

# ASK!

AMERICAN CAREERS FOR KIDS



BE A CAREER PATH

# EXPLORER

There are all kinds of explorers. In the past, pioneers discovered new lands. Today there are space explorers and oceanographers. Medical scientists discover new cures for illnesses. These are just a few careers for people who like to explore.

Explorers love to learn. They are always searching for new places, new knowledge or other new discoveries.

When you read *ACK!*, you will be an explorer, too. You'll explore career paths. Careers are kinds of work people do.

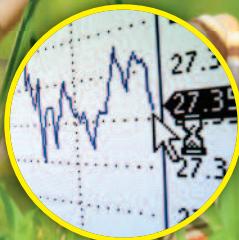
When you study career paths, you'll discover three things.

**First**, there are just a few basic career groups or paths.

**Second**, there are many different workers in each group. However, they share similar interests. For example, teachers and police officers both follow the human services career path. They share an interest in helping people.

**Third**, some careers follow more than one path. For example, medical science is a health services career. Teaching is a human services career. A science teacher follows both career paths.

Are you ready to explore career paths? The stories in *ACK!* are a way to begin.



# ACK!

AMERICAN CAREERS FOR KIDS

Fourth Edition

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# Career Paths to EXPLORE

There are **thousands of careers** to explore.  
Here are just **a few of them.**

## Arts and Communications

Magazine designer  
Advertising writer  
Television reporter  
Musical performer

Home decorator  
Photographer  
Playground designer



"I'm always focused on the message."

## Business, Management and Technology

School principal  
Hotel manager  
Store manager  
Computer operator

Banker  
Office worker  
Stock broker



"I want to be an entrepreneur."

## Health Services

X-ray technician  
Doctor  
Nurse  
Dentist

Veterinarian  
Dietitian  
Occupational therapist



"Technology helps me do my job better."

## Human Services

Food service worker  
Counselor  
Police officer  
Hair stylist

Teacher  
Bus driver  
Court worker



"May I help you?"

## Industrial and Engineering Technology

Heating and air conditioning technician  
Automotive technician  
Jeweler

Engineer  
Carpenter  
Printer  
Home builder



"I really like math!"

## Natural Resources/ Agriculture

Water chemist  
Wildlife biologist  
Meteorologist  
Soil scientist

Turf farmer  
Forester  
Marine biologist



"I spend half of my time inside and half of my time outside at my job."





# PRODUCING REALITY TV

..... Lisa Tanzer .....



Lisa Tanzer is one of the busiest behind-the-scenes women in Hollywood. She works with people connected with Discovery Channel's reality show, *Deadliest Catch*.

*Deadliest Catch* follows the lives of the captains and crews of crab fishing vessels in the Bering Sea. Their job is to catch king and opilio crabs. This is no easy task as they battle icy conditions and waves measuring over 60 feet.

Tanzer's job is to create and stay within the show's budget. She helps choose which boats are to be featured in the show. She hires and supervises the production staff and crew members. She takes care of any unexpected details.

What do you think would be her biggest challenge on her job?



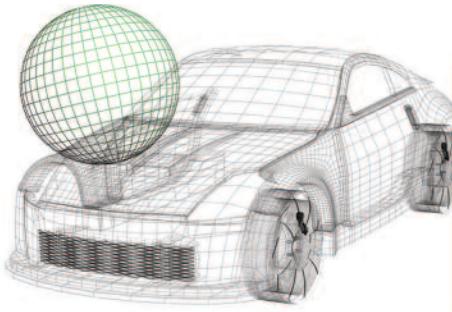
**Lisa Tanzer**



## Crab Fact

The fishing crews keep only male crabs. Females and juveniles are tossed back.





# animating

## DIGITAL EFFECTS SUPERVISOR

..... Will Telford

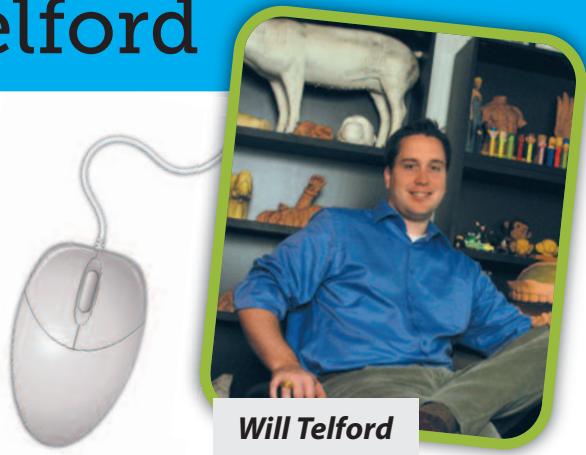
Do you think real people do all of the action you see in movies? Will Telford knows for sure.

Telford is a digital effects supervisor for Rhythm and Hues Studios in Los Angeles (<http://www.rhythm.com>). On the job, he helps create computer-generated imagery for motion pictures.

How does that happen?

First, he and his team create pictures or images using computer software. Then they integrate live action with the computer-generated imagery. The scenes look realistic, and the characters can do stunts that would be impossible for real people. That makes movies safer and less costly.

He also oversees the staff who create models, animation and images that appear in many movies. One of those movies is *The Chronicles of Narnia: The Lion, The Witch, and the Wardrobe*. For Narnia, there were more than 60



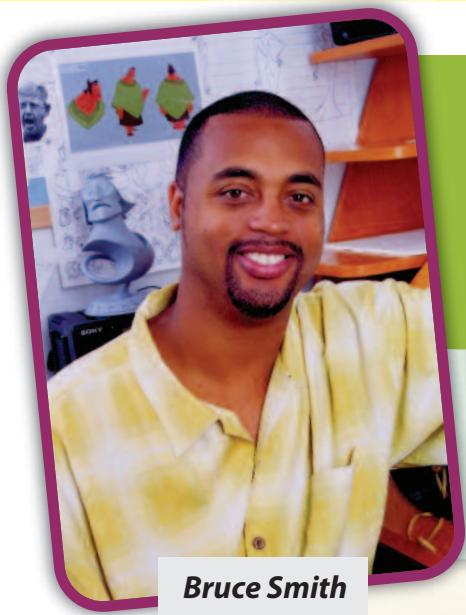
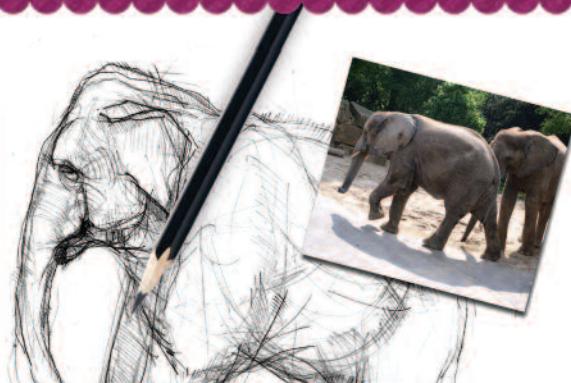
**Will Telford**

interesting characters, including the main character, Aslan.

