Preventing Heart

Attacks and Strokes


by Ron Borkowicz, Ph.D.

Table of Contents

Heart Attacks and Strokes

Suggestions For Using This Mini-Unit

This resource was developed by a National Teacher of the Year who taught at the middle school, high school and university levels. One of the primary goals when developing this resource was to **make everything easier for the teacher**. All of the research and time-consuming work is already done. The only thing that a teacher needs to do is decide on the level of difficulty for the students and make copies at the copy machine. A description of each component follows.

Article: Heart Attacks and Strokes

In addition to describing the primary and secondary risk factors for heart attacks and strokes, this article explains how an individual can postpone and even prevent these diseases. The information is presented in a manner which is easy for the students to understand.

Many teachers who have been using these Mini-Units for their students have found another use for the articles. They make copies of the article (along with one of the puzzles) and distribute them to the staff as part of their Worksite Wellness program.

Educational Puzzles

There are four levels of Crossword puzzles and five levels of Word Search puzzles. The puzzles are arranged with Level One being the easiest to complete and the highest level being the most difficult.

The puzzles are an entertaining way to introduce the students to the vocabulary terms that will be included in a lesson and help to reinforce reading, spelling and comprehension skills. They can also be given to students who finish their classroom work early or to study hall students who say that they have "nothing to do." All of the puzzles come with an Answer Key.

Tests and Review Questions

Because each Mini-Unit is designed for multiple grade levels, there are several levels of Tests and Review Questions. Like the Educational Puzzles, the higher the level, the more difficult the material. **In addition to using as standard assignments, Review Questions can be used as alternate work for homebound students, for non-participants in gym class, for make-up work due to an absence, for extra credit, etc.** All of the Tests and Review Questions come with an Answer Key.

Worksheets

The three Worksheets levels are similar to the Tests and Review Questions but are arranged to be easier for the students to complete. Each Worksheet is arranged so that the questions are in the same order as the information presented in the article. This is especially useful if using the Worksheets as explained in the Teacher Lesson Plan. All of the Worksheets come with an Answer Key.

Teacher Lesson Plan

This Lesson Plan can be used by the classroom teacher for a daily class or it can be set aside for a substitute teacher who is not familiar with the topic.

Preventing Heart Attacks and Strokes

Every year in the United States, over one million men and women have a heart attack or a stroke. Many of these individuals die before they reach the hospital. However, due to healthier lifestyles and improved medical treatments, the death rate for these diseases is decreasing. But in order to practice a lifestyle that will reduce your chance of suffering from one of these diseases, you first need to know what causes them.

Most heart attacks and strokes occur because the blood vessels to the heart or brain are blocked. The most common cause for the blockage in an artery is plaque. Plaque is a waxy substance that builds up over a period of many years. Located on the inner walls of the arteries, plaque eventually hardens. This results in the arteries becoming narrower and less elastic, a condition called atherosclerosis.

When the carotid artery to the brain is blocked, a stroke occurs. When a coronary artery to the heart is blocked, a heart attack occurs. Because of the blockage, the organ is denied the oxygen it requires to maintain cell life.
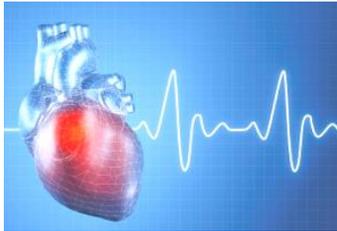
Another reason why an artery does not supply the oxygen-rich blood is because of an aneurysm. An aneurysm is a balloon-like bulge in an artery that can expand and burst. If this happens, the blood leaks out into the surrounding tissue instead of going to the heart or to the brain. Now that you know what causes a heart attack or a stroke, you need to know the risk factors that can bring about these medical conditions.

Risk Factors

A risk factor is a behavior or contributing factor that increases the probability of a disease. The major risk factors for a heart attack are the same as for a stroke. Some of them are out of our control such as age, sex and heredity. Risk factors that are well within our control include smoking, cholesterol, hypertension, diabetes, obesity and a sedentary lifestyle. There are other risk factors that are within our control but these six are the most serious.

Smoking

Smoking increases the chance of a heart attack or stroke in multiple ways. The nicotine in tobacco increases the heart rate which remains increased even after you have finished smoking. Smoking also narrows the arteries and places carbon monoxide in the blood, both of which reduce the amount of oxygen that gets to the organs.

Having narrower arteries and an increased heart rate raises your blood pressure. Some studies indicate that the inner linings of the arteries are damaged by smoking, which can make them more susceptible to the

build-up of plaque. And remember, you do not need to be a smoker to damage your arteries as second-hand smoke can have the same effect.

High Blood Pressure

Blood pressure is defined as the force against the walls of the arteries. For adults, the borderline (getting to be serious) blood pressure is 140/90. The higher number refers to the pressure when the heart beats and is called "systolic". The lower number refers to the pressure between heart beats and is called "diastolic". If either of the numbers is higher than the borderline number, a person is said to have high blood pressure or hypertension.

Younger adults think that they are safe from being hypertensive because their blood pressure is only 120/80. However, medical studies have shown that people who have a blood pressure of 120/80 when they are in their 30s, develop a blood pressure of 140/90 in their 50s.

Smoking, elevated cholesterol levels, and obesity can raise your blood pressure. Exercising aerobically can lower it. And

remember, as there are no warning signs for hypertension, it is important to have your blood pressure checked on a regular basis.

Cholesterol
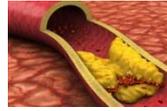
By now, almost every American realizes that eating foods that are high in cholesterol increases the risk of cardiovascular diseases like heart attacks and strokes. What many people fail to realize is that cholesterol isn't the only food product that contributes to the buildup of plaque in the arteries.

Foods containing saturated fat or trans fat also contribute to this problem. Therefore, it is recommended that you limit the intake of these food items so that your blood cholesterol level stays below 200 mg/dl.

Diabetes

Diabetes is divided into two categories, Type 1 and Type 2. Type 1 diabetes is often called juvenile or insulin-dependent diabetes. It develops because the pancreas cannot produce the required amount of insulin that the body needs. Type 2 diabetes is often called adult-

onset or non-insulin-dependent diabetes. It is much more common than Type 1 diabetes and usually develops because the cells cannot absorb glucose (blood sugar). Like obesity, the number of Americans diagnosed with diabetes has increased significantly during the past 25 years.

In addition to increasing their chance of a heart attack or a stroke, people who have either Type 1 or Type 2 diabetes greatly increase their chances of blindness and kidney disease. Some individuals who have Type 2 diabetes can control this disease by being physically active and keeping their weight in the "normal" range.

Obesity

Obesity is often defined as a body weight that is 20 percent or more over your ideal weight. Being obese, or even overweight, increases an individual's chance of a heart attack, a stroke and some cancers. According to the Center for Disease Control, the number of obese adults and children in America has progressively increased during the past 25 years.

The primary reason that an individual gains weight is

due to taking in more calories than the body uses or burns. To remain at a healthy weight, you need to balance the calories your body uses with the amount of calories that you eat.

If you are overweight and you wish to lose weight, you need to take in fewer calories, increase your physical activity, or both. Eating more vegetables, fruits, and low fat foods instead of high-calorie and high-fat foods is one way to reduce calorie intake without starving yourself.

Sedentary Lifestyle

An individual is considered to have a sedentary lifestyle if their lack of physical activity increases their chance of a health problem. Americans as a society are more sedentary now than at any other time in history.

Many factors promote this type of lifestyle such as machinery that performs the work that people used to do, video games replacing more physical activities, etc. You can compensate for these changes brought about by technology by making physical activity a regular part of your daily routine.

And you don't need to exercise vigorously on a daily basis to receive benefits from physical activity. Walking, yard work and other non-vigorous activities performed for at least 30 minutes a day, several days a week, can reduce the chance of a heart attack, a stroke and even some cancers.

Conclusion

Knowing about the risk factors is just the starting point. To reduce your chance of a heart attack or a stroke, ask your doctor if you are affected by any of these risk factors. If so, your doctor can tell you the best way to bring them under control.

Center For Disease Control	http://www.cdc.gov/
National Heart, Lung and Blood Institute	http://www.nhlbi.nih.gov/
American Heart Association	http://www.heart.org/HEARTORG/
National Institute of Health	http://www.nih.gov/
Medline Plus	http://www.nlm.nih.gov/medlineplus/
Web MD	http://www.webmd.com/

NOTICE: Although the above websites have been operational for years, as you know, that could change tomorrow. If that is the case, simply Google the organization for a revised address.

