into the lungs.
- As the alcohol in your blood travels to your lungs, some of it will evaporate into the air in the tiny lung sacs known as alveoli, and be exhaled from your body ("alcohol breath", that's why the next day some people can smell like a cocktail)

Liver

- The liver can only oxidize one drink per hour. This is why time is the only thing that can sober up (estar sobrio) a person.
- Regular alcohol consumption can lead to liver damage. A fatty liver may develop as alcohol disrupts the liver's ability to break down fats. The damage can be reversed by ceasing alcohol consumption.
- Cirrhosis of the liver occurs as a result of excessive alcohol consumption.
- Healthy liver tissue is replaced by scar tissue, which decreases blood flow to the liver and liver function.

HOW ALCOHOL LEAVES THE BODY

- Liver: 80% - 90% of the alcohol is broken down by the liver
- Kidneys: 10% leaves the body in urine made by the kidneys
- Sweat glands: 2% leaves from sweat glands
- Lungs: 8% is expired in the breath
- Mouth: 1-2% leaves in saliva

ACTIVITIES OF APPLICATION

ACTIVITY ONE

1. Draw a diagram of the adult human body, add a label to the two areas of the body from which alcohol is absorbed after swallowing.
2. Alcohol is carried in the bloodstream to the main organs of the body. Label the organ which is affected by alcohol leading to blurry vision and lack of coordination.
3. Label the organ which metabolises most of the alcohol in the body.
4. Around 2-4% of alcohol leaves the body in urine. Label the organs which make urine.
5. A small percentage of alcohol also leaves the body in sweat, breath and saliva. Label the three areas of the body involved.

ACTIVITY TWO

Click on organ/s that are affected by the effects of alcohol on the left column

	BRAIN	HEART	LUNGS	LIVER	KIDNEYS	STOMACH
Slurred speech (balbuceo)						
Difficulty standing up or walking						
Feeling sick						
Looking flushed (sonrojado)						
Need to urinate more						
Loss of self-control						
Slow reactions						
Breath smelling of alcohol						
Dehydration leading to a hangover (resaca)						
Blurred vision (borrosa)						

ACTIVITY THREE

Click on organ/s that are affected by the effects of alcohol on the left column

	BRAIN	CIRCULATORY SYSTEM	HEART	LUNGS	LIVER	KIDNEYS	STOMACH	SMALL INTESTINE
Ulcers								
Cirrhosis and cancer								
Urinary infections								
Slow pulse								
Depression and mood swings (cambios de humos)								
Mental illness								
Bloodshot eyes (ojos intectados en sangre)								
Dehydration								
Memory loss								
Low blood pressure								
Vomiting and diarrhoea								
Flushed complexión (cara enrojecida)								

WHAT DO YOU KNOW ABOUT ALCOHOL INTAKE?

	TRUE	FALSE
When a person drinks alcohol, it is absorbed into the bloodstream within minutes.		
A given amount of alcohol has the same effect on an adult as it does on a younger, smaller person.		
Alcohol can affect women differently than men.		
Long-term alcohol abuse may lead to some types of cancer.		
Alcohol can make your senses, such as vision, work better.		
Drinking a lot of alcohol at one time can lead to a coma.		
Drinking alcohol can affect your emotions.		