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JAMIE SQUIRE, GETTY IMAGES

WINTER SPORTS SCIENCE

Mention winter sports and you think of skating, skiing, sledding and hockey — fast, active sports that keep us warm in the winter air.

Though many have now moved indoors, winter sports all got their start outdoors. They were not only a test of skill but of ability to withstand the elements of cold, ice and snow.

Because of that, the world's best winter sports athletes originally came from countries with cold weather and hard winters — places like Sweden, Canada, Germany and Switzerland.

That has all changed today. Great winter sports athletes come from everywhere and perform everywhere. From California to Vermont, and from Idaho to Colorado, people are practicing and playing winter sports. And their talents will be on display this February when the world's best winter athletes compete in Peongchang, South Korea during the 2018 Winter Olympics.

The hows and whys

Rules tell us how winter sports are played. But how do winter sports work?

Why do skaters spin as they do? What lets a ski jumper hang in the air for huge distances?

The answer to these and many other questions is **SCIENCE**.

Yes, the stuff you study in school, with

weights, beakers, charts, experiments and textbooks.

Science is about the forces of nature and the energy that sets them in motion. Forces and energy are what shape sports, too. These scientific forces combine with the energy stored in muscles to create the energy of movement.

Knowing how forces and energy work can make winter sports more fun. And if you play these sports, it may give you tips that will actually make your performance better.

Winter Sports Science is fun science. If you like it, you may want to explore ways that School Science can be fun science, too!



MOUNTAIN AMERICA
CREDIT UNION



Show love at a low cost this Valentine's Day

Here are some low-cost or free ideas to help you have fun celebrating Valentine's Day this year!

- ♥ Gather your family and watch a favorite movie together.
- ♥ Decorate your kitchen table for dinner using dollar-store items.
- ♥ Have each person in your family share something they love about another person or about what they love in the world.
- ♥ Cut out heart-shaped pieces of paper and hide them around your house for your family. Come up with inexpensive prizes for the winner or mark the hearts with special acts of kindness.
- ♥ Call or FaceTime your grandma or grandpa to tell them why you love them.
- ♥ Use action figures, dolls, Legos or any other toys to build fun or funny Valentine-themed displays for your family.
- ♥ List 10 things you love about someone special, write them a card and give it to them.
- ♥ Look for ways to help people at school, such as decorating a teacher's desk or helping someone carry their backpack.
- ♥ Simply tell people you love them.
Be creative and make it a memorable Valentine's Day!

gravity

Ski jumping

One of the most spectacular winter sports events is ski jumping.

In this event, skiers climb a 50-foot tower, hurl themselves 50 miles per hour down a steep ramp, launch themselves off an upturned lip and fly more than 400 feet through the air.

The goal is to see how far they can fly, without wiping out on the landing.

Ski jumping is not only one of the most exciting winter sports. It shows off many forces of science and nature as well.

Consider the speeding trip down the ramp. What pulls the skier? **GRAVITY** — the same thing that holds people on the surface of the Earth so they don't float off into space.

Gravity is something every planet has. In fact, it is something every object has. It is a force that draws things toward an object. The bigger the object, the stronger its gravity. The Earth is much bigger than people. When you jump off the Earth — or off a ski jump — the Earth's gravity pulls you back.

How Do They Fly?

The way ski jumpers position their bodies can affect how far they fly. The leap off the upturned lip of a ski jump helps position the skier on a rising course that will increase distance.

Once off the ramp, all ski jumpers try to master the same position. The jumper seeks to balance in the air with the skis tilted upward, the tips apart in front to form a "V," the body leaning

forward and the hands by the side. If the ski jumper does this, air can actually pile up under the jumper and delay the landing.

The "V" form actually allows more air to build up underneath because there is more surface to push

against. It can add nearly 50 feet to a jump on Large Hill competitions.

Increased Speed

Position is also important in getting enough speed to launch a ski jump. If you watch ski jumping on TV, you will see that once the jumpers shove off at the top of the ramp, they crouch over

their skis as far as they can.

The reason they do this is to reduce the "drag" of air against their bodies. You may not be able to see the air we breathe, but it is actually loaded with molecules and atoms of different elements. Molecules and atoms are some of the smallest bits of liquids, solids and gases.

The molecules and atoms in air may not be seen, but they have power over bigger objects. When an object moves, it pushes against the invisible molecules in the air. The molecules do not move out of the way quickly and slow down the moving object.

Ski jumpers and other athletes seeking speed try to reduce the area that air can push against. Putting their bodies in a crouch lets more air pass over them and less hold them back with "drag."

Test It Yourself

Here's a way you can test the effects of "drag."

You'll need a bicycle, a paved hill away from traffic, a friend to help you and a stopwatch (or a watch with a second hand).

First, shove off and coast down the hill, sitting straight up on the seat. Have your friend time you from top to bottom and write down the result. Next, shove off and crouch low over the handlebars. Have your friend time you from top to bottom. Was there a difference in time? How much?

TRY THIS

Experiment: Hold a shoe in one hand and a flat piece of notebook or copy paper in the other. Drop both objects from the same height at the same time.

Who thinks the shoe will hit the floor first?

Who thinks the paper will hit the floor first?

Who thinks both objects will hit the floor at the same time?

Observation: The shoe hits the floor first.

Explanation: Because of the paper's shape, its fall is slowed by air pushing up against its under-surface — this slowing effect is called air

resistance.

Next: crumple the piece of paper into a ball. Repeat the above experiment.

Observation: The shoe and the paper ball hit the floor at the same time.

Explanation: Even though the Earth exerts more pull on a heavier object, a lighter object experiences a greater degree of acceleration, meaning that it moves at a greater speed. Consequently, objects of different weights fall at the same rate when other forces, such as air resistance, are not a factor.



Lindsey Van flies through the air during the Olympic trials in Park City.

SCOTT G WINTERTON,
DESERET NEWS

USE THE NEWS

Gravity is part of the news every day, even if we don't realize it. A satellite falls back to Earth? Gravity brought it down. A man fell off a bridge? Gravity. Look through the stories in today's paper and list as many examples of gravity at work as you can. Stretch your thinking!

The way athletes position their bodies affects how well they play. Look through today's sports section and pick out a picture of an athlete in action. Write a sentence stating how his or her body position affects play.