Heart Attack & Stroke - Level One

Across

1 A sedentary lifestyle increases the chance of _____ problems.

4 A behavior that increases the probability of a disease is called a _____.

6 The _____ in a cigarette increases your heart rate.

8 High blood pressure can be lowered by performing _____ exercise.

9 Type two diabetes develops when the cells cannot absorb _____.

Down

1 One risk factor that is out of our control is _____.

2 There are no _____ for high blood pressure.

3 The death rate for heart attacks is decreasing due to healthier _____.

5 The most common cause for a blocked artery is _____.

7 You will gain weight if you take in more _____ than you burn.

Across and down solution grid:

- HEALTH
- HEREDITY
- WARNINGSIGNS
- LIFESTYLES
- RISKFACTOR
- NICOTINE
- PLAQUE
- CALORIE
- AEROBIC
- GLUCOSE
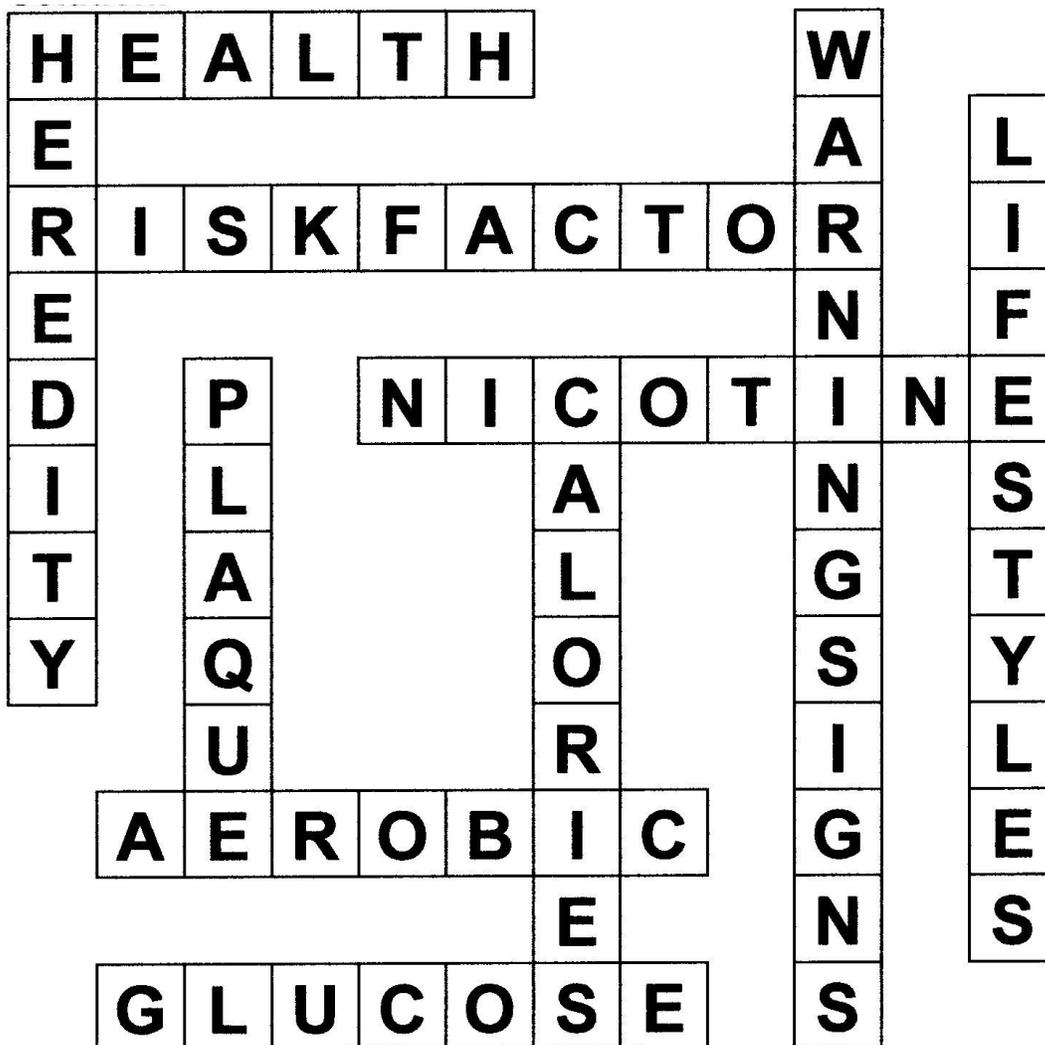
Heart Attack & Stroke - Level Two
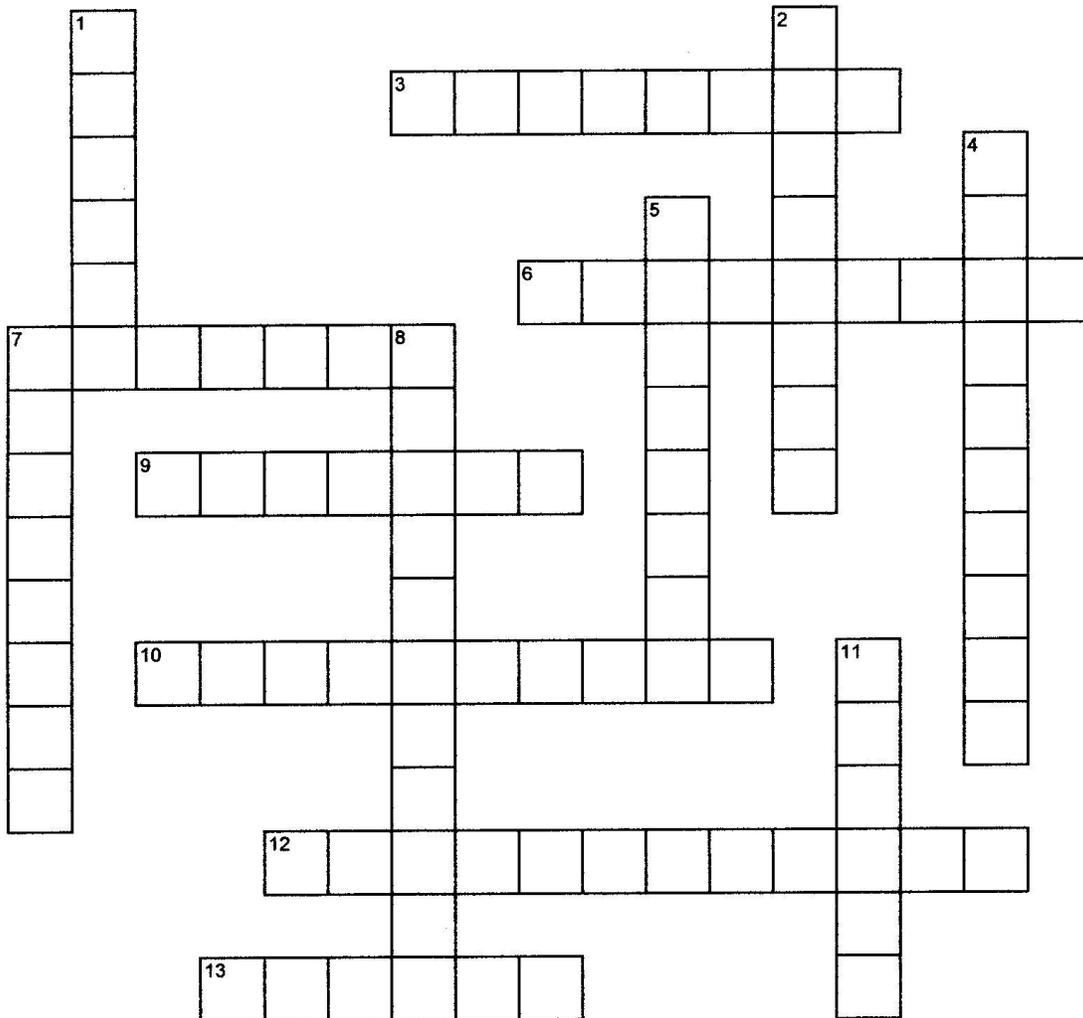
Across

