

Chapter 36

Drugs and your body



"HOWEVER MANY WAYS THERE MAY BE OF BEING ALIVE, IT IS CERTAIN THAT THERE ARE VASTLY MORE WAYS OF BEING DEAD."

- RICHARD DAWKINS

Day One:

Today, you and your child will:

1. Read the text
2. Review the text with your child
3. Complete the student worksheets
4. Collect the materials you will need for days two and three

National Science Education Standards covered this week:

Different substances can damage the body and how it functions. Such substances include tobacco, alcohol, over-the-counter medicines, and illicit drugs. Everyone should understand that some substances, such as prescription drugs, can be beneficial, but that any substance can be harmful if used inappropriately.

Definitions

addicted

a time when your body is tricked into believing that it needs a drug to survive

Sample questions to ask your child after completing the weekly reading.

Is it possible for someone to stop being addicted to a drug?

Yes. It is hard to get rid of an addiction and sometimes people need help to do this.

What do drugs do to your brain?

Drugs trick your brain into sensing things that are not really there.

Answers to worksheet questions:

Page 1:

What does it mean to be addicted?

Being addicted means that your body is tricked into believing that it needs a drug in order to survive.

What do drugs do to your brain?

Drugs make your body sense things that are not always there.

What do drugs do to your lungs?

Some drugs can hurt your lungs so bad that you cannot use them to breathe any more.

What do drugs do to your liver?

Drugs, like alcohol, can keep your liver from cleaning your blood. without your liver, your body would become poisoned.

Page 2:

Answers will vary

Unit Nine Review Answer Key

Name three ways to keep bacteria from getting inside your body:

Wash your hands

Brush your teeth

Clean/cook your food

List the two main parts of your immune system:

Skin

White blood cells

True or false:

True- infection

True - antibiotics

False - allergy

Be certain to go over your definitions for the test!

Day Two:

Today, you and your child will:

1. Review Day One using the following text
2. Run the first activity this week

The following text will give you the most important items to review for your activity today.

The hazards of smoking are evident in nearly every test that is administered with them. One of the most lasting effects is the presence of tar within each cigarette.

Tar and the collection of other chemicals that are inhaled with cigarette smoke can be trapped easily and observed in a safe and non-threatening environment.

This activity will require the use of a real cigarette...

yes, I know many of you (including myself) are opposed to purchasing this item; however, I believe that this small investment will have a lasting effect on the minds of children...especially when they see the nasty junk that can be found inside one of these things...if you know someone who smokes, ask them for one - and be certain to explain why.

The dangers of smoking...

Objective:

Children will observe a demonstration of the tar that is left from a cigarette with this demonstration.

Materials:

one unfiltered cigarette
empty soda bottle
modeling clay

pencil
cone cotton ball

Procedure:

Be certain to do this demo outside for the children to see.

Place a cotton ball into a dry soda bottle.

Cover the opening of the bottle with a large piece of modeling clay and use a pencil to drive a hole through it. You should have a small tunnel through the modeling clay.

Insert an unfiltered cigarette onto the top of the hole in the clay.

Inform the child that you are going to light the cigarette and force air through it and into the bottle. Have them predict what is going to happen to the cotton ball.

Gently squeeze the bottle and light the cigarette. Release the bottle and the cigarette should become lit.

Continue to gently squeeze the bottle to force air through the cigarette and into the bottle.

After a couple dozen squeezes, extinguish the cigarette and have the children examine the cotton ball inside the bottle. They should find a dark colored residue all over its surface.

Explanation:

The gentle squeezing of the bottle simulates the act of inhaling cigarette smoke into your lungs. The dark residue left on the cotton balls is the tar, nicotine and other harmful chemicals that are used inside the cigarette. Every drag of a cigarette draws these chemical into your lungs. Now, have the children imagine squeezing the bottle until that cigarette is completely gone. Would there be more or less "junk" on the cotton ball? Now ask them to imagine what a person's lungs would look like if they smoked several of these a day...yuck!