Figure skating

friction

Figure skating has become one of the most popular spectator sports in the world. Figure skating has become popular because it combines the grace and style of dancing with the strength and speed of sports. And in pairs competition, the coordination required between partners is among the greatest of any team sport.

So how does science work in figure skating? What forces are at work?

Did you know that ice skaters and skiers don't perform on ice and snow? They really are performing on a thin layer of water.

How can this be? The answer is **FRICTION**.

Friction is a force that causes heat to build up whenever two objects rub together.

The rubbing motion creates heat by activating the molecules in the objects. The energy of the rubbing increases the energy and movement in the molecules.

Friction from the surface of skates racing over ice actually causes the ice to melt slightly. Combined with a natural effect known as surface melting, this can actually create a thin layer of water between the skate and the ice.

Slow Down, Too Fast

Friction is important to any speed sport like skating, skiing or bobsledding.

It does more than just heat the

surface. The friction of surfaces rubbing together also slows down moving objects.

Skaters and skiers train themselves to use this friction to control their speed during routines or runs. Friction, as well as the "drag" from air, is what stops them when they have finished. Otherwise they would crash!

Spin City

Figure skaters sometimes finish off their routines by spinning wildly in one spot. They swoop into a spin and then get going so fast they are just a blur. Then they stick their toe in the ice, stop on the spot and take a bow.

How do they get going so fast in these spins? The answer is **MOMENTUM**.

Every moving thing gathers momentum. Momentum is the

property of every object that tries to keep it moving once it has started in motion.

The momentum of spinning objects, like tops or figure skaters, is a combination of the size of the person, the speed, and the radius of an object (the distance from the center of the person to the outermost part). If the radius is reduced, the speed increases.

A skater creates superfast spins by pulling in his or her arms close to the body.

The tighter the arms are to the body, the faster the spin. The farther out, the slower the spin.



Gracie Gold of the United States performs in the women's senior short program as part of the 2013 U.S. International Figure Skating Classic.

MATT GADE, DESERET NEWS

USE THE NEWS

Friction is a force in every form of transportation, not just figure skating. Brakes work by creating friction that slows wheels or objects down. Look through today's newspaper stories, photos and ads and make a list of as many kinds of transportation as you can. For each you find, write down the surfaces that rub together as the vehicle travels. Then write down how friction might be used to stop each kind.

Try This

Heated-up hands

This experiment will help you understand why people rub their hands together when they have to stay outside on a cold day.

You'll need

- Hand lotion
- Watch or clock with second hand
- A helper

© 2012 MCT
Source: Commonwealth of Pennsylvania Link to Learn Project
Graphic: Paul Trap



- 1 Rub the palms of your hands together vigorously for 15 seconds
How do your hands feel?

Ask your helper to feel your palms and describe how they feel

- 2 Put a tiny drop of lotion on your palms and rub them together briskly for 15 seconds

How do your hands feel this time? Does your helper agree?

Put more lotion on your palms and repeat all the steps above

- 3 Finally, let your helper do steps 1 and 2, and see whether you can feel a change in how his or her hands feel



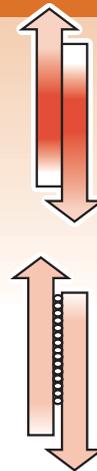
What happened?

When two surfaces rub against each other, the dragging force between them is called friction

If there is much friction, the rubbing will make the surfaces warmer

That's why rubbing your hands together made them feel warm

If you reduce the friction – for example by **lubricating** the surfaces with an oily material like hand lotion – there's less friction and less heating





Vancouver Canucks right wing Brock Boeser (6) and Washington Capitals right wing T.J. Oshie (77) reach for the puck in the first period of an NHL hockey game on Jan. 9 in Washington.

ALEX BRANDON ASSOCIATED PRESS

physics

Ice hockey

Ice hockey has always been a rough, fast game that's as fun to watch as to play. It started on frozen lakes and ponds in cold places like Canada, Michigan and New England and more recently has moved into arenas in warm climates like Florida.

The Science of Hockey

Ice hockey offers many chances to see how science works in sports. Slapshots, goals, collisions and more are all the result of scientific forces.

Hockey, in fact, could be seen as a laboratory for the science of **PHYSICS**. Physics deals with how objects in the world — called “matter” — interact with energy in the world.

Consider the most exciting move in hockey — the slap shot.

With a slap shot, a hockey player raises the stick as far back as he/she can, whips it toward the puck and sends the puck screaming at the goalie. Slap shots can travel upwards of 100 miles an hour with top adult players.

But what makes a slap shot so fast? Physics. More specifically the part of physics called “mechanics.”

A famous scientist named Isaac Newton spent a lot of time studying how objects move some 300 years ago. He wrote out three laws of motion that still are used today.

One of these states that the rate of change in motion for an object—speeding up—is directly linked to the force applied to the object.

That is exactly why a slap shot is so much more powerful than other shots. The force of the stick has all the energy of a full swing behind it. When the stick hits the puck, it just rockets off toward the goal.

Compare that to a softer “wrist shot” or a rebound shot in front of the goal. What other sports can you think of that show this law of motion?

Check It Out!

Isaac Newton's laws of motion also are seen anytime a hockey game gets rough.

“Checking” — throwing your body into another player's body — is a big part of hockey. Usually it occurs along “the boards” that surround the hockey rink.

What happens scientifically when one player checks another?

USE THE NEWS

1. Motion is all around us in the world. Look through today's newspaper stories and photos and see how many examples of motion you can find. After you have listed them, go back and label any that work like a “slap shot” or “check” in hockey.

2. Think of yourself as a photographer who has been assigned to illustrate the two laws of motion discussed on this page. What would you shoot pictures of? How would your pictures show the laws?

The first part of the action is like the slap shot discussed at left. The checker applies force to another player, and sends that player flying in the direction the force is moving.

The second part of a check shows another of Newton's laws. This law states that for every action there is an equal but opposite reaction. When a player is checked into the boards, he bounces back off. Or sometimes players collide on the ice at high speed and bounce off each other.

The “action” in these cases is the collision. The “reaction” is the bounce. How hard you bounce is directly connected to how hard you're hit (and how big you are).