3 You will gain weight if you take in more _____ than you burn.

6 People with diabetes have an increased chance of _____.

7 High blood pressure can be lowered by performing _____ exercise.

9 Type two diabetes develops when the cells cannot absorb _____.

10 The death rate for heart attacks is decreasing due to healthier _____.

12 There are no _____ for high blood pressure.

13 A sedentary lifestyle increases the chance of _____ problems.

Down

1 The most common cause for a blocked artery is _____.

2 One risk factor that is out of our control is _____.

4 A behavior that increases the probability of a disease is called a _____.

5 The _____ in a cigarette increases your heart rate.

7 A balloon-like bulge in an artery is called an _____.

8 Blood pressure can be increased if you have an elevated _____ level.

11 The carbon monoxide produced by smoking decreases the amount of _____ that gets to the organs.

Heart Attack & Stroke - Level Two Solution

```
        P                                H
        L              C A L O R I E S
        A                                R                    R
        Q                        N       E                    I
        U                    B L I N D N E S S                S
A E R O B I C                    C       I                    K
    N           C                O       T                    F
    E       G L U C O S E        T       Y                    A
    U           L                I                            C
    R           E                N                            T
    Y       L I F E S T Y L E S      O                        O
    S           T                    X                        R
    M           E                    Y
            W A R N I N G S I G N S
                O                    E
        H E A L T H                  N
```

Heart Attack & Stroke - Level Three
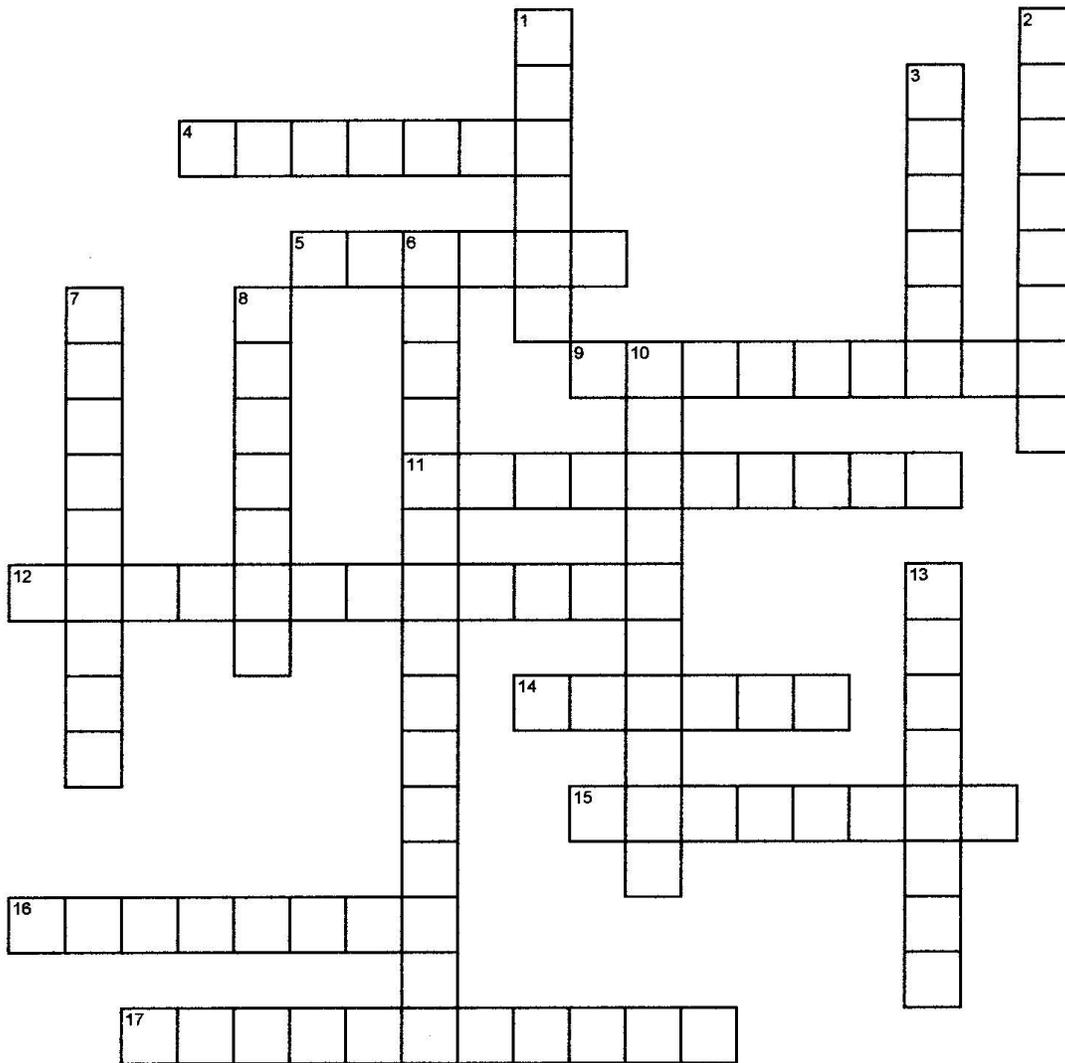
Across

4 Type two diabetes develops when the cells cannot absorb _____.

5 A sedentary lifestyle increases the chance of _____ problems.

9 People with diabetes have an increased chance of _____.

11 A behavior that increases the probability of a disease is called a _____.

12 There are no _____ for high blood pressure.

14 The carbon monoxide produced by smoking decreases the amount of

15 One risk factor that is out of our control is _____.

16 You will gain weight if you take in more _____ than you burn.

17 Blood pressure can be increased if you have an elevated _____ level.

Down

1 Obesity is often defined as a body weight that is _____ percent or more over your ideal weight.

2 A balloon-like bulge in an artery is called an _____.

3 The most common cause for a blocked artery is _____.

6 The condition of hardened arteries is called _____.

7 Foods that are high in _____ fat can raise your cholesterol level.

8 High blood pressure can be lowered by performing _____ exercise.

10 The death rate for heart attacks is decreasing due to healthier _____.

13 The _____ in a cigarette increases your heart rate.

10

The crossword solution contains the following words:

- TWENTY
- GLUCOSE
- PLAQUE
- ANEURYSM
- HEALTHY
- SATURATED
- AEROBIC
- ATHEROSCLEROSIS
- BLINDNESS
- RISK FACTOR
- LIFESTYLES
- WARNING SIGNS
- OXYGEN
- NICOTINE
- HEREDITY
- CALORIES
- CHOLESTEROL
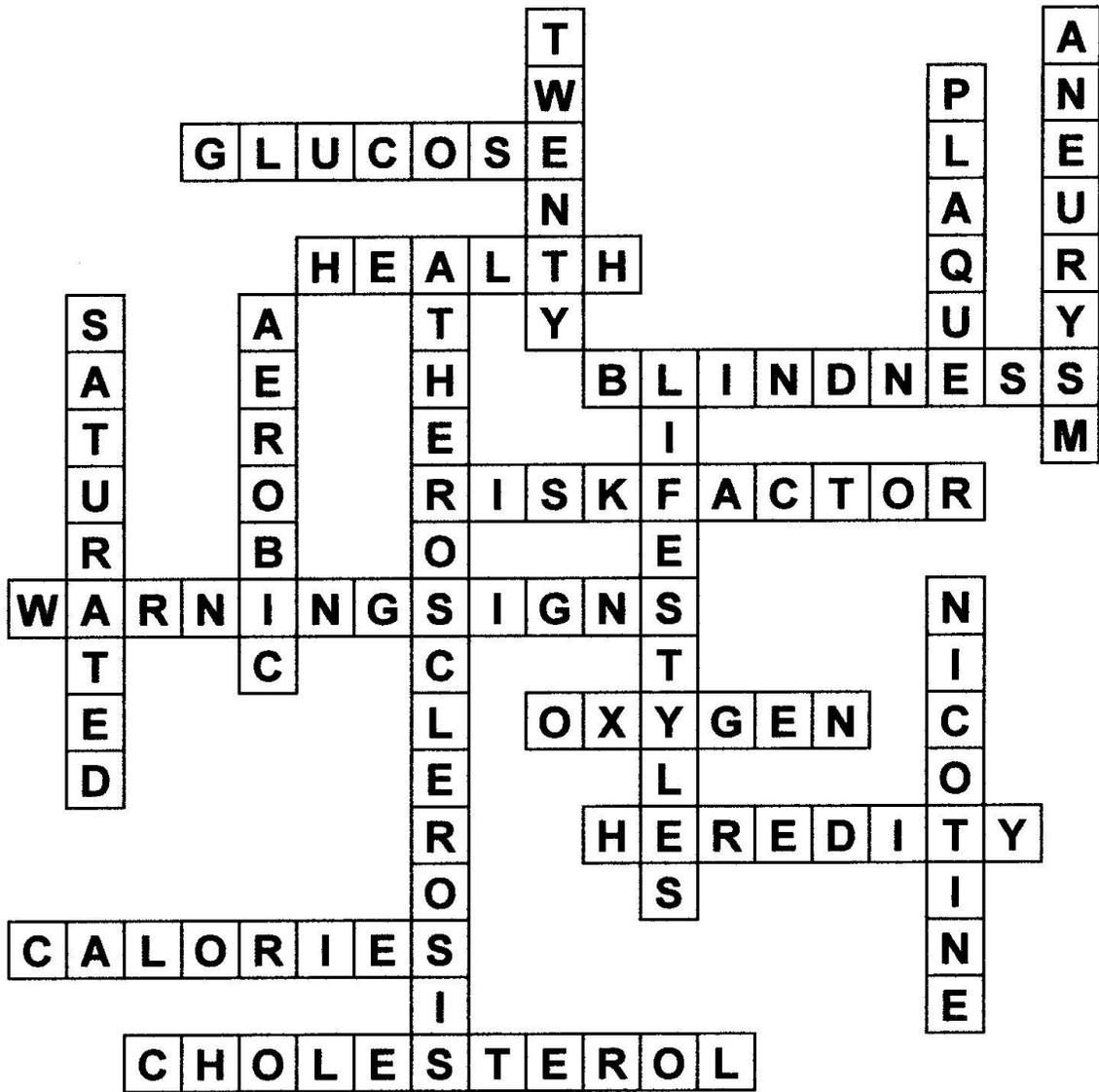
Heart Attack & Stroke - Level Four
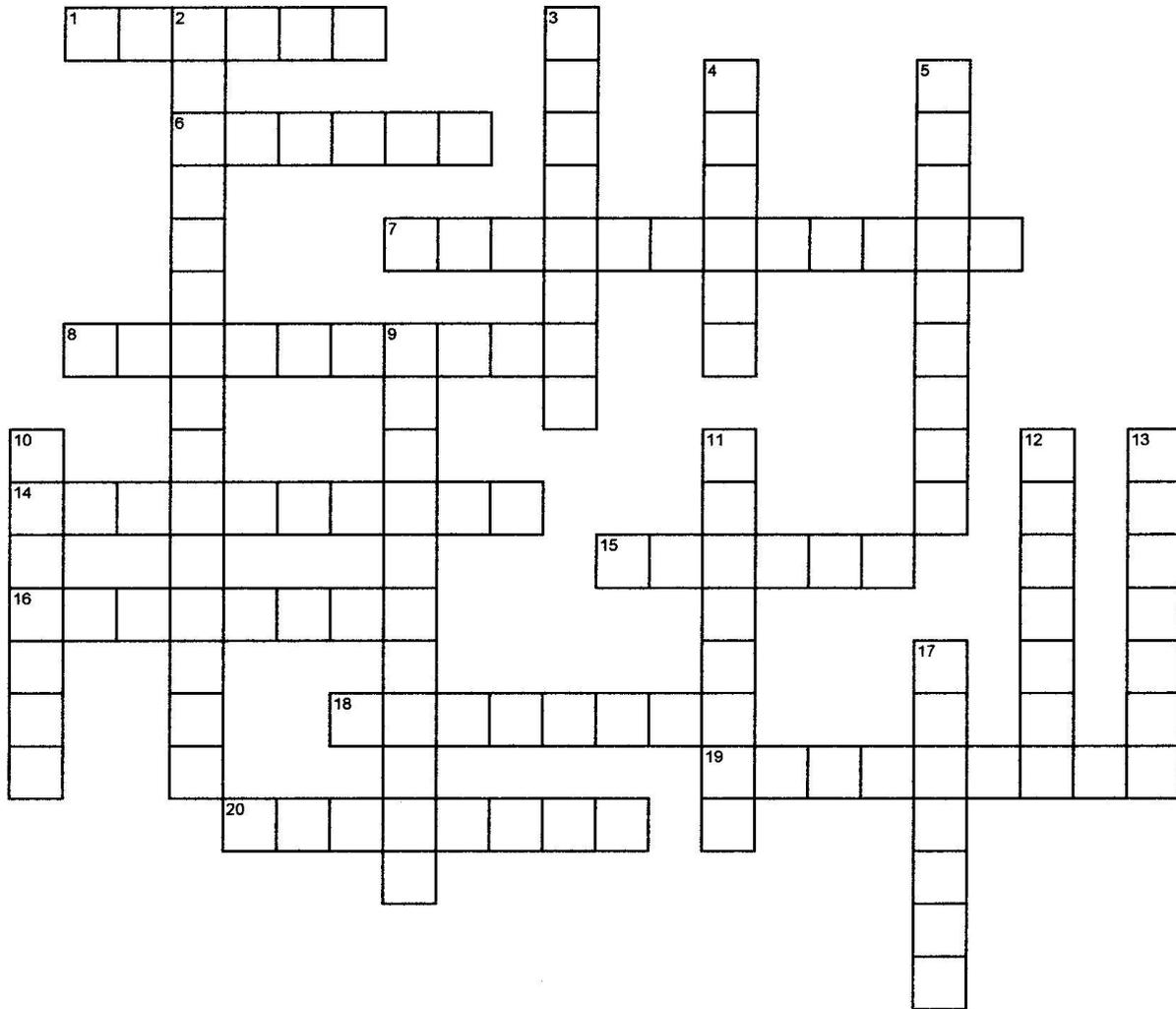
Across

1 The most common cause for a blocked artery is _____.

6 A sedentary lifestyle increases the chance of _____ problems.

7 There are no _____ for high blood pressure.

8 A behavior that increases the probability of a disease is called a _____.

14 The death rate for heart attacks is decreasing due to healthier _____.

15 Obesity is often defined as a body weight that is _____ percent or more over your ideal weight.

16 You will gain weight if you take in more _____ than you burn.

18 One risk factor that is out of our control is _____.

19 Foods that are high in _____ fat can raise your cholesterol level.

20 The _____ in a cigarette increases your heart rate.

Down

2 The condition of hardened arteries is called _____.

3 A heart attack occurs when the _____ artery to the heart is blocked.

4 The carbon monoxide produced by smoking decreases the amount of

5 People with diabetes have an increased chance of _____.

9 Blood pressure can be increased if you have an elevated _____ level.

10 Type two diabetes develops when the cells cannot absorb _____.

11 A balloon-like bulge in an artery is called an _____.

12 To help lose weight, you should eat less high-calorie and _____ foods.

13 A stroke occurs when the _____ artery to the brain is blocked.

17 High blood pressure can be lowered by performing _____ exercise.

12

Heart Attack & Stroke - Level Four Solution

```
Q D M M R N R J T K L C L O W F A T F O O D S Q
M W A R N I N G S I G N S B N H E R E D I T Y J
N I C O T I N E L Y Q P R I S K F A C T O R Z N
B R O X Y G E N D I A S T O L I C F F J C X C L
R A E R O B I C ☐ I N S U L I N M P L A Q U E L
D N N G G Q N Q T W E X E R C I S E Y L P B M R
G H W T L G T C L A N E U R Y S M M J K X M D Z
L T K C H Y P E R T E N S I O N G B G Q K X C L
Z P B L O O D P R E S S U R E T L R X T V P V T
L K I D N E Y D I S E A S E G L U C O S E R R W
V G K T C V A C T I V I T Y F Q S M O K I N G C
N S T R O K E R R Q R C C O R O N A R Y L J L J
Q L T P A N C R E A S K W D I A B E T E S C D Z
Z Y X N H Q T P G V T C A L O R I E S W T Z P J
N K R C A R O T I D J K T R A N S F A T ☐ J R Z
N J L K G Q R B W Y K B L O O D S U G A R L K K
H N J N T A T H E R O S C L E R O S I S Y D N F
L N G F B H E A R T A T T A C K Y O B E S E D L
S Y S T O L I C G B L O O D L I P I D S M D R K
R G G L Y N Z F A R T E R Y O V E R W E I G H T
P X M M K M B M D I S E A S E K N N H E A L T H
K H S E D E N T A R Y O B E S I T Y D C W K Z Y
S A T U R A T E D L L I F E S T Y L E S W T M F
P M Z Z N H Y P E R T E N S I O N N H C P L Y H
```