Of course, computers are very important on Telford's job. But he also must have skills to work with others, including designers, modelers, texture painters, technical directors, character riggers, animators and many more people who help create movies. And he needs to be patient and thorough with his tasks. The job can have many challenges.

"I love my job," Telford says. "The most rewarding aspect is getting to look at the results of everyone's hard work on the big screen when the project is finished."

# movies



**Bruce Smith**

## ACTING ANIMATEDLY

**Bruce Smith** .....

Bruce Smith starts every project with the basics – a piece of paper and a pencil. In fact, Smith was always into drawing. Then, during college, he got his big break when Disney Studios discovered him.

Since then, Smith has been unstoppable. He was supervising animator for the character Kerchak in *Tarzan* and Pacha in *The Emperor's New Groove*. He also created, directed and produced Disney Channel's *The Proud Family*.

On the job, Smith plays a key role in creating animated films. And he

works each day with a variety of creative professionals – directors, storyboard artists, general illustrators and visual development artists who come up with story lines and scenarios. How does he do it?

“I’m the ‘actor’ in any animated film that you see,” Smith explained.

“You rehearse your lines in front of a mirror and try to draw all those different mannerisms called for in a specific scene.”

Smith often looks to live screen actors for inspiration.

“For a film called *The Princess and the Frog* for Disney, I worked on the villain,” he said. “He’s long and thin, and the design just sort of reminds me of Samuel L. Jackson. So I studied him and tried to grab a lot of expressions.”

### What's Your Talent?

Bruce Smith believes students need to figure out what they're good at and what they like doing. Then they need to find a way to use their talent. It worked for him!

# CREATING AN ART CAREER



Doug Miller



Doug Miller always knew he would be an artist. He found concentrating in class easier if he doodled while the teacher talked. By middle school, his focus was comics.

Today, Miller is a graphic artist and owns Mullerhaus Publishing Arts, Inc. While his love for art began with drawing, he now uses the computer and his artistic talent to produce his projects.

With a variety of software, he creates a visual message for sales tools. He also designs websites. And much of his work comes from book publishers. He designs book covers for them that match the story inside of the book.

Book covers should visually capture what the author created, Miller explained. And typography – type design – is critical, because the interior needs

to identify with the story as much as the cover.

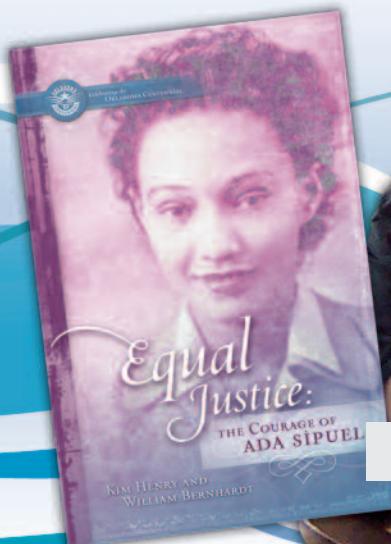
Miller's first book cover made the novelist so pleased that she cried. It was then that Miller knew he had found his specialty.

## **You Can Do It!**

Even though he discovered that he was slightly dyslexic, which made reading difficult, Doug Miller did not let that hold him back.

"I didn't like having to work so hard," he said, "but never thought I couldn't do something."

Today, Miller runs a very successful and rewarding business as a graphic artist.



**Doug Miller**

# SENIOR FOOD EDITOR

## Deborah Wagman



**Deborah Wagman**

**“To this day, I feel an enormous thrill when I see the completed magazine on the newsstand. And if I see someone put it in a shopping cart, I can barely keep my mouth shut. I am so proud that I want to say, ‘I helped make that magazine!’”**

*– Deborah Wagman*



Lots of people love to read magazines. They’re filled with photos and news about sports, fashion and current events.

And people like Deborah Wagman work to make them colorful and readable. As a senior food editor, she writes, manages and produces food magazines for Meredith Publishing Group. The company produces *Better Homes and Gardens*, *Fitness* and more.

“My days are very long,” she said. “This is not a complaint. I could work fewer hours if I didn’t love what I do so much! I spend about two hours on basic business, four hours writing, two hours creating recipes, an hour tasting prepared foods and the rest supervising photography.”

Wagman also attends lots of meetings. She works with administrative assistants, sales and marketing people and brand managers. She also works with cooks, home economists and registered dietitians. And she works with artists and designers, photographers, food stylists, prop stylists and prepress technicians.

“Actually the whole process is pretty magical,” she said. “What starts as me, with my tummy growling, sitting at my computer making up recipes, then goes to artists who give my recipe color and life. And then it goes to technicians who put all of this on the page and bind it into a magazine.

“Being surrounded by so many creative people is incredibly inspirational,” she said.

# KIM, DARREN AND ALISHA

## *Kids with a Future in Business*

### Kim

**Are you a leader? Do you like to plan projects?**

When Kim thinks about a future career, she knows for sure she wants to be the boss. She sees herself managing lots of people. Sometimes she thinks she wants to own her own store. Maybe it will be an electronic toy store, or maybe her company will manufacture toys.

Kim already is a leader. At school, her team collected the most donations for the food drive. She's president of her Scout troop. She makes friends easily, and they like to work with her on any of her projects. Kim is always getting new ideas and planning how to make her dreams come true.

**You could be a project team leader, sales manager or department director. Or you could be an executive or entrepreneur.**



### Learn a New Word

A person who starts a business is called an **entrepreneur**. The word comes from the French language. It means "one who organizes, manages and takes on the risks of a business."