GO FOR THE GOLD

Are you a gold medal reader? Take the Gold Medal pledge and ready with your family! Read 20 minutes every day and mark your progress below!

	
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TRY THIS: Wacky Washers

To prepare for this experiment, stack four washers one on top of the other so that you form a tower of washers. Place the stack of washers on top of your textbook or on the floor so that you have a smooth, slick surface.

Aim one washer at the bottom of the stack of four washers and give it a good hard flick with your finger or hand. What happens? Flick a stack of two washers into a stack of four washers. What happens? Flick a stack of four washers into a stack of four washers. What happens? Explain your observations in terms of Newton's First Law.

SOURCE: sciencespot.net

Black History Month

PRIDE IN
color
A CELEBRATION OF
AFRICAN-AMERICAN HERITAGE



AFRICAN-AMERICANS have a wide-ranging and interesting history in the United States. Yet for many years, that history was ignored.

And then Carter G. Woodson stepped in. A teacher and founder of what is now The Association for the Study of Afro-American Life and History, Woodson began pushing for recognition of African-American history, especially in schools. In 1926, he established Negro History Week.

Negro History Week eventually grew into Black History Month, an event celebrated nationwide every February. Today, Black History Month not only provides an opportunity to learn about African-American history but also to foster an appreciation for the African-American culture and its significant contributions to this country.

On the following pages, we, too, will take a brief look at the history and cultural contributions of African-Americans.

“Lack of knowledge is darker than night.”

— African proverb

The story begins

AFRICAN-AMERICANS trace their roots to a continent far away — Africa. Located almost 5,000 miles across the Atlantic Ocean, Africa is the second largest continent on Earth and more than four times the size of the United States.

Most ancestors of today's African-Americans lived in the western part of Africa, in an area known as the Western Sudan. Long before they came to America, they lived in well-planned cities with sophisticated governments and distinct empires and cultures. They profited from an economy based on farming, gold mining, and trade with Arabs in northern Africa.

Slavery was also a part of the African culture. Most of the Africans who became slaves were captured during battles between neighboring African peoples and sold to the Arabs in the north.

In the 1500s, Portugal and Spain also began buying African slaves, mostly to work on sugar plantations developed by colonists in Brazil. Other European countries joined the slave trade in the 1600s and began transporting African slaves to the American colonies.

After being captured or purchased from African slave traders, called caboceers, the slaves were packed tightly onto ships and sent to the West Indies, a journey known as the Middle Passage. Probably 5 percent of the 10 million slaves shipped across the Atlantic Ocean ended up in North America. For them, the journey by ship took several months. Many died because of unsanitary and unsafe traveling conditions.

The journey to the New World might well be considered the easy part. Those who made it across the Atlantic Ocean faced an even greater hardship — one that would continue for many years to come and would become central to the story of African-American heritage.



MOUNTAIN AMERICA
CREDIT UNION



Do what you love

Do you know what you want to be when you grow up? Now is a good time to do some homework and think about what you would love to do. The more you discover, the more you'll know whether it's the right career direction for you. Think about your interests and how those things could translate into a job. Consider the following:

What kinds of jobs are you looking to find? Do you want to work in an office, travel or do physical labor?

Do you want to own your own business or work for an established company?

Do you know any adults who do the job you are considering? If so, what do they like and dislike about it?

How much money do people make in that job right now?

How long do you have to go to school for that job?

How will that job fit with other things you want to do in life?

The more you know about future job options, the more you'll know whether it's right for you. This will help you feel good about your future.

BOOKER T. Washington

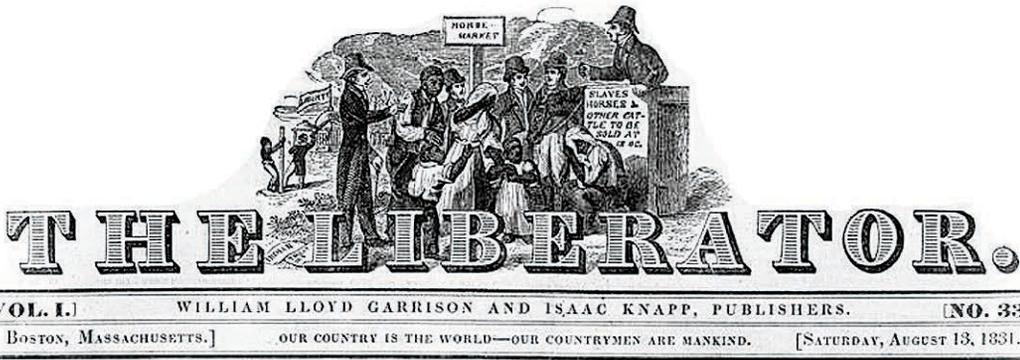
(1856–1915)



Believing that African-Americans would benefit more from a vocational education than a college education, Booker T. Washington founded

Tuskegee Institute in Alabama in 1881.

There, blacks learned the skills that would lead to economic prosperity and, later, equality. Washington's role as founder and head of Tuskegee Institute (now Tuskegee University) made him one of the most influential African-American leaders and educators of his time.



The masthead of "The Liberator," first published in 1831

Slavery: A PECULIAR INSTITUTION

SLAVERY was not new to the world when Europeans began shipping Africans to North America. It had been practiced in many parts of the world, including Africa, for thousands of years.

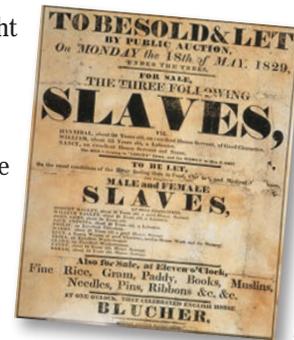
Many Africans who were forced to come to America were prisoners-of-war, captured by warring African tribes and traded to the European colonists for valuable items.

The first slaves in the Colonies — a group of 20 — arrived in Jamestown, Va., in 1619 as indentured servants. Indentured servants worked under contract for a period of time and then they became free.

Others who were brought from Africa were sold as slaves at public auctions. Slaves were sold to white masters, who often kept them as "property" for the rest of their lives.

By the late 1700s, one out of three people living in the South was a slave. By 1860, there were four million slaves living throughout the South. By contrast, less than half a million free African-Americans lived in the nation — mostly in the North.