Activity	Coronary	Hypertension	Pancreas
Aerobic	Diabetes	Insulin	Plaque
Aneurysm	Diastolic	Kidney disease	Risk factor
Artery	Disease	Lifestyles	Saturated
Atherosclerosis	Exercise	Lowfat foods	Sedentary
Blood lipids	Hypertension	Nicotine	Smoking
Blood pressure	Glucose	Obese	Stroke
Blood sugar	Health	Obesity	Systolic
Calories	Heart attack	Overweight	Trans fat
Carotid	Heredity	Oxygen	Warning signs

```
Q  D  M  M  R  N  R  J  T  K  L  C  L  O  W  F  A  T  F  O  O  D  S  Q
M  W  A  R  N  I  N  G  S  I  G  N  S  B  N  H  E  R  E  D  I  T  Y  J
N  I  C  O  T  I  N  E  L  Y  Q  P  R  I  S  K  F  A  C  T  O  R  Z  N
B  R  O  X  Y  G  E  N  D  I  A  S  T  O  L  I  C  F  F  J  C  X  C  L
R  A  E  R  O  B  I  C  □  I  N  S  U  L  I  N  M  P  L  A  Q  U  E  L
D  N  N  G  G  Q  N  Q  T  W  E  X  E  R  C  I  S  E  Y  L  P  B  M  R
G  H  W  T  L  G  T  C  L  A  N  E  U  R  Y  S  M  M  J  K  X  M  D  Z
L  T  K  C  H  Y  P  E  R  T  E  N  S  I  O  N  G  B  G  Q  K  X  C  L
Z  P  B  L  O  O  D  P  R  E  S  S  U  R  E  T  L  R  X  T  V  P  V  T
L  K  I  D  N  E  Y  D  I  S  E  A  S  E  G  L  U  C  O  S  E  R  R  W
V  G  K  T  C  V  A  C  T  I  V  I  T  Y  F  Q  S  M  O  K  I  N  G  C
N  S  T  R  O  K  E  R  R  Q  R  C  C  O  R  O  N  A  R  Y  L  J  L  J
Q  L  T  P  A  N  C  R  E  A  S  K  W  D  I  A  B  E  T  E  S  C  D  Z
Z  Y  X  N  H  Q  T  P  G  V  T  C  A  L  O  R  I  E  S  W  T  Z  P  J
N  K  R  C  A  R  O  T  I  D  J  K  T  R  A  N  S  F  A  T  □  J  R  Z
N  J  L  K  G  Q  R  B  W  Y  K  B  L  O  O  D  S  U  G  A  R  L  K  K
H  N  J  N  T  A  T  H  E  R  O  S  C  L  E  R  O  S  I  S  Y  D  N  F
L  N  G  F  B  H  E  A  R  T  A  T  T  A  C  K  Y  O  B  E  S  E  D  L
S  Y  S  T  O  L  I  C  G  B  L  O  O  D  L  I  P  I  D  S  M  D  R  K
R  G  G  L  Y  N  Z  F  A  R  T  E  R  Y  O  V  E  R  W  E  I  G  H  T
P  X  M  M  K  M  B  M  D  I  S  E  A  S  E  K  N  N  H  E  A  L  T  H
K  H  S  E  D  E  N  T  A  R  Y  O  B  E  S  I  T  Y  D  C  W  K  Z  Y
S  A  T  U  R  A  T  E  D  L  L  I  F  E  S  T  Y  L  E  S  W  T  M  F
P  M  Z  Z  N  H  Y  P  E  R  T  E  N  S  I  O  N  N  H  C  P  L  Y  H
```

Heart Attack & Stroke - Level Two

```
R S T R O K E M K Z H E A R T A T T A C K C B
B V Y T I D E R E H X R D N E G Y X O N V N B
K H Y R E T R A K P C L S E D E N T A R Y L B
W K F R K I D N E Y D I S E A S E Q K T T H T
D M N K G R I S K F A C T O R E S A E S I D P
D C J K C I L O T S Y S L R H T L A E H L Y K
J M Q E X E R C I S E F K N I L U S N I N V F
C F L L Y N X D I A S T O L I C N L D F T L C
J T C A L O R I E S L H Y T I S E B O B M Q Q
D K W L T D L O W F A T F O O D S R N Y Z T J
T G S D I P I L D O O L B N T Z Q G N B N H L
T L Q B L O O D P R E S S U R E J N O B E S E
H T S E T E B A I D W A R N I N G S I G N S N
J Z D R A C T I V I T Y P E N I T O C I N N G
D A N E U R Y S M Q T Y M O V E R W E I G H T
P E U Q A L P B D W N Y K C O R O N A R Y Y T
K W V Z D T X A T H E R O S C L E R O S I S C
□ C I B O R E A H Y P E R T E N S I O N N J Y
T R A N S F A T G L U C O S E T C R T V R T L
D E T A R U T A S C L K Z C D I T O R A C T D
L T M N O I S N E T R E P Y H K L K N L C P N
T S E L Y T S E F I L X R A G U S D O O L B M
L J F K G P A N C R E A S L D G N I K O M S H
```

Activity	Coronary	Hypertension	Pancreas
Aerobic	Diabetes	Insulin	Plaque
Aneurysm	Diastolic	Kidney disease	Risk factor
Artery	Disease	Lifestyles	Saturated
Atherosclerosis	Exercise	Lowfat foods	Sedentary
Blood lipids	Hypertension	Nicotine	Smoking
Blood pressure	Glucose	Obese	Stroke
Blood sugar	Health	Obesity	Systolic
Calories	Heart attack	Overweight	Trans fat
Carotid	Heredity	Oxygen	Warning signs

```
R  S  T  R  O  K  E  M  K  Z  H  E  A  R  T  A  T  T  A  C  K  C  B
B  V  Y  T  I  D  E  R  E  H  X  R  D  N  E  G  Y  X  O  N  V  N  B
K  H  Y  R  E  T  R  A  K  P  C  L  S  E  D  E  N  T  A  R  Y  L  B
W  K  F  R  K  I  D  N  E  Y  D  I  S  E  A  S  E  Q  K  T  T  H  T
D  M  N  K  G  R  I  S  K  F  A  C  T  O  R  E  S  A  E  S  I  D  P
D  C  J  K  C  I  L  O  T  S  Y  S  L  R  H  T  L  A  E  H  L  Y  K
J  M  Q  E  X  E  R  C  I  S  E  F  K  N  I  L  U  S  N  I  N  V  F
C  F  L  L  Y  N  X  D  I  A  S  T  O  L  I  C  N  L  D  F  T  L  C
J  T  C  A  L  O  R  I  E  S  L  H  Y  T  I  S  E  B  O  B  M  Q  Q
D  K  W  L  T  D  L  O  W  F  A  T  F  O  O  D  S  R  N  Y  Z  T  J
T  G  S  D  I  P  I  L  D  O  O  L  B  N  T  Z  Q  G  N  B  N  H  L
T  L  Q  B  L  O  O  D  P  R  E  S  S  U  R  E  J  N  O  B  E  S  E
H  T  S  E  T  E  B  A  I  D  W  A  R  N  I  N  G  S  I  G  N  S  N
J  Z  D  R  A  C  T  I  V  I  T  Y  P  E  N  I  T  O  C  I  N  N  G
D  A  N  E  U  R  Y  S  M  Q  T  Y  M  O  V  E  R  W  E  I  G  H  T
P  E  U  Q  A  L  P  B  D  W  N  Y  K  C  O  R  O  N  A  R  Y  Y  T
K  W  V  Z  D  T  X  A  T  H  E  R  O  S  C  L  E  R  O  S  I  S  C
□  C  I  B  O  R  E  A  H  Y  P  E  R  T  E  N  S  I  O  N  N  J  Y
T  R  A  N  S  F  A  T  G  L  U  C  O  S  E  T  C  R  T  V  R  T  L
D  E  T  A  R  U  T  A  S  C  L  K  Z  C  D  I  T  O  R  A  C  T  D
L  T  M  N  O  I  S  N  E  T  R  E  P  Y  H  K  L  K  N  L  C  P  N
T  S  E  L  Y  T  S  E  F  I  L  X  R  A  G  U  S  D  O  O  L  B  M
L  J  F  K  G  P  A  N  C  R  E  A  S  L  D  G  N  I  K  O  M  S  H
```