### Darren

**Do you like to work with money? Do you like to see how money can work for you?**

Darren likes to play with money – real money. He saves some of his allowance for the big things he wants to buy. However, like the banker he wants to be someday, he often lends money to his brother Gordon. If Gordon borrows \$2.00, he must pay Darren \$2.25 back. The 25 cents extra is the charge for borrowing his money.

Darren loves math. He uses math to think about money and solve problems. With his skills, he could play real-life Monopoly in the real estate business. He could own a construction company. He could be an accountant, a tax lawyer or a stockbroker, or he could sell insurance.

**Like Darren, you could have a business career.**





## Alisha

**Are you organized and patient? Can people depend on you?**

Darren's sister Alisha loves to learn computer games and programs. That's because she's focused. However, Alisha doesn't spend all of her time on the computer. She enjoys doing lots of things. She goes to the store for her mom, helps Darren with writing assignments and plays with friends.

People can count on Alisha to help figure out an assignment, run an errand or accomplish a task. She knows how to set goals and take care of details. She feels good, too, when people say, "Good job, Alisha!"

**You could be a company administrator, secretary, computer systems manager or programmer.**

Do you **love to lead?** Do you understand **how to use money?**

Can you **work well with others and accomplish goals?**

The business world offers you a chance to create jobs for others, to help your community and to enrich your life, too

### Some Jobs in the World of **Business, Management and Technology**

Accountant

Bank teller

Company trainer

Computer operator

Construction manager

Customer service representative

Food service manager

Human resources manager

Mathematician

Payroll clerk

Purchasing agent

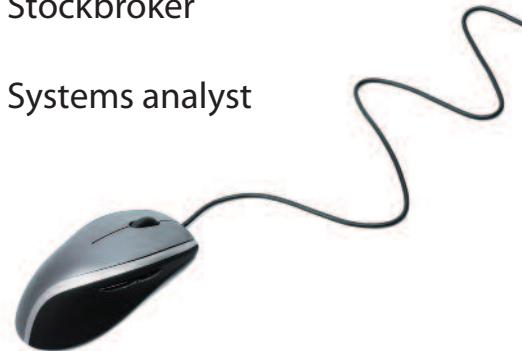
Real estate agent

Retail sales worker

Secretary

Stockbroker

Systems analyst



# UNDERSTANDING PEOPLE

... Johnny C. Taylor, Jr. ...

When you talk with Johnny C. Taylor Jr., he makes you feel like you've been friends for years. That's because he is very friendly, and he has good communication skills. He really listens to you when you are talking, and he cares about what you are saying.

Taylor also has other important "people skills." He understands people, why they act in a certain way and if they are willing to do things for others. He also can quickly evaluate their skills – the things they are able to do well. That's what makes him good at his career.

For many years, he has been a top human resources manager for Blockbuster Entertainment, Paramount Pictures and others, most recently InterActiveCorp (IAC). On the job, Taylor has worked with human resources experts at these companies to plan ways to make their jobs easier.

What do human resources people do for their companies? They work with people. They help hire and train employees. They help evaluate their work. And they keep records such as payroll, insurance and vacation days.

As Taylor says, "I help my company find the best people and keep the best people."

Good work and good people skills pay off. Today Taylor has an even bigger job. Now he is president of Black Web Enterprises Inc. (BWE), a new Internet business that's part of IAC.



*Johnny C. Taylor, Jr.*

## Question for YOU

Are you a good listener? See if five people agree with your answer.

## It's a Fact

As of February 2010, IAC operated more than 50 Internet companies. In all, the companies had more than 870 million visits a month. You may recognize some of the sites: Ask.com, Ask Kids, Dictionary.com and others. You'll find the company's website at <http://www.iac.com/About-IAC>.

# MANAGING 'PLUSH'

## Ellen Henry .....

Ellen Henry is a kid at heart – which is a good thing since she spends most of her days working with stuffed animals. Henry is responsible for identifying, buying and helping design the latest and greatest in plush animals for Hallmark Cards, Inc.

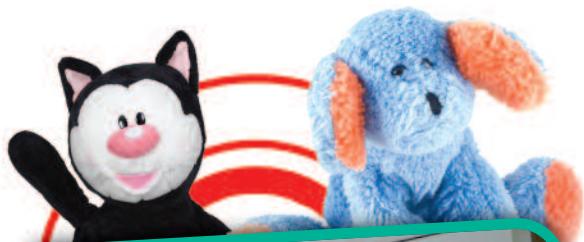
Henry is a retail buyer and a wholesaler. As a retail buyer, she buys stuffed animals that are not made by Hallmark. Some examples are Ty Beanie Babies, Ty Girlz, Webkinz by Ganz and Shining Stars by Russ Berrie. If the product isn't selling, she needs to find a replacement for it.



*Ellen Henry and her plush friend Lola*

### What Makes Lola Plush?

Lola, the little pink hippo, isn't just a stuffed animal. She's a plush animal as well. That's because her rich coat is made of fabric that has long, soft threads on top.



### No Beans!

The "beans" in TY Beanie Babies are not really beans at all. They are round pellets made of plastic.

As a wholesaler, she works with designers to figure out what plush animals will sell under the Hallmark label. An example of this type of product was the "Hug-a-Bunch" plush animal collection by Hallmark for Valentine's Day 2007. Hallmark even used her voice inside the hippo character named Lola.

Henry is a good communicator and problem-solver. She is also a leader. She uses a lot of math in her job. And enjoys working with people and stuffed animals.



**Melissa Minchala**

# TECHNOLOGY IS HER BUSINESS

..... Melissa Minchala .....

Melissa Minchala had to get a job right after she graduated from high school. That job became the beginning of her career.

As a new receptionist, Minchala had to learn a computer program called Excel. She not only taught herself to use it. She also figured out how it worked. And her career in computers was born!