The conditions under which slaves



lived varied. Slave codes, or laws, were passed by the Colonies to govern their treatment.

These codes required that owners provide their slaves with basic needs — food, clothing and shelter.

At the same time the slave codes severely restricted slaves' rights.

Slaves, for instance, could not receive an education, could not testify against white people in courts, and could not own weapons.

Freedom

WHEN THE 13TH AMENDMENT to the U.S. Constitution was approved and slavery was formally abolished in 1865, it was a huge victory for slaves. But that victory was quickly overshadowed by the fact that most of the four million freed slaves, called freedmen, had neither homes nor money and couldn't even read or write.

What's more, many cities in the South lay in ruins, and there were few places to get jobs — for blacks or whites.

To help the freed slaves and poor whites during this time, which became known as Reconstruction, the U.S. Congress set up the Freedmen's Bureau, an organization that distributed food and supplies, set up hospitals, helped people resettle, and founded schools. For seven years, it made great strides in helping both blacks and whites.

Yet, the Freedmen's Bureau could do little to help calm Southern hostilities toward African-Americans. Many

white Southerners were upset about the African-Americans' newfound freedom. Some states passed laws, known as black codes, which limited African-Americans' rights. For instance, in some states, African-Americans still could not own land, had to be off the streets at certain times, could be jailed for being unemployed, and could be beaten by their employers.

Appalled at these black codes, a group of Northern congressmen called the Radical Republicans fought to have them abolished. Eventually, they won approval of the Civil Rights Acts of 1866, which gave African-Americans the rights and privileges of full citizenship.

That same year, African-Americans legally earned the right to vote. As a result, many were elected to public office for the first time.

With the law on African-Americans' side, some Southern whites began to take matters into their own hands. In 1865 and 1866, some 5,000 Afri-

can-Americans were murdered. Sometimes, law enforcement officers were involved, but most of the attacks were carried out by lawless groups.

When Rutherford B. Hayes was elected president in 1876, the Reconstruction of the South — and many of the gains African-Americans had made — effectively came to an end. Once again, African-Americans found themselves in a struggle for basic rights and privileges. It was not until the modern civil rights struggle began that African-Americans would see many of those freedoms restored.

ACTIVITIES:
Write five front-page newspaper headlines that might have appeared when the 13th Amendment was approved.
Assume you are a newspaper reporter who gets an exclusive interview with one of the African-Americans elected to public office during the Reconstruction Era. Come up with 10 reporter's questions you would ask.

THE GROWTH OF discrimination

DESPITE TEMPORARY GAINS for African-Americans during the Reconstruction Era, the late 1800s and early 1900s were fraught with hardship. Many African-Americans were denied their voting rights, were segregated from their white counterparts, and suffered other forms of discrimination — all because of a simple belief held by most Southern whites that African-Americans were inferior human beings.

Part of this hardship was brought on by the enforcement of Jim Crow laws — state laws and practices that supported the segregation of blacks and whites. These laws and practices resulted in separate facilities for blacks and whites in many public places, including restaurants, schools, buses, telephone booths, hotels, restrooms and churches. Some courtrooms even had separate Bibles for the swearing in of African-Americans.

But it was an 1892 attempt by an African-American to ride in a railroad car that ultimately put the brakes on the early civil rights gains. Homer Plessy, of New Orleans, took a seat in the first-class, all-white car of a train to test the strength of the U.S. Constitution and the Jim Crow laws that had spread throughout the South. The 34-year-old was promptly arrested and convicted in the court of Judge John H. Ferguson.

Plessy, along with a group of African-American supporters, fought the conviction all the way to the Supreme Court. In 1896, the court ruled against Plessy, saying that separate public facilities could be provided for the races as long as they were equal.

The Plessy vs. Ferguson ruling became known as the “separate but equal” doctrine. It carried over into many aspects of everyday life until Thurgood Marshall, chief lawyer for the National Association for the Advancement of Colored People, challenged the Supreme Court’s decision in 1951.

Marshall fought to get the Supreme Court to overturn its 1896 ruling with a lawsuit that centered on Linda Brown, a 7-year-old African-American girl living in an integrated neighbor-



LIBRARY OF CONGRESS

“Colored” water cooler in streetcar terminal, Oklahoma City, Oklahoma.

hood in Topeka, Kan. While all the rest of the children in her neighborhood attended an all-white school down the street, Linda was forced to go to school across town. Her father, Oliver, decided to sue the school system to make sure Linda could attend school closer to home and have the opportunity for a better education.

Jim Crow was a fictional black character in a popular song from the 1830s. His name was used to refer to the laws and practices that supported segregation of blacks and whites.

Marshall argued that even though the school facilities were equal, the education students received was not. The Supreme Court agreed, saying segregated schools violated the 14th Amendment requiring all citizens be treated equally. All across America, schools were ordered to become integrated.

Several states desegregated their schools right away. But the transition was far from smooth. In Arkansas, for instance, the National Guard was called in to keep order and to help escort nine African-American students into the all-white Little Rock Central High School. Violence broke out in many cities as schools were ordered to desegregate.

Once again, African-Americans were embroiled in a struggle for the rights granted to them by law. This time they would join forces and launch a movement that would change the face of a nation forever.



ASSOCIATED PRESS

George E.C. Hayes, left, Thurgood Marshall, center, and James M. Nabrit join hands as they pose outside the U.S. Supreme Court in Washington, D.C., May 17, 1954.



ASSOCIATED PRESS

Soldiers escort black students to Central High School in Little Rock, Arkansas.

IDA B. Wells

(1862–1931)

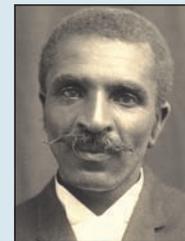


More than anything, Ida B. Wells wanted justice for her people. And she didn’t care who knew it.

In 1889, Wells became part-owner and a reporter for Free Speech in Memphis, Tenn. When three friends were lynched for being “uppity,” Wells responded with an exposé about the white men responsible for the lynching and launched a successful crusade to stop violence against African-Americans. Her reporting helped bring an end to one of the most violent eras in black history.