Heart Attack & Stroke - Level Three
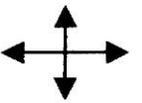
```
B N F Z W Y N L Z I N S U L I N T Y L K Y T I S E B O
L R G N I K O M S N M N W K L K N T X B Z C K N L K N
S Y S T O L I C A E R O B I C C C I L R D Q P W X K X
G F N D Z S A T U R A T E D N T F V H W J T X C Z J L
L Y T I D E R E H K F F G N P H G I K J V P F O Z M M
C M B J X O X Y G E N P T E N G S T C H T M C R P K Q
R L L T H Q P H M M T H Z Y T I I C N W C A R O T I D
D H O L N P S R M L Q K B D L E S A K M G Q P N X H H
R T O Z R Y N B T E L Y R I W W O P N B T D Y A N B R
X N D Y K M G T G S H C J S C R R A K R T C Z R Z N O
F C P X L K I J B O L P H E H E E N Z L G H S Y L M T
N I R V F E S Z R C H X N A E V L E T D K L E S W M C
O L E C Q X G G K U K C T S A O C U R P K K D D M L A
I O S B R E N G L L T R M E R H S R A W X C E O H T F
S T S R N R I H C G V X O S T P O Y N G J K N O K X K
N S U V W C N N R N T X B E A A R S S K M Y T F L T S
E A R R F I R T V J K T E I T N E M F Q T L A T N E I
T I E M Q S A Z T K X Q S R T C H F A V L R R A B K R
R D H W H E W M N R Y K E O A R T J T H J B Y F P O K
E T R B E U Q A L P B M N L C E A N D L B V K W M R H
P M S E T E B A I D N H V A K A B Q F Y V P M O B T H
Y F J D I S E A S E Q G L C Z S M W M B F H Q L N S B
H R G X J L V B L O O D L I P I D S Y Y R E T R A G K
N F T N N O I S N E T R E P Y H L T P X H E A L T H G
T K M K N L G L F S E L Y T S E F I L Z N T W N R L W
L R T R N Q M J N I C O T I N E F C C K B Q Z L L B L
M X B L Y T R C P R G P R K L R A G U S D O O L B K Z
```

Activity	Coronary	Hypertension	Pancreas
Aerobic	Diabetes	Insulin	Plaque
Aneurysm	Diastolic	Kidney disease	Risk factor
Artery	Disease	Lifestyles	Saturated
Atherosclerosis	Exercise	Lowfat foods	Sedentary
Blood lipids	Hypertension	Nicotine	Smoking
Blood pressure	Glucose	Obese	Stroke
Blood sugar	Health	Obesity	Systolic
Calories	Heart attack	Overweight	Trans fat
Carotid	Heredity	Oxygen	Warning signs

```
B N F Z W Y N L Z I N S U L I N T Y L K Y T I S E B O
L R G N I K O M S N M N W K L K N T X B Z C K N L K N
S Y S T O L I C A E R O B I C C C I L R D Q P W X K X
G F N D Z S A T U R A T E D N T F V H W J T X C Z J L
L Y T I D E R E H K F F G N P H G I K J V P F O Z M M
C M B J X O X Y G E N P T E N G S T C H T M C R P K Q
R L L T H Q P H M M T H Z Y T I I C N W C A R O T I D
D H O L N P S R M L Q K B D L E S A K M G Q P N X H H
R T O Z R Y N B T E L Y R I W W O P N B T D Y A N B R
X N D Y K M G T G S H C J S C R A K R T C Z R Z N O
F C P X L K I J B O L P H E H E E N Z L G H S Y L M T
N I R V F E S Z R C H X N A E V L E T D K L E S W M C
O L E C Q X G G K U K C T S A O C U R P K K D D M L A
I O S B R E N G L L T R M E R H S R A W X C E O H T F
S T S R N R I H C G V X O S T P O Y N G J K N O K X K
N S U V W C N N R N T X B E A A R S S K M Y T F L T S
E A R R F I R T V J K T E I T N E M F Q T L A T N E I
T I E M Q S A Z T K X Q S R T C H F A V L R R A B K R
R D H W H E W M N R Y K E O A R T J T H J B Y F P O K
E T R B E U Q A L P B M N L C E A N D L B V K W M R H
P M S E T E B A I D N H V A K A B Q F Y V P M O B T H
Y F J D I S E A S E Q G L C Z S M W M B F H Q L N S B
H R G X J L V B L O O D L I P I D S Y Y R E T R A G K
N F T N N O I S N E T R E P Y H L T P X H E A L T H G
T K M K N L G L F S E L Y T S E F I L Z N T W N R L W
L R T R N Q M J N I C O T I N E F C C K B Q Z L L B L
M X B L Y T R C P R G P R K L R A G U S D O O L B K Z
```

```
B N K B Y G J H F K W D X S S V Z R T D Q P Q L B R K
L S L Y L G L B K F F L A C A E K M T R Q H T G X D N
B N Y N Y O R N L L R N K E Z T L L V B H L M P F K R
Y Y L S T R O Z O M S J I K R E U Y D N L E Z R N T M
L I W Z T D E D F I T E R C K O S R T I T D A R M L Q
N M N W L O K T L T S G T O O I B L A S S K L L M K M
D T B S T K L X R I L N R E S T V I J T E E T R T P V
P M M L U L Y I L A P T E O B Y I K C J E F A Y T H A
O K T M M L J X C Y S I R T S A T N M R M D I S F N K
F X T F Z Q I T W T Y E D E R G I I E G R Z C L E Z T
L L Y D Q D K N T R L T D S W E Y D S M R T Q U T H X
J T J G B N T M M C H E I T H T P K V E N V R Y G R W
P F R R E X M P S L N L C D I B L Y E D B Y R I B K T
P T X V G N A O K T E B H V E K Y R H U S O E Q B M H
X K Q M G N R J A S D E I L S R K G A M Q W T L W S K
R W P T C E T R O R A T N D W I E Z F G R A O F N H R
D R W R H B Y C O R C O O C D K X H G E U O L G M K L
Z R E T R N U T T A I O I N P C N M V N D S I P D P E
M A A H N L C A B S F L E Z T M C O S P I S D M H X H
S H T L G A T W N T O Y Z R K O L E R C G K X O E D L
L D N Y F T X E A T D Q A D R V I E O N A B O R O Y R
P T L K A D T F S I H N G O R R S B I Q M R C M V L R
Y Q S C L R W A S T S Y N Y O S E N Q R H I O C S M B
P I K Y E O I E P F J A G L U S R M C T S G X T H T W
R N Y P L D A K A P R P A R E A M H F E Q L W Z I T N
G M Y T T S R T L Y C C E Z W L P L H Y Y Q K V K D W
M H K L E C L X V R J B J M F C R M Q R C P D T W R L
```

Activity	Coronary	Hypertension	Pancreas
Aerobic	Diabetes	Insulin	Plaque
Aneurysm	Diastolic	Kidney disease	Risk factor
Artery	Disease	Lifestyles	Saturated
Atherosclerosis	Exercise	Lowfat foods	Sedentary
Blood lipids	Hypertension	Nicotine	Smoking
Blood pressure	Glucose	Obese	Stroke
Blood sugar	Health	Obesity	Systolic
Calories	Heart attack	Overweight	Trans fat
Carotid	Heredity	Oxygen	Warning signs

Heart Attack & Stroke - Level Five

```
V L N G E S A E S I D Y E N D I K B R T J G Q W V J
T H G I E W R E V O P R N P T H E A R T A T T A C K
R O L J Q W T Q N Q X H F Z V D G B Y L R S R R Z T
O H B Y V L J G N T L K C O R O N A R Y R D H J G H
T K E E A G P W Q E R E R U S S E R P D O O L B Y W
C O L R S R N F N N M S E D E N T A R Y L O Y L Z R
A X C J E I T I H Z M E L R W K K V H T R F V T P R
F Y T P G D T E L Q K I N N R M M J L M A T Z D K D
K G N P Y O I Y R N R R Y C D R N N C V T A R K C I
S E Z O C K W T S Y N O T C F H V J T M H F K T F A
I N D I I C H Y Y P D L I H K O B E S E E W R K N S
R D N J D S S Z A I B A V J N R L K H S R O Z N H T
D M M G F T N N S L L C I C R D R P L T O L N R Y O
Z I N K O P C E O E H R T G E A Q B P R S X W E P L
Y Q A L P R A O T H U M C T N H G T J O C M K S E I
R N I B E S D M T R P Q A S T W C U T K L D V O R C
N C H A E L M I T V E R A L E I F H S E E C P C T N
N R S W I T N O K C U P A L B L R P N D R B T U E W
K R V P T S E D K T T E Y O P P Y J T N O T R L N K
R M I M U C I S A I H W R H V X L T H N S O H G S R
J D H L R T D S K C N E F B M J H V S F I R L X I F
S L I B O P L T M D A G X M T M W N J E S Z K B O K
M N X R W L R N Q A N E U R Y S M T G B F Q R W N T
M K A N M M E S I C R E X E L L M N T N L I Z N M V
D C N Q R L J T M G C T T L T A F S N A R T L L D X
N V G P D W A R N I N G S I G N S F N J C B N L N L
```