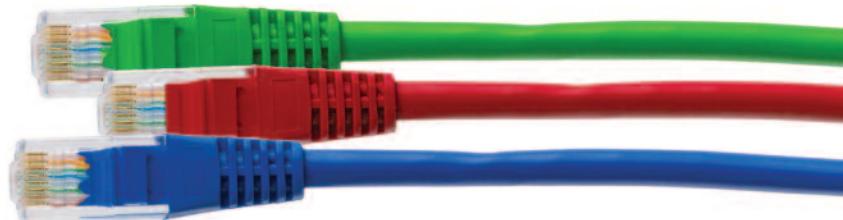
Minchala enrolled in technology school and became a Microsoft Certified Systems Engineer. For many years, she worked for other companies. Today, she and her husband own their own business, DataVelocity. The company helps other small businesses create and maintain their technology.

“Being a business owner is very different from working as a tech,” Minchala explained.

As a tech, she works with her staff to put computer systems together. She also works with people who do the wiring. And she works with Web designers. As a company owner, she does business planning and looks for new customers. She also does advertising and marketing.

Still, though, her heart lies in understanding the systems themselves.

“Making the systems work carries a personal triumph,” she said. “But helping a client out of a computer situation is something you both can revel in. And that gratitude you feel can carry you forward for the rest of the day.”

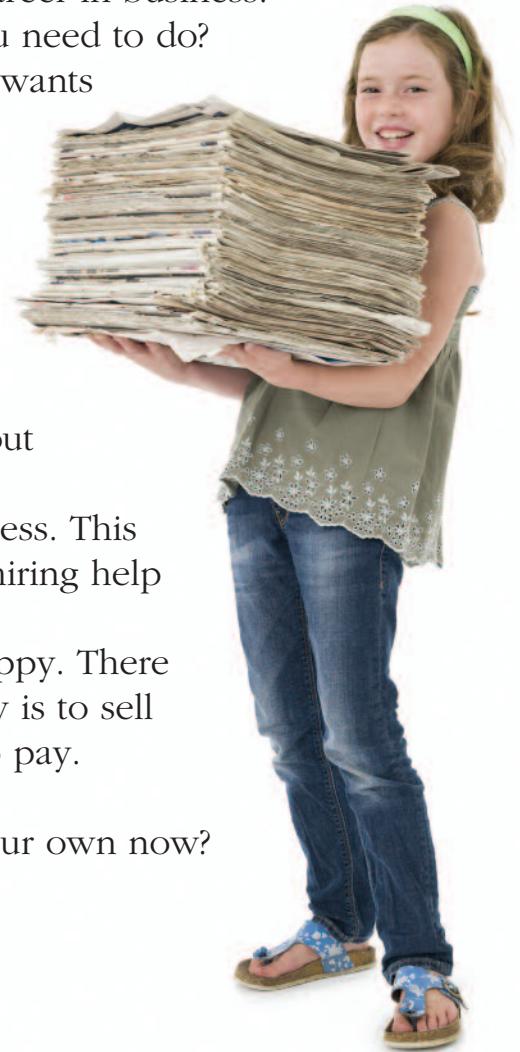


# Start a **Business of Your Own!**

You don't have to work for somebody to have a career in business.

You can start a business of your own. What do you need to do?

- You need an idea for a product that someone wants to purchase. Or you need to provide a service that someone wants to buy. Or you need a special skill that people will pay for.
- You need to figure out who your customers will be. Will people drive a long way to buy what you have to offer? Or are there enough customers in the neighborhood?
- You need to advertise so people will know about your business.
- You need to know how to manage your business. This means keeping records of sales, paying bills, hiring help and paying taxes.
- You need to know how to keep customers happy. There are lots of ways to do that. One important way is to sell them what they want at the price they want to pay.



Do you know that you can have a business of your own now? Here are a few ideas. Can you think of others?

- **Tutoring**
- **Lawn care service**
- **Pet sitting**
- **Kid sitting**
- **Repair shop**
- **Party planning**
- **Recycling projects**
- **Scrapbooking**
- **Computer game improvement**
- **Gardening**

## **A Small Business that Grew and Grew**

Mac and Dick McDonald founded the first fast-food restaurant. They owned a California barbecue drive-in with carhops. In 1948, they changed it into a self-service drive-in with a small menu. In 1955, Ray Kroc got the first franchise and founded what we know as McDonald's Corporation.

Find out more about McDonald's on the Internet. Go to <http://www.mcdonalds.com>. Then click on "Our Story."

# Have a **Healthy Career**



Have you been to the doctor or dentist lately? Do you take your pet to see the vet from time to time? Then you already know a little about health careers.

But there are many jobs in health care that might surprise you. Some health careers require a lot of time in school while others do not.

Health workers have several traits in common. They are problem solvers. Many work in hospitals and medical buildings, but many also travel to people's homes or work in labs.

Those who work with people ask questions such as "How do you feel?" "Where does it hurt?" When did this

happen?" Health researchers ask questions too. "What else can I try to treat this disease?" is a common question.

Health services careers often combine medical technology and the human touch. People who work in these careers like to study math, science and computers in school. Some want to help people, pets and other living things. Others want to work in the business office at a hospital or clinic or for a doctor.

Everybody will need a health worker sometime in the future. Many of you may want to be that health worker.

## Interesting Facts About **Health Services**

1. Health services provide more than 14 million jobs.
2. Health workers work with a team of people.
3. Health workers work with computers.
4. Some health workers work with people who are ill. Others handle the business side of health.

For more information about some health careers, go to <http://stats.bls.gov/k12> on the Internet, and click on "Science" and "Helping People."



# GIVING CHILDREN A CHANCE TO WALK

..... **Harry F. Brandt Jr.** .....



*Harry F. Brandt Jr. displays a device he helped make that allows children with spina bifida to walk.*



Harry F. Brandt Jr. loved sheet metal work at the vocational high school he attended. But he never dreamed that this would lead him to a medical career.

Brandt is a certified orthotist. His skills in the shop paved the way for a highly rewarding job. While he makes and fits artificial limbs and braces, he rebuilds lives.

“Giving a child with spina bifida an opportunity to walk with a device I helped make is a great feeling,” Brandt said. The child will have a chance to lead a more functional life and the body’s organs will grow properly.

On a typical day, specialists like Brandt might work in a casting room with a huge ceramics oven. Or they

might spread silicon mixtures on moldings to make custom-fitted burn masks. Or they might assemble devices that correct deformities such as scoliosis. They craft each device to fit the unique needs of the patient.

These jobs also require a high level of interaction with patients. Some may have undergone amputations. Others may have diseases such as cerebral palsy and cancer.