GEORGE WASHINGTON Carver

(1864–1943)



Until George Washington Carver came along, the only thing people did with peanuts was eat them. But Carver, a well-respected researcher and administrator

at Tuskegee Institute, experimented with peanuts and made more than 300 products out of them, including soap, linoleum, ink, paint and face powder.

The former slave devoted his life to research and won many honors for his achievements. Today, the state of New York recognizes Jan. 5 as Carver Day.

W.E.B. Du Bois

(1868–1963)



William Edward Burghardt Du Bois was one of the leading opponents of racial discrimination in the early 1900s. He founded the Niagara Movement, which later became

the National Association for the Advancement of Colored People, better known as the NAACP. Du Bois was also the first African-American to receive a Ph.D. from Harvard University.

META VAUX Warrick

(1877–1968)



Meta Vaux Warrick developed a love for the arts at an early age. Later, at age 22, she traveled to Paris to study. There she was surrounded by such famous artists as Pablo Picasso and Auguste Rodin and won praise and fame for her sculpture of African subjects.

Upon her return to the United States, however, she received quite a different reception. Few galleries would display her art because she was African-American. Today, though, Warrick's works are exhibited in many locations.

SHIRLEY Chisholm

(1924–2005)



Her work in establishing daycare centers for working mothers made Shirley Chisholm a household name in Brooklyn during the 1960s. So popular was this educator that

Brooklyn residents elected her to the New York State legislature in 1964. Four years later, they sent her to the U.S. House of Representatives.

Chisholm became the first African-American woman to serve in Congress. She served seven terms, and in 1972 she ran for president of the United States.

Malcolm X

(1925–1964)



Malcolm X was born Malcolm Little. Because he disagreed with the adoption of white surnames by his slave ancestors, he replaced his last name — a slave name — with the letter X.

Malcolm X was a spokesman for the Black Muslims, a religious group that often promoted violence against whites and the voluntary separation of races in society. After a disagreement with Black Muslim leader Elijah Muhammed, Malcom X left the Black Muslims and founded the Organization of Afro-American Unity.

Shortly afterward, Malcom X was shot and killed in New York City. Three men, including two Black Muslims, were convicted of his murder.

Civil Rights MOVEMENT

TIRING OF THE INJUSTICE they'd suffered for so long, African-Americans began to band together in the mid-1950s to call attention to their plight.

Known as the civil rights movement, this joining together of African-Americans and their white supporters changed the face of America forever. It was marked by public protests and demonstrations, many of which involved clashes between the races. Following is a look at two events that highlighted the African-Americans' demand for equality and went a long way in ensuring that they received their most basic rights — once and for all.

The Alabama Bus Boycott – 1955

The Alabama Bus Boycott began quietly. At first, only a few people knew that an African-American seamstress named Rosa Parks had been arrested for refusing to give up her bus seat to a white man, as required by Montgomery city law.

But by the end of the day on Thursday, Dec. 1, 1955, the entire African-American community in Montgomery knew what had happened and stood ready to do something about it.

Local African-American leaders formed a committee, called the Montgomery Improvement Association, and organized a one-day boycott of Montgomery city buses. A young Montgomery Baptist minister named Martin Luther King Jr., then 26, was chosen to lead the group.

The following Monday, Montgomery's buses were empty as African-Americans — young and old — took to the streets and walked to work. It appeared the boycott was a success.

But later that day, Rosa Parks was found guilty and fined \$10 plus \$4 for court costs. In turn, more than 3,000 people met and decided to continue the boycott until attitudes in Montgomery changed.

For 382 days, African-Americans and their white supporters refused to ride Montgomery buses. They stood their ground, despite several outbreaks of violence against them, including the bombing of King's home.

Finally, the U.S. Supreme Court ruled that Alabama's laws requiring segregation on buses was unconstitutional, and the boycott ended suc-



ASSOCIATED PRESS

Marchers stream across the Alabama River on March 21, 1965.

cessfully. In celebration, King and other African-American leaders sat in the front of a bus and rode through the streets of Montgomery.

King later wrote:

"There comes a time when people get tired of being trampled by oppression. ... The story of Montgomery is the story of 50,000 such Negroes who were willing to substitute tired feet for tired souls, and walking the streets of Montgomery until the walls of segregation were finally battered by the forces of justice."

The March on Washington – 1963

The success of the Montgomery bus boycott boosted Martin Luther King Jr. to instant fame, and he soon became regarded as the leader of the civil rights movement. He began working with other civil rights leaders to make the movement a national one and to pass a law ending racial discrimination.

King and others staged a march on Washington, D.C. On Aug. 28, 1963, more than 200,000 people — blacks and whites — marched to the Lincoln Memorial in an appeal for racial equality. The high point of the march was a speech by King, who told the crowd that he had a dream that one day all people would enjoy equality and justice. The speech, titled, "I Have a Dream," is one of the most famous speeches of all time.

Soon after, President John F. Kennedy proposed laws designed to protect the

civil rights of all people, despite much opposition, especially in the South. After Kennedy's assassination, President Lyndon B. Johnson persuaded Congress to pass the proposed laws, and the Civil Rights Act of 1964 was enacted. It was the strongest civil rights bill in U.S. history, outlawing racial discrimination in public places and demanding equal opportunity for all people.

ACTIVITY:
Segregate your class into two groups – blue-eyed people and everyone else. The blue-eyed people will sit in the front of the class, go through the lunch line first, and get other privileges throughout the school day. At the end of the day, have a group discussion about how segregation makes you feel – regardless of which group you are in. Write your thoughts in the form of a letter to the editor or an editorial.



What color would you associate with the month of February? Red, right? Red for National Heart Month and Valentine's Day. Well, this year the month of February is particularly special and brings all sorts of colors to mind. Can you guess what it is?

The Winter Olympics!

Maybe the first image that comes to mind is the Olympic rings which are red, green, black, yellow and blue. You can also see so many colors displayed on the beautiful flags that represent more than 200 nations participating.

Did you know the first Olympic Games were held in 776 BC in Olympia? Since then the Games have evolved to what we celebrate now.

Just think of how many stories have been told about Olympic athletes alone. Take a quick moment to think, do you know any stories about an Olympic athlete? This year the Olympics will take place in Pyeongchang, South Korea. Will you be watching?