Activity	Coronary	Hypertension	Pancreas
Aerobic	Diabetes	Insulin	Plaque
Aneurysm	Diastolic	Kidney disease	Risk factor
Artery	Disease	Lifestyles	Saturated
Atherosclerosis	Exercise	Lowfat foods	Sedentary
Blood lipids	Hypertension	Nicotine	Smoking
Blood pressure	Glucose	Obese	Stroke
Blood sugar	Health	Obesity	Systolic
Calories	Heart attack	Overweight	Trans fat
Carotid	Heredity	Oxygen	Warning signs

```
V L N G E S A E S I D Y E N D I K B R T J G Q W V J
T H G I E W R E V O P R N P T H E A R T A T T A C K
R O L J Q W T Q N Q X H F Z V D G B Y L R S R R Z T
O H B Y V L J G N T L K C O R O N A R Y R D H J G H
T K E E A G P W Q E R E R U S S E R P D O O L B Y W
C O L R S R N F N N M S E D E N T A R Y L O Y L Z R
A X C J E I T I H Z M E L R W K K V H T R F V T P R
F Y T P G D T E L Q K I N N R M M J L M A T Z D K D
K G N P Y O I Y R N R R Y C D R N N C V T A R K C I
S E Z O C K W T S Y N O T C F H V J T M H F K T F A
I N D I I C H Y Y P D L I H K O B E S E E W R K N S
R D N J D S S Z A I B A V J N R L K H S R O Z N H T
D M M G F T N N S L L C I C R D R P L T O L N R Y O
Z I N K O P C E O E H R T G E A Q B P R S X W E P L
Y Q A L P R A O T H U M C T N H G T J O C M K S E I
R N I B E S D M T R P Q A S T W C U T K L D V O R C
N C H A E L M I T V E R A L E I F H S E E C P C T N
N R S W I T N O K C U P A L B L R P N D R B T U E W
K R V P T S E D K T E Y O P P Y J T N O T R L N K
R M I M U C I S A I H W R H V X L T H N S O H G S R
J D H L R T D S K C N E F B M J H V S F I R L X I F
S L I B O P L T M D A G X M T M W N J E S Z K B O K
M N X R W L R N Q A N E U R Y S M T G B F Q R W N T
M K A N M M E S I C R E X E L L M N T N L I Z N M V
D C N Q R L J T M G C T T L T A F S N A R T L L D X
N V G P D W A R N I N G S I G N S F N J C B N L N L
```

True or False Test - Level One
Heart Attacks and Strokes

**Directions: For the following statements, circle the T if the statement is true and
circle the F if the statement is false.**

T   F   1. A behavior that increases the probability of a disease is called a risk factor.

T   F   2. The death rate for heart attacks is decreasing due to healthier lifestyles.

T   F   3. Being constantly nervous is a warning sign for high blood pressure.

T   F   4. High blood pressure can be lowered by performing aerobic exercise.

T   F   5. The nicotine in a cigarette decreases your heart rate.

T   F   6. You will gain weight if you take in more calories than you burn.

T   F   7. The most common cause for a blocked artery is plaque.

T   F   8. People with diabetes have a decreased chance of blindness.

T   F   9. Obesity is often defined as a body weight that is fifty percent or more over
your ideal weight.

T   F   10. To help lose weight, you should eat less high-calorie and high fat foods.

Test or Questions for Review - Level One
Heart Attacks and Strokes

**Directions: From the information included in the article you read, complete
each statement with the best answer.**

1. A behavior that increases the probability of a disease is called a _____.

2. The death rate for heart attacks is decreasing due to healthier _____.

3. A sedentary lifestyle increases the chance of _____ problems.

4. There are no _____ for high blood pressure.

5. One risk factor that is out of our control is _____.

6. High blood pressure can be lowered by performing _____ exercise.

7. The _____ in a cigarette increases your heart rate.

8. You will gain weight if you take in more _____ than you burn.

9. The most common cause for a blocked artery is _____.

10. Type two diabetes develops when the cells cannot absorb _____.

Test or Questions for Review - Level Two
Heart Attacks and Strokes

**Directions: From the information included in the article you read, complete
each statement with the best answer.**

1. A behavior that increases the probability of a disease is called a _____.

2. The death rate for heart attacks is decreasing due to healthier _____.

3. A sedentary lifestyle increases the chance of _____ problems.

4. There are no _____ for high blood pressure.

5. One risk factor that is out of our control is _____.

6. High blood pressure can be lowered by performing _____ exercise.

7. The _____ in a cigarette increases your heart rate.

8. You will gain weight if you take in more _____ than you burn.

9. The most common cause for a blocked artery is _____.

10. Type two diabetes develops when the cells cannot absorb _____.

11. Blood pressure can be increased if you have an elevated _____ level.

12. People with diabetes have an increased chance of _____.

13. A balloon-like bulge in an artery is called an _____.

14. The carbon monoxide produced by smoking decreases the amount of _____
that gets to the organs.

15. Obesity is often defined as a body weight that is _____ percent or
more over your ideal weight.

Test or Questions for Review - Level Three
Heart Attacks and Strokes

Directions: From the information included in the article you read, complete
each statement with the best answer.

1. A behavior that increases the probability of a disease is called a _____.

2. The death rate for heart attacks is decreasing due to healthier _____.

3. A sedentary lifestyle increases the chance of _____ problems.

4. There are no _____ for high blood pressure.

5. One risk factor that is out of our control is _____.

6. High blood pressure can be lowered by performing _____ exercise.

7. The _____ in a cigarette increases your heart rate.

8. You will gain weight if you take in more _____ than you burn.

9. The most common cause for a blocked artery is _____.

10. Type two diabetes develops when the cells cannot absorb _____.

11. Blood pressure can be increased if you have an elevated _____ level.

12. People with diabetes have an increased chance of _____.

13. A balloon-like bulge in an artery is called an _____.

14. The carbon monoxide produced by smoking decreases the amount of _____
     that gets to the organs.

15. Obesity is often defined as a body weight that is _____ percent or
     more over your ideal weight.

16. The condition of hardened arteries is called _____.

17. Foods that are high in _____ fat can raise your cholesterol level.

18. A heart attack occurs when the _____ artery to the heart is blocked.

19. To help lose weight, you should eat less high-calorie and _____ foods.

20. A stroke occurs when the _____ artery to the brain is blocked.

Heart Attacks and Strokes

Answer Key - True or False Test - Level One

1. A behavior that increases the probability of a disease is called a risk factor. **True**

2. The death rate for heart attacks is decreasing due to healthier lifestyles. **True**

3. Being constantly nervous is a warning sign for high blood pressure. **False** (There are no warning signs for high blood pressure.