“Compassion is the most important thing,” said Brandt. “You have to have an ability to relate to the patient and to the family. It’s a close relationship.”

Brandt also finds his job “really fun to do.”

**Michelle Conley-Webb**  
*Pulmonary Rehabilitation  
Respite Care Practitioner*



People with lung diseases need help to breathe better. Michelle Conley-Webb helps them. “It’s very rewarding to see the difference I can make in patients’ lives,” she says. Michelle has a two-year degree in respiratory therapy. She also has nine years of experience. Are you interested in her career? You should like science and math and – this is really important – want to work as part of a team.



**Rafael Sanchez**  
*Dental Hygienist*

Rafael Sanchez came to America with his family from the Dominican Republic. He was inspired by dentists who used to come to his country to provide dental service to the people there. His main job is cleaning teeth. He also takes X-rays and gives fluoride treatments. A major part of his job is teaching patients how to take care of their teeth. “I really like to help people. That’s what keeps me going. I have a passion about it.”



**LaFonda Henry**  
*Registered Nurse*

Following doctors’ orders, LaFonda Henry gives medication and treatments to patients. She got a one-year degree to become a licensed practical nurse. Later she became a registered nurse. “I love the feeling you get when people take your hand, and you know you’ve really helped them. If it’s not possible to remove all their pain, I can at least be there for them and offer my support.”

**Chatura “CC” Gupchup**  
*Diagnostic Services*

Chatura “CC” Gupchup has an associate degree in radiography. She X-rays joints and other bones that have been injured or have experienced wear and tear. She also does fluoroscopy exams that use X-rays to capture moving pictures of an organ while it is functioning. She injects a small amount of radiation in a patient’s body to do this.





**Darnell Wade**  
*Emergency Medical  
 Technician/Paramedic/Firefighter*

Darnell Wade responds to medical emergencies, car accidents, fires and other dangerous situations. He works with a team. They give immediate medical care. Then they take patients to the hospital. Wade likes to help people in trouble. He went to college for two years. He has been an EMT/paramedic since 1995 and also a firefighter since 1997. Each week, he works three 24-hour shifts and has four days off.

**Dr. Harry C. Blair**  
*Medical Researcher*

Dr. Harry C. Blair spends most of his time in the research lab. He studies bone-building cells and bone-degrading cells. His research will help patients get the right treatment for arthritis and many other diseases.



**Tricia Wilke**  
*Certified Veterinary  
 Technician*

Tricia Wilke works at an animal clinic. On the job, she does lab work, takes X-rays and helps in surgery. She likes to see how happy clients are when their pets feel better. Wilke has a two-year degree in applied animal science. She also has seven years of experience. The job can be full of surprises. During surgery, she has found Legos, a tennis ball and nylon hose!



**Phil Atkins**  
*Logistics Director*

Phil Atkins is in charge of logistics for an entire 450-bed hospital. He is responsible for receiving and giving out supplies. He supervises the mailroom and linen department of the hospital, too.

# HEALTH CAREERS

**Be a health career detective.** Ask your doctor, dentist and nurse to tell you about their jobs. When you take your pet to the vet, ask what it's like to make animals feel better. There are other health careers, too. You can read about some of them below. Then ask a parent or teacher to help you learn more about others.



**Chiropractors** treat muscle, nerve and bone problems. They focus on the spine.



**Dentists** study, prevent and treat problems with the teeth and mouth.



**Dieticians** promote healthy eating. They plan nutritious food choices to help prevent and treat illnesses.



**Occupational therapists** work with people who have a hard time doing everyday things due to illness or injury.



**Optometrists** check eyes for vision problems or eye diseases.



**Pharmacists** provide drugs that physicians prescribe. They also tell patients how to use medicine properly.



**Physical therapists** help injured or ill people relieve pain and move their muscles again.



**Doctors** – see “physicians.”



**to****EXPLORE**

**Podiatrists** treat diseases of and injuries to the feet.



**Surgical technicians** work in hospital operating rooms to set up equipment and instruments.



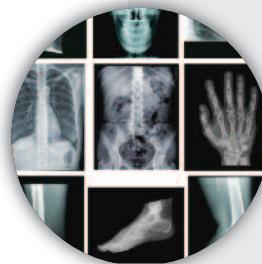
**Physicians** are medical doctors. They ask questions and perform tests to check a person's health. They also treat people who are injured or sick and give advice about health care.



**Veterinarians** care for pets, farm animals and lab animals. They also help protect people from diseases that animals sometimes carry.



**Psychologists** study the science of the mind and behavior to help people who have problems.



**X-ray technicians** operate machines that take pictures inside the body. When people break bones, for example, an X-ray will help physicians find the break.



**Recreational therapists** use sports, games, dance, hobbies and art to help patients return to health.



# Human Services = Helping Others

Some human service workers want to help people learn. Some want to help people find solutions to problems. Some want to protect or care for people. Others want to provide services that people need. Still others want to help people have fun.

## Curious

They quickly notice when something is happening in people's lives. They're also ready to give advice or help.



## Trustworthy

They're responsible and keep their promises. They do things when needed and don't wait till it's too late.



## Kindhearted

They never want to hurt anybody. They want the best for everyone.



## Understanding

They recognize when you're sad, and they are happy for you when you're glad. They almost always know the right thing to say or do.



## Friendly

They get along well with other people.



**Money** isn't the main reward for people who like to help people. **Making things better for someone else** is the biggest reward of all.

# Jobs for People Who Like to Help

There are many jobs for **people who like to help people**. Here are just a few of them:

## LEGAL SERVICES

Lawyer  
Legal assistant  
Judge



## SOCIAL SERVICES

City planner  
Counselor  
Camp director



## PROTECTIVE SERVICES

Detective  
Firefighter  
Guard



## PERSONAL SERVICES

Hair stylist  
Financial adviser  
Flight attendant



## EDUCATIONAL SERVICES

Counselor  
Teacher  
Company trainer



## TRANSPORTATION SERVICES

Bus driver  
Pilot  
Truck driver



## FOOD SERVICES

Chef or cook  
Food server  
Restaurant manager



## Service Projects You Can Do

- Collect new and used books for a needy school
- Conduct a campaign to promote cloth versus plastic bags
- Rake leaves for elderly neighbors
- Collect toothpaste and toothbrushes for a shelter
- Mentor a younger student
- Read or play board games at an assisted living facility
- Form a litter patrol at your school
- Volunteer at an animal shelter
- Write positive letters to others to promote kindness
- Volunteer to shelve books in your school library



# TEACHER, MENTOR AND COACH

..... Patricia Cisneros .....