CLASSROOM Connections

If you would like to receive FREE copies of Connect 1•2•3 for your classroom, order on the Web at deseretnews.com/nie.

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MOUNTAIN AMERICA
 CREDIT UNION

Healthy snacks



Fruit dip

Ingredients:

¼ cup sour cream
1 tablespoons brown sugar
¼ teaspoon cinnamon
Variety of fruit (apples, strawberries, bananas, cherries)

Directions:

Stir sour cream, brown sugar and cinnamon together in a bowl. Wash and cut fruit into slices.

SOURCE: parenting.com

Big Green Monster Smoothie

Makes six (6) 4-oz. (½-cup) servings.

Ingredients

1 green apple, cored and cut into large chunks (leave skin on)
1-2 handfuls of washed spinach
¼ large cucumber, peeled and cut into chunks
1 kiwi, peeled and cut into chunks
2 tablespoons fresh lemon juice
1 cup low-fat milk (or milk substitute or water)
2 teaspoons honey
1 cup ice cubes

Directions

Add all ingredients into a blender. Pulse until thoroughly blended. When blended to desired consistency, pour into cups and serve.



SOURCE: American Heart Association

Health



Straight from the heart

Your heart is the most important muscle in your body.

It works like a pump, or a machine, to get blood through your veins to your brain and every last muscle, finger and toe in your body. Your body needs this blood to keep it alive, moving and healthy.

That is why this Valentine's Day, while you are decorating all those paper hearts for friends and loved

ones, you should also make sure you are taking care of your own real heart.

You have to take care of your heart to keep it working right – just as you do your bike or your favorite pet. Here are a few things you can do to love your heart so it can keep your body going for a long, long time.

Cut down your screen time

Try not to watch too much TV or play too many video games. To keep your heart strong, try hide-

SEE **HEART** PAGE 2



SHUTTERSTOCK

Do the math

About 30-60 minutes of moderate to vigorous physical activity each day will help keep your heart healthy.

1. If you exercised 30 minutes for five days a week, how many minutes would you exercise? How many hours?

2. If you exercised 30 minutes for seven days a week, how many minutes would you exercise in a week? In a 30-day month?

Can you create other problems that use the 60-minute figure? Exchange your problems with another student and solve each other's problems.

1. 150 minutes; 2 hours and 30 minutes
2. (210 minutes; 900 minutes)

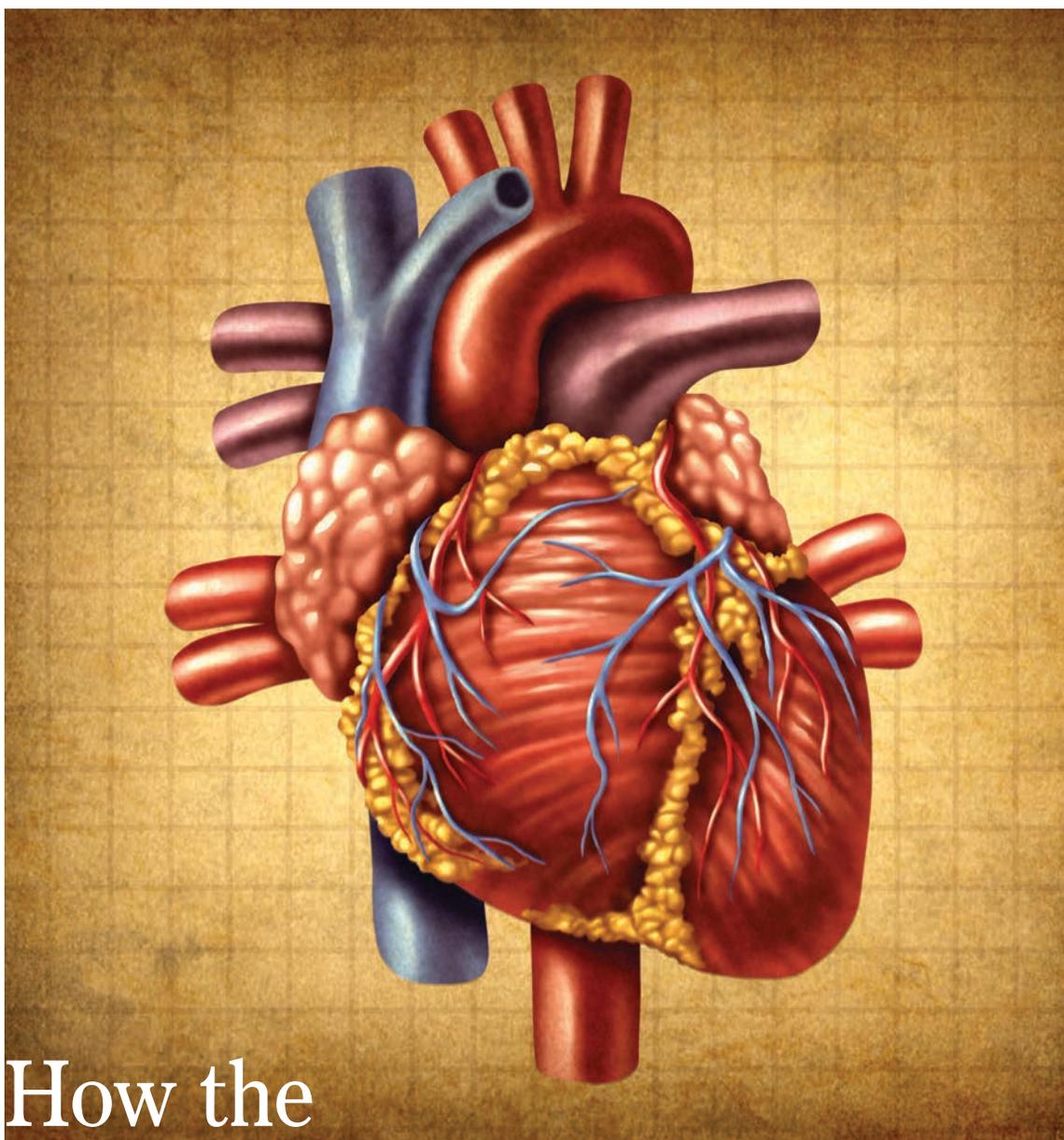
HEART CONTINUED FROM PAGE 1

and seek inside or out, jump-rope, dancing, walking to school, playing with the dog, or anything you love doing that makes you breathe hard.