4. High blood pressure can be lowered by performing aerobic exercise. **True**

5. The nicotine in a cigarette decreases your heart rate. **False** (The nicotine in a cigarette increases your heart rate

6. You will gain weight if you take in more calories than you burn. **True**

7. The most common cause for a blocked artery is plaque. **True**

8. People with diabetes have a decreased chance of blindness. **False** (People with diabetes have an increased chance of blindness)

9. Obesity is often defined as a body weight that is fifty percent or more over your ideal weight. **False** (Obesity is often defined as a body weight that is twenty percent or more over your ideal weight)

10. To help lose weight, you should eat less high-calorie and high fat foods. **True**

Heart Attacks and Strokes

Answer Key - Tests and Review Questions

(Note: This solution applies to all three levels)

1. A behavior that increases the probability of a disease is called a **Risk Factor**.

2. The death rate for heart attacks is decreasing due to healthier **Lifestyles**.

3. A sedentary lifestyle increases the chance of **Health** problems.

4. There are no **Warning Signs** for high blood pressure.

5. One risk factor that is out of our control is **Heredity**.

6. High blood pressure can be lowered by performing **Aerobic** exercise.

7. The **Nicotine** in a cigarette increases your heart rate.

8. You will gain weight if you take in more **Calories** than you burn.

9. The most common cause for a blocked artery is **Plaque** .

10. Type two diabetes develops when the cells cannot absorb **Glucose**.

11. Blood pressure can be increased if you have an elevated **Cholesterol** level.

12. People with diabetes have an increased chance of **Blindness**.

13. A balloon-like bulge in an artery is called an **Aneurysm**.

14. The carbon monoxide produced by smoking decreases the amount of **Oxygen** that gets to the organs.

15. Obesity is often defined as a body weight that is **Twenty** percent or more over your ideal weight.

16. The condition of hardened arteries is called **Atherosclerosis**.

17. Foods that are high in **Saturated** fat can raise your cholesterol level.

18. A heart attack occurs when the **Coronary** artery to the heart is blocked.

19. To help lose weight, you should eat less high-calorie and **High Fat** foods.

20. A stroke occurs when the **Carotid** artery to the brain is blocked.

Teacher Lesson Plan

For health classes, for rainy gym days, for substitute teachers, and even for study hall students who say that they have nothing to do

Directions

- Print enough copies of the article so that all of the students in the class have their own copy.

- Each Worksheet is arranged so that the questions are in the same order as the information presented in the article. Select the Worksheet level that is most appropriate for your students and then print enough copies so that all of the students in the class have their own copy.

- If having the questions in the same order as the information presented in the article is too easy for your group of students, you can substitute one of the Test-Review Questions levels for the Worksheet.

- After completing one of the above-mentioned tasks, have the students complete one of the crossword puzzles, one of the word search puzzles, or both puzzles.

- If any of the above-mentioned choices is too difficult for your particular group of students, another option is to allow two students to work together on one of these tasks.

NOTE: Feedback from teachers already using these resources state that staff members really like receiving the health and wellness articles if they are accompanied by a crossword puzzle. For members of the staff, the Level Four crossword puzzle is recommended.

Worksheet - Level One
Heart Attacks and Strokes

Directions: From the information included in the article you read, complete each statement with the best answer.

1. The death rate for heart attacks is decreasing due to healthier _____.

2. The most common cause for a blocked artery is _____.

3. A behavior that increases the probability of a disease is called a _____.

4. The carbon monoxide produced by smoking decreases the amount of _____ that gets to the organs.

5. High blood pressure can be lowered by performing _____ exercise.

6. There are no _____ for high blood pressure.

7. People with diabetes have an increased chance of _____.

8. You will gain weight if you take in more _____ than you burn.

9. To help lose weight, you should eat less high-calorie and _____ foods.

10. A sedentary lifestyle increases the chance of _____ problems.

Worksheet - Level Two
Heart Attacks and Strokes

Directions: **From the information included in the article you read, complete each statement with the best answer.**

1. The death rate for heart attacks is decreasing due to healthier _____.

2. The most common cause for a blocked artery is _____.

3. A behavior that increases the probability of a disease is called a _____.

4. One risk factor that is out of our control is _____.

5. The _____ in a cigarette increases your heart rate.

6. The carbon monoxide produced by smoking decreases the amount of _____ that gets to the organs.

7. Blood pressure can be increased if you have an elevated _____ level.

8. High blood pressure can be lowered by performing _____ exercise.

9. There are no _____ for high blood pressure.

10. Foods that are high in _____ fat can raise your cholesterol level.

11. People with diabetes have an increased chance of _____.

12. Obesity is often defined as a body weight that is _____ percent or more over your ideal weight.

13. You will gain weight if you take in more _____ than you burn.

14. To help lose weight, you should eat less high-calorie and _____ foods.

15. A sedentary lifestyle increases the chance of _____ problems.

Worksheet - Level Three
Heart Attacks and Strokes

Directions: **From the information included in the article you read, complete each statement with the best answer.**

1. The death rate for heart attacks is decreasing due to healthier _____.

2. The most common cause for a blocked artery is _____.

3. The condition of hardened arteries is called _____.

4. A stroke occurs when the _____ artery to the brain is blocked.

5. A heart attack occurs when the _____ artery to the heart is blocked.

6. A balloon-like bulge in an artery is called an _____.

7. A behavior that increases the probability of a disease is called a _____.

8. One risk factor that is out of our control is _____.

9. The _____ in a cigarette increases your heart rate.

10. The carbon monoxide produced by smoking decreases the amount of _____ that gets to the organs.

11. Blood pressure can be increased if you have an elevated _____ level.

12. High blood pressure can be lowered by performing _____ exercise.

13. There are no _____ for high blood pressure.

14. Foods that are high in _____ fat can raise your cholesterol level.

15. Type two diabetes develops when the cells cannot absorb _____.

16. People with diabetes have an increased chance of _____.

17. Obesity is often defined as a body weight that is _____ percent or more over your ideal weight.

18. You will gain weight if you take in more _____ than you burn.

19. To help lose weight, you should eat less high-calorie and _____ foods.

20. A sedentary lifestyle increases the chance of _____ problems.

Heart Attacks and Strokes

Worksheet Answer Key - Level One

1. The death rate for heart attacks is decreasing due to healthier **Lifestyles**.

2. The most common cause for a blocked artery is **Plaque**.

3. A behavior that increases the probability of a disease is called a **Risk Factor**.

4. The carbon monoxide produced by smoking decreases the amount of **Oxygen** that gets to the organs.

5. High blood pressure can be lowered by performing **Aerobic** exercise.

6. There are no **Warning Signs** for high blood pressure.

7. People with diabetes have an increased chance of **Blindness**.

8. You will gain weight if you take in more **Calories** than you burn.

9. To help lose weight, you should eat less high-calorie and **High Fat** foods.

10. A sedentary lifestyle increases the chance of **Health** problems.

Heart Attacks and Strokes

Worksheet Answer Key - Level Two

1. The death rate for heart attacks is decreasing due to healthier **Lifestyles**.

2. The most common cause for a blocked artery is **Plaque**.

3. A behavior that increases the probability of a disease is called a **Risk Factor**.

4. One risk factor that is out of our control is **Heredity**.

5. The **Nicotine** in a cigarette increases your heart rate.

6. The carbon monoxide produced by smoking decreases the amount of **Oxygen** that gets to the organs.

7. Blood pressure can be increased if you have an elevated **Cholesterol** level.

8. High blood pressure can be lowered by performing **Aerobic** exercise.

9. There are no **Warning Signs** for high blood pressure.

10. Foods that are high in **Saturated** fat can raise your cholesterol level.

11. People with diabetes have an increased chance of **Blindness**.

12. Obesity is often defined as a body weight that is **Twenty** percent or more over your ideal weight.

13. You will gain weight if you take in more **Calories** than you burn.

14. To help lose weight, you should eat less high-calorie and **High Fat** foods.

15. A sedentary lifestyle increases the chance of **Health** problems.

Heart Attacks and Strokes

Worksheet Answer Key - Level Three

1. The death rate for heart attacks is decreasing due to healthier **Lifestyles**.

2. The most common cause for a blocked artery is **Plaque**.

3. The condition of hardened arteries is called **Atherosclerosis**.

4. A stroke occurs when the **Carotid** artery to the brain is blocked.

5. A heart attack occurs when the **Coronary** artery to the heart is blocked.

6. A balloon-like bulge in an artery is called an **Aneurysm**.

7. A behavior that increases the probability of a disease is called a **Risk Factor**.

8. One risk factor that is out of our control is **Heredity**.

9. The **Nicotine** in a cigarette increases your heart rate.

10. The carbon monoxide produced by smoking decreases the amount of **Oxygen** that gets to the organs.

11. Blood pressure can be increased if you have an elevated **Cholesterol** level.

12. High blood pressure can be lowered by performing **Aerobic** exercise.

13. There are no **Warning Signs** for high blood pressure.

14. Foods that are high in **Saturated** fat can raise your cholesterol level.

15. Type two diabetes develops when the cells cannot absorb **Glucose**.

16. People with diabetes have an increased chance of **Blindness**.

17. Obesity is often defined as a body weight that is **Twenty** percent or more over your ideal weight.

18. You will gain weight if you take in more **Calories** than you burn.

19. To help lose weight, you should eat less high-calorie and **High Fat** foods.

20. A sedentary lifestyle increases the chance of **Health** problems.