Patricia Cisneros is not the typical teacher, mentor and coach. In high school, she was a runner and a basketball player.

Then a car accident left her paralyzed from the hips down. She could have given up. But she saw this as a chance to achieve new heights and to help others learn and grow.

“When I was younger, I had so many great teachers that made an impact on my education and on my life,” Cisneros said. She wanted to be a teacher and did not change her plan because of her accident. She taught until 2007.

Her physical therapist thought that she might be interested in wheelchair basketball. It prepared her for a new career!

Cisneros became the first women’s wheelchair basketball coach at the University of Illinois. And she went to the 2000, 2004 and 2008 Paralympic Games in Sydney, Athens and Beijing.

Cisneros feels she’s not just a coach, but also a mentor and an advocate for women’s disability sports. “It’s mostly not about wins and losses,” she said. “It’s just about improving their skill and personal skills and life experiences.”

Cisneros is passionate about her life and helping others.



“The best part of the job is doing something I’m **so passionate about**. There is nothing I would do differently. I’ve made some dumb mistakes, but there’s no way I would change my life – even the accident, **because I know the outcomes**.” – Patricia Cisneros



**Coach Patricia Cisneros on the job**



**USA women’s wheelchair basketball team members won a gold medal at the Athens 2004 Paralympic Games. Patricia Cisneros is in the front row, second from left.**

# MEXICAN RESTAURANT OWNER

## ..... Chef Zarela Martinez .....

In New York City, Mexican food lovers know about chef Zarela Martinez. For more than 20 years, she has owned Zarela Restaurant. This restaurant regularly wins great reviews and professional awards.

“Owning a restaurant isn’t just a job. It’s a vocation,” says Martinez. “It’s my life, and I love it.” She is in charge of all food served in her restaurant. She also is a public relations expert, financial analyst and customer service specialist.

Martinez works with the chefs on new recipes and specials of the day. However, she spends most of her time on media relations and writes stories for magazines. “Publicity is important to a restaurant’s success,” says Martinez.

Creativity also lies in serving customers. Martinez feels customers need to be greeted warmly and thanked as they leave after finding out if they enjoyed their meal.

“I have a very good education, which is why I can be very diversified,” says

Martinez. She is a public speaker, consultant and cookbook author. “This is what I do for my soul,” she adds.

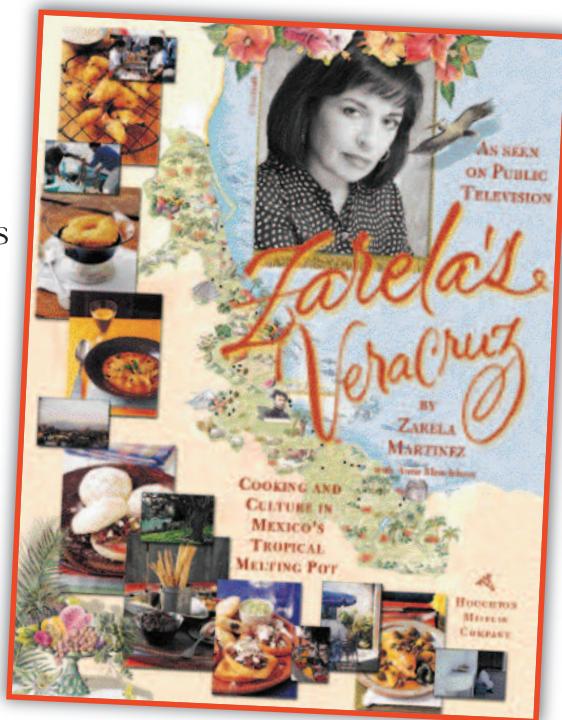
After college, Martinez was a social worker. Due to a growing family, she decided to cater parties from her home in El Paso, Texas. Her mother suggested

she take classes in food preparation to build her skills.

Before becoming a successful chef, she opened a catering shop, and she still is in the catering business. She also gives Mexican cooking lessons and lecture-demonstrations on Mexican cuisine and culture.

“Respect for food is most important in this field,” Martinez

says. “A Mexican considers it an honor to feed someone. It’s the very best thing you can do. It’s a privilege to have people come into my restaurant to feed them.”



**Find out more about Zarela Martinez at <http://zarela.com>.**

# Be a **CAREER COUNSELOR**

A counselor is a human services worker who **gives good advice**. There are many **kinds of counselors**. Some are **school counselors**. Some are **mental health counselors**. There are lots more. **Career counselors** give advice to people about jobs. Now you can try to **be a career counselor**.

First, read about three students who might like a human services career – **Emilia, Kareem and Miki**. Then think about a career they might like. (You may use the list on page 23 to help.)



## Emilia

Emilia feels really sad when people do bad things to other people. She thinks it's wrong to steal or hurt someone. She believes that rules and laws are made to protect people. She wants everyone to do what is right and fair. She also wants to help people who are in trouble. What career do you suggest for Emilia?



## Kareem

Kareem loves little kids. He likes to play with them, read to them and help them when they are sad. He thinks it's fun to help his little brother build skyscrapers with blocks. Together they pack snacks and trek outside for a picnic. Often Kareem gets the neighborhood children together to play soccer. What career might Kareem like?

## Miki

The out-of-doors is Miki's favorite place. In summer, she likes to hike, canoe, ride horses and play tennis with friends or just read or picnic in a park. Every year she looks forward to camping with her Girl Scout group for a week. Miki's a great team player, cabin mate and natural leader. In fact, her Scout leader once said with a smile, "This could lead to a fun career for you someday." What career might that be?



### Good News

Communities will need many more social workers and counselors in the future.  
 – *Occupational Outlook Handbook, 2010-11*



# Build a Great Career



Think about the things you depend on daily. The place you live. The bus you ride. Your kitchen appliances. Your cell phone. Perhaps a computer, an iPod or a GPS you enjoy. We wouldn't have them without researchers, inventors, designers, builders and many other workers.