Choose healthy snacks. Think about everything you eat each day. Make sure what you eat is something that will help your body feel good, not just your hungry tummy and your sweet tooth. Apples, bananas, carrots, grapes, yogurt and a turkey sandwich are healthy choices. Talk to Mom about how she can help.

Help everyone else love their hearts, too. Show Mom and Dad, Grandma and Grandpa, and everyone you love how much you love them. Teach them what you've learned about how to take care of their hearts, too.

— Jessie Shupe



How the heartworks

The heart and blood vessels are the **circulatory system** because blood circulates through the body. The **heart** is the important pump that makes it all work.

Your heart pumps blood through your body, beating about 70 times each minute. Your heart is a little bigger than your fist. It is similar to your leg and arm muscles, but it works automatically to pump blood to all parts of your body. Each day your heart “beats” (expands and contracts) about 100,000 times and pumps about 2,000 gallons of blood. When the heart pumps the blood flows into tubes called arteries.

Arteries help carry blood away from your heart. These arteries branch into many smaller

tubes called blood vessels that also help carry blood to your body. The tiniest vessels are called **capillaries**; they are so small you would need a microscope to see them.

Veins help carry blood back toward the heart. The closer to the heart, the fewer veins there are, and the larger they are. The largest veins empty blood into the heart.

How does the circulatory system work?

The body's blood vessels carry blood in a circle: moving away from the heart in arteries, traveling to various parts of the body in blood vessels and capillaries and going back to the heart in veins.



Try before you buy

Borrowing books from the library is one of the best ways to “try before you buy,” especially because it helps you not to waste money on reads you don’t like. Books aren’t the only things you can try before you buy. Many libraries lend CDs, movies and video games. There are also places that let you try electronics, computer games and even pets!

Electronics and computer games — A new computer game or tablet can be costly. If you visit stores like Best Buy or Walmart, you will often find demos of popular games and electronics that you can test out in the store.

Pets — Many humane societies and shelters will let you schedule a time to come visit the animal you are interested in adopting. This way, you and your family can find out if you bond with the animal and if it’s kid-friendly, and you can get a better idea of the pet’s personality.

Another way to save money is to try free online apps with your parent’s permission. These can be educational, creative or entertaining tools.

It’s not always possible, but, if you have the option, try before you buy. You may save some money.

7 simple ways to live better

As a young person, if you start doing small things every day that keep your body healthy, you have a better chance of living a longer, happier and healthier life.

The things that you do to keep your heart healthy will also make you less likely to develop many other types of diseases, like type 2 diabetes and cancer. These small steps are not expensive or difficult to take, and taking them can go a long way toward helping you feel your best.

Make small choices every day to keep your heart healthy

You make many choices every day, like what color socks to wear or how to fix your hair. When it comes to making decisions that keep you healthy, it may seem difficult to choose better options when so many things seem easier or just more fun. You just need to take small steps in a healthy direction and that begins by knowing the healthy choices! Then it gets easier to make choices every day that help keep you healthy.

How do I know if my heart is healthy?

Find out if your heart is healthy using Life’s Simple 7™. They are:

1. Avoid smoking and using tobacco products.
2. Be physically active every day.

3. Eat a heart-healthy diet.
4. Keep a healthy weight.
5. Keep your blood pressure healthy.
6. Keep your total cholesterol healthy.
7. Keep your blood sugar healthy.

To make it fun and exciting, the American Heart Association has created a website — www.mylifecheck.org — that will help you understand your heart health and give you and your family ideas to make the best choices.

The Life’s Simple 7 series describes things you can do on your own to keep your heart healthy and some things that may require the help of a health professional.

Are you ready? Let’s start off by learning about heart disease and stroke.

What is heart disease?

Heart disease is also known as cardiovascular disease or “CVD.” CVD is a very serious health condition that keeps the heart or blood vessels from working properly. When our heart and blood vessels are working at their best, blood flows easily and is circulated around the body freely.

If there is a clog in our blood vessels or if our heart is not pumping blood properly, this prevents blood from being delivered to many important parts of our body. Not having blood constantly delivered

to the many important parts of our body can cause serious illness or even death.

Although some people are born with certain types of CVD, most people develop CVD as a result of poor lifestyle habits, such as eating unhealthy foods, not getting enough exercise or using tobacco.

What is a stroke?

A stroke happens when a blood vessel that carries oxygen to the brain gets blocked or bursts. When that happens, blood can’t deliver oxygen to part of the brain and the brain starts to die.

Without the right medical attention, a stroke can cause major damage to the brain. People who have a stroke may have problems speaking, seeing or moving normally for a short time or for the rest of their lives. The person can even die from a stroke.

People most likely to have a stroke are older adults, don’t eat a healthy diet, are not regularly physically active, are overweight or obese, or have other medical problems that may lead to heart disease. But people can have a stroke at any age. If you think you or a loved one may be having a stroke, it’s important to call 9-1-1 and get help right away.