Day Three: Lab Activity

Today, you and your child will:

1. Review Day One using the following text
2. Run the first activity this week

The following text will give you the most important items to review for your activity today.

A spirometer is a device that measures the amount of air one can hold in their lungs. This mechanism can be crudely constructed at home to demonstrate its effectiveness in measuring our lung capacity.

As a person exercises, our muscles require more oxygen to maintain our effort. Therefore, our lungs may not change in size, but they may become depleted of their oxygen in much shorter period of time while exercising.

ESP Activity: Deep Breaths

Objective:

How much air can you hold within your lungs?

Materials:

gallon milk jug with the cap
large bucket of water

measuring cups
tubing (section of hose will work)

Procedure:

Take the milk jug and fill it with water.

Place the open end of the milk jug into a bucket filled with water. You will want plenty of room remaining in the bucket as the water from the gallon jug will soon empty into the bucket.

Place the tubing into the open end of the milk jug that is now upside down in the bucket of water.

With one deep breath, blow into the tubing. This will push the water out of the jug.

Measure the amount of water that remains in the jug by placing the cap on the jug while it is still under water, removing it from the bucket and pouring it into the measuring cups. Subtract the amount of water remaining from one gallon.

For experimentation, repeat this experiment after the child has run in place for several minutes.

Explanation:

The normal amount of air within a pair of adult human lungs is three to five liters. Lung capacity is typically calculated with formulas (which I will spare you from) that pertain to a person's volume of air within their lungs and their body weight. This formula changes between men and women, as well as with the age of the participant and their physical fitness.

Independent variable: Amount of exercise

Dependent variable: Volume of water remaining

Hypothesis:

If the amount of exercise is (increased/decreased), then the volume of water remaining will (increase/decrease).

Test: Unit 9

Chapters 33-36

_____	plaque	1) hardened plaque
_____	infection	2) a result of your immune system working too hard to get rid of things in your body
_____	antibiotics	3) sticky layer that forms over your teeth
_____	MyPlate guide	4) the result of your immune system that misses some bacteria or other item that gets into your body
_____	well-balanced diet	5) the stuff you eat and drink
_____	tartar	6) the actions of your skin and white blood cells that protect your body from infections
_____	diet	7) a list of healthy foods (and their amounts) you should eat every day
_____	immune system	8) a time when your body is tricked into believing that it needs the drug to survive
_____	addicted	9) chemicals that are made to attack bacteria and get rid of them without hurting you in the process
_____	allergy	10) the right amount of foods your body needs to survive

Which one is right? Circle the correct answer.

1. The use of soap when washing your hands...

- a) is poison to bacteria
- b) is food for bacteria
- c) helps bacteria to spread

2. Your immune system is made up of:

- a) red and white blood cells
- b) skin and red blood cells
- c) white blood cells and skin

3. The types of food that should be eaten in small amounts is:

- a) vegetables and fruits
- b) breads and meats
- c) sugars and fats

4. Drugs are harmful because they can affect your...

- a) immune system
- b) brain
- c) diet

5. You should cook or clean your food before you eat because...

- a) it is filled with bacteria
- b) it tastes better this way
- c) cooking and cleaning your food makes it easier to eat

6. A red bump on your skin where a mosquito bit you means...

- a) you have an allergy to mosquito bites
- b) you need to take antibiotics to keep you from getting sick
- c) your immune system is getting rid of the chemicals and bacteria from the bite

Test: Unit 9

Answer Key

Matching

- 3 plaque
- 4 infection
- 9 antibiotics
- 7 MyPlate guide
- 10 well-balanced diet
- 1 tartar
- 5 diet
- 6 immune system
- 8 addicted
- 2 allergy

Multiple choice

- 1. a
- 2. c
- 3. c
- 4. b
- 5. a
- 6. c

Write a story...

Answers will vary. However, the child must use the words plaque, tartar, immune system and infected within their description of what would happen if they did not brush their teeth for a month.