Do you enjoy science and math? Do you like to solve problems? If so, you have many career choices. Here are just a few:

Aerospace engineer

Airplane pilot

Architect

Builder

Cable installer

Car, truck or airplane mechanic

Computer programmer

Electrician

Heating and air conditioning technician

Home builder

House painter

Landscape designer

Manufacturing engineer

Plumber

Power or water plant operator

Repair technician

Tool maker



# PARK ENGINEER

## Dal Freeman

Click, click, click. You're climbing up a camelback-shaped hill. Then, feeling like you've been shot out of a cannon, you drop steeply downward for a very fast ride.

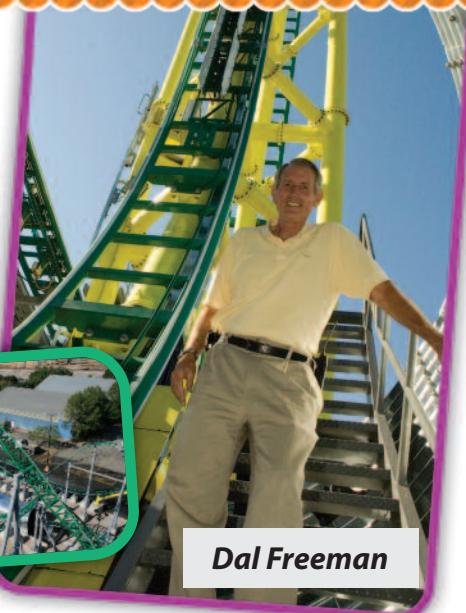
Thrills like this make roller coaster lovers scream with delight. And Wicked, whose home is Lagoon, an amusement park in Farmington, Utah, is a one-of-a-kind coaster. It's 110 feet high, has a top speed of 55 miles per hour and provides a 110-second ride that's exhilarating.

"With Wicked, there's no time lost going up a chain lift," said park engineer Dal Freeman. "It's quite different from other roller coaster rides. When it goes, it goes 'full bore' – it's all 'ride time,'" he explained.

Freeman knows a lot about roller coasters and other rides. He has been interested in machines and structures since he was a child.

"I always wanted to know how things worked, build things, tinker with things and take them apart. I guess that kind of defines an aptitude," he said.

To turn his interest into a career, he studied mechanical and structural engineering in college. Later he worked for a company doing ski lifts. When the company added amusement parks to its business, Freeman got to design monorails, a water ride and his first roller coaster.



**Dal Freeman**

"I built my first roller coaster in 1970, and that roller coaster is still operating today," said Freeman. Since then, he has designed and built many roller coasters and other park rides. At Lagoon, he worked with other engineers to design, manufacture and install Wicked.

There's a lot to learn if you want to create a roller coaster. "We deal with a lot of what you learn in high school – equations, forces, gravity, speed and power. When we go to college it expands into dynamics and statics and strength of materials," he said.

So the next time you ride a roller coaster, think about all of the math that made it possible. And think about Dal Freeman.

"What I like most about my job is being able to be creative," he said. "Creating roller coasters is like creating big sculptures. It's a lot of fun."

**For more information about Wicked and Lagoon, see <http://www.lagoonpark.com>.**

# SOLVING SCIENTIFIC PROBLEMS

## Joanna Aizenberg .....



**Joanna Aizenberg**

Research is exciting for Dr. Joanna Aizenberg. “When you start something interesting, suddenly a different problem emerges. That problem becomes even more interesting than the original problem,” she said.

Dr. Aizenberg is a professor and a researcher at Harvard University. Before then, she led a team of scientists at Bell Labs. They studied marine creatures and made an important discovery.

“Originally we looked at many organisms that form skeletons, like sea urchins. We learned that brittle stars form very sophisticated lenses. The skeleton is an optical system that forms visual images 10 times better than any lenses today,” she said.

“If we ask engineers what they would want in a perfect lens, they would ask for everything in the brittle star’s naturally formed lenses – how the material is

formed, what shape the lens is? We can use this information to improve optical systems at many levels of sophistication,” she explained. A practical use for Aizenberg’s research is camera lenses, such as the 360° view camera.

As a child, Aizenberg was fascinated with math and always interested in problem solving. When it was time to choose what she wanted to do, she decided to study the chemistry of biological materials.

Do you want to be a researcher? “You have to stay open-minded and be ready to go for unexpected results,” Aizenberg advised.



### Facts About the Brittle Star

- It’s about the size of an outstretched hand.
- It has five long, thin arms that extend from a small disk-shaped body.
- The body is shaped like a sphere.
- The body (central disk) is about 1 inch. The length of each arm is about 3 inches.
- The skeleton is only 1/10,000 of an inch thick.

# MAKING MACHINES WORK

Andy Gilles .....

People count on their cars to go. They count on their cell phones to make a call.

Manufacturing companies want the same thing – machines that work and won't break down in the middle of a job. That's why they call ATS for help.

Andy Gilles works for ATS as an industrial calibration technician. He repairs factory machines and adjusts them so they'll run smoothly.

On the job, Gilles works with a team of three technicians. They use precision measuring tools to check the quality of assembly line parts.

“When parts need to be repaired, we disassemble them, repair them and check our repairs. We also keep documents on when the parts are repaired, what was done with them, how they measured and who did the repair and calibrations,” Gilles explained.

The work is challenging and creative. For example, some parts that come in for repair often have a common problem. “It's very easy to do a quick fix,” said Gilles. “But I kind of step back and say, ‘There are a lot of similar problems. Why? Is it a design flaw? Some sort of condition that involves how the tool is being used at the customer's site?’

“The difficult and interesting part of the job is to test yourself and think hard about how you can change something and improve something,” Gilles said.



Andy Gilles



# CONSTRUCTING CAREER SUCCESS

..... Daphne Henion .....



A lot of people are surprised when they find out what Daphne Henion does for a living. She works in the construction industry building houses and other buildings.

“I opened up the newspaper and saw the ad for the Hawaii Carpenters Union apprenticeship program. I thought I would chance it,” she said.

It’s physically challenging work. It’s also very satisfying. And it’s a step forward in her desire to build her own business, she added.