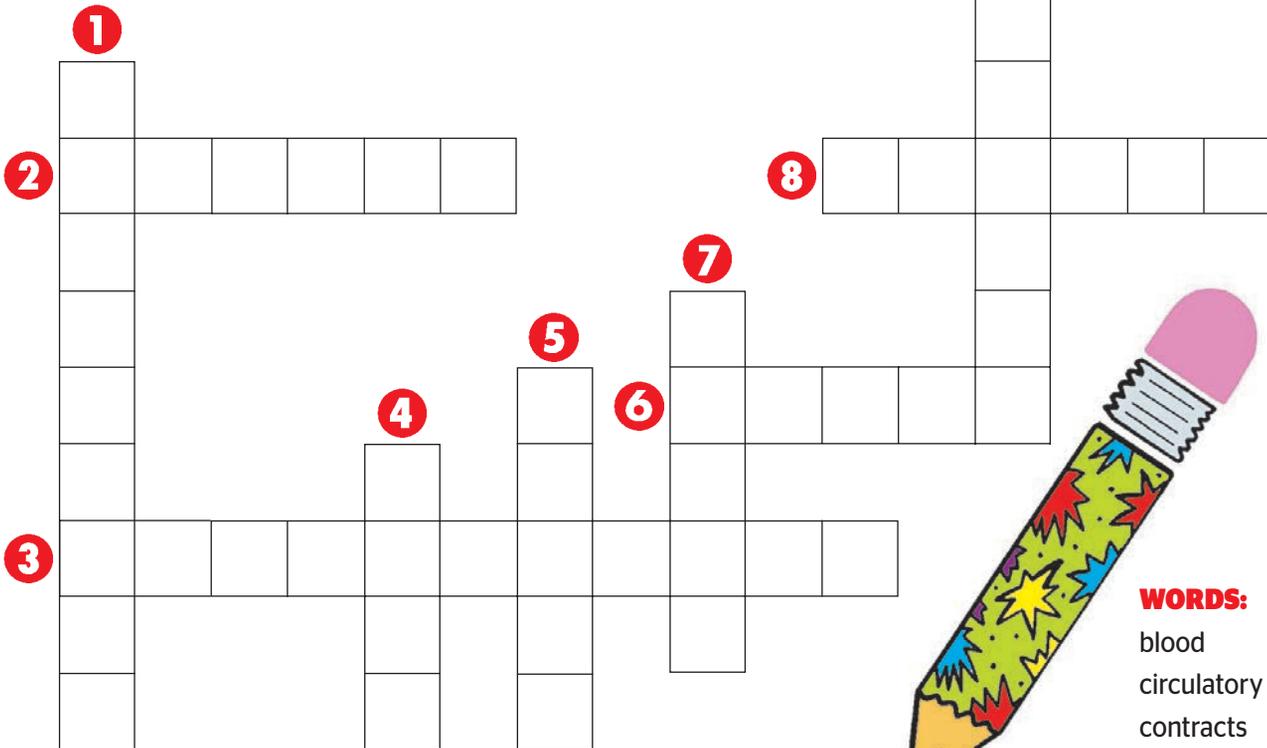
Following Life’s Simple 7 can help you live a life free of CVD!



Heart word game



Sean and Yolanda were playing a game in which they spell words using letter squares. All the words they spelled were about the circulatory system. Fill in their game board by using the clues and words on this page.



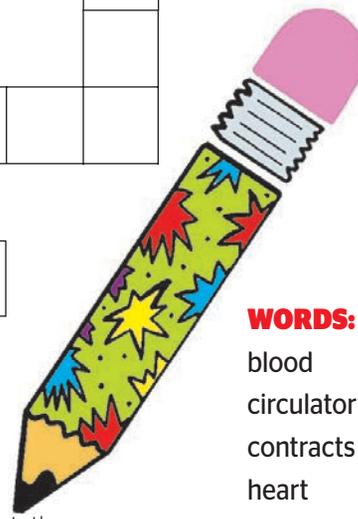
CLUES:

- 1. What the heart does to send blood rushing out
- 2. A gas that our bodies need
- 3. The name for the system that includes our heart and blood vessels
- 4. What the heart works like

- 5. What you can listen to with a stethoscope
- 6. The part of the body that takes in oxygen
- 7. The liquid that carries oxygen throughout our bodies
- 8. What our heart is made of
- 9. The tubes that carry blood

WORDS:

- blood
- circulatory
- contracts
- heart
- vessels
- muscle
- oxygen
- pump
- lungs



NEWSPAPER ACTIVITIES

MUSCLE USE

Find a photo or a story that shows an activity in which people are using their muscles. Identify and write down the muscles used during the activity.

HEART STRENGTH

The heart is an amazing muscle. It beats about 100,000 times a day, even while we sleep. Look for articles about people who need a strong heart. Many activities require healthy hearts. Look in the Sports section of the Deseret News for these kinds of activities. Make a list of things you can do now to keep your heart healthy.

HEALTH TALK

Select a sports photo from the Deseret News that shows two or more people. Write a dialogue between the characters. The dialogue may be done with actual facts or with made-up information. Create the dialogue to tie in with health, strength and/or fitness.

- 1. contracts
- 2. oxygen
- 3. circulatory
- 4. pump
- 5. heart
- 6. lungs
- 7. blood
- 8. muscle
- 9. vessels



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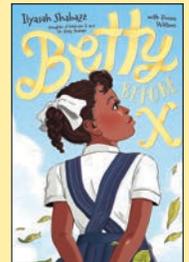
CHECK IT OUT



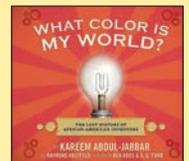
The City Library
THE SALT LAKE CITY PUBLIC LIBRARY SYSTEM

This month the librarians at The City Library have chosen books honoring **Black History Month**.

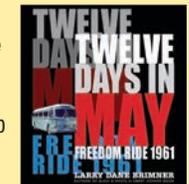
"Betty Before X," by Ilyasah Shabazz. Inspired by Betty Shabazz real life, Ilyasah Shabazz illuminates four poignant years in her mother's childhood with this book, painting an inspiring portrait of a girl overcoming the challenges of self-acceptance and belonging that will resonate with young readers today.



"What Color Is My World?: The Lost History of African-American Inventors," by Kareem Abdul-Jabbar. Offering profiles of black inventors with fast facts on flaps and framed by a funny contemporary story featuring two feisty twins.



"Twelve Days in May: Freedom Ride 1961," by Larry Dane Brimmer. On May 4, 1961, a group of black and white civil rights activists launched the Freedom Ride, aiming to challenge the practice of segregation on buses and at bus terminal facilities in the South.



"A Sky Full of Stars," by Linda Williams Jackson. a sequel to "Midnight Without a Moon," but easily read as a standalone — takes place in the town of Stillwater, Miss., in 1955, during the charged months following the death of Emmett Till and the acquittal of his killers. Thirteen-year-old Rose Lee Carter struggles with questions of race relations and political activism in her family and community.



"One Crazy Summer," by Rita Williams-Garcia. Delphine is like a mother to her two younger sisters. She's had to be, ever since their mother, Cecile, left them seven years ago for a radical new life in California. But when the sisters arrive from Brooklyn to spend the summer with their mother, Cecile is nothing like they imagined.