“I hope to complete the apprenticeship program and get certified as a carpenter journeyman,” she said. “Then I’ll continue to take classes on designing, blueprints, etc., and work to get my general contractor’s license. One day I’ll maybe even have my own company.”

It’s a career decision Henion recommends to other young women.

“The pay is great. You get on-the-job training. And you learn to build and do things you never thought you would be able to do,” she explained.

“I get up and go to work every morning. And when I come home from work at the end of the day I feel good. I know that I am working hard to make a living and towards my goals for the future.”



**Hawaii carpenter Daphne Henion works on her goals for the future.**





# Plastic Mold Maker

Plastic toys and plastic chairs. Plastic helmets and plastic game sets. Plastic wheels for in-line skates. Plastic tele-phones and plastic lunch boxes. Plastic toothbrushes and plastic DVD cases. The list goes on. Plastic items are all around us.

Plastic mold makers help create all of these things and more. Here's what they like to do and what they need to know:

- They like to do math problems.
- They like to work with their hands.

- They are patient.
- They must know how to use a computer.
- They must be very careful, neat and exact.

“Mold making is a very high-tech career,” says Walt Bishop. Walt works for the Society of the Plastics Industry, Inc. He says there are good jobs for mold makers, and many will own their own companies someday.

## Questions for YOU

In this section, you read about an engineer, a researcher, a technician, a construction worker and mold makers. They all have similar “likes.” Do you like the same things? You may want one of their jobs someday. Check and see:

- Do you like to solve problems and figure out how things work?
- Do you like to take apart toys and put them back together?
- Do you like math?
- Are you excited about taking science and technology classes?
- Writing and speaking are important business skills. Do you enjoy those subjects?



# Managing Resources

Are you concerned about the world around you? Do you want to make things better for the environment? You may want to consider a career in natural resources and agriculture.

Do you like being outside or inside most of time? Some professionals in this field spend days outside working with plants and animals. Others spend hours in a lab testing, analyzing and recording data. Still others combine the inside and outside with their jobs.

If you want to solve real-world problems, produce food for more people or protect and restore our environment, you may want to check out the career adventures in natural resources and agriculture.



## Careers for Scientists Who **Work with the Natural World**

Agricultural economist	Plant geneticist	Zookeeper
Biochemist	Soil Scientist	Marine biologist
Biotechnician	Turf farmer	Meteorologist
Cereal chemist	Aquatic biologist	Space geologist
Food scientist	Botanist	Wildlife manager
Greenhouse manager	Conservationist	Hydrogeologist
Landscape architect	Climatologist	Flower grader
Microbiologist	Forest ranger	Storm scientist

# GREASE MUNCHERS

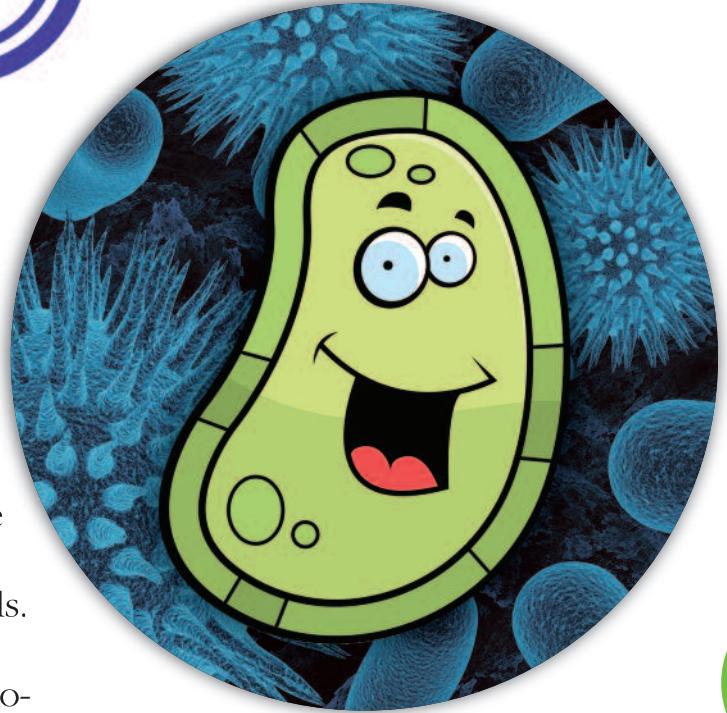
They don't greet you when you get home from school. They don't chase sticks or wag their tails. You can't see them unless you have a microscope. However, they are friendly little animals.

What are they?

They're microbes. If you were a microbiologist, you would use these tiny living beings to help clean up the environment.

Biology is the study of plant and animal life. The term "micro" means "very small." Microbiologists are people who study microscopic forms of life.

Some microbiologists study "bioremediation." The middle of that big word looks like "remedy." These scientists use microbes to remedy or cure problems with the environment. Here is what they have discovered:



Microbes that munch grease may be the best way to clean up oil spills on beaches. The microbes digest the oil and change it into elements that are safe for the environment. Now scientists are trying to learn which types of grease-eating microbes will improve future cleanups.

Such helpful little beings are found in many unusual places. They have been discovered in the guts of whales and sheep. They exist there to take care of poisons in harmful foods.

Do you like to study plants and animals? Are you interested in science? Do you want to help save the earth? Bioremediation may be the career for you.

Who knows? You could be the scientist who discovers microbes that take out the trash!



# HYDROGEOLOGIST

## Laura Jean Wilcox

Laura Jean Wilcox is a hiker, a biker and a musician. She also is a hydrogeologist.

“Water is the next oil,” Wilcox explains. And she knows what scarce and endangered resources can mean to people and the environment.

Living organisms cannot survive without water. Population growth and climate changes threaten our water supply.

Scientists like Wilcox study glaciers, oceans, streams, lakes or ways to clean up these water sources. Her specialty is groundwater. And job opportunities are global.

Wilcox worked in Sacramento, California, before her company sent her to Perth, Australia. There is a lot of iron mining nearby, but the ore is below the water table. So mining companies need to take water out of the mines to get the ore.



**Laura Jean Wilcox**

Wilcox’s main job is to collect data and monitor the mining. She must make sure that nearby national parks have plenty of water and mining doesn’t hurt surrounding areas.

Wilcox spends half of her time working in an office in Perth. There she tries to find better ways for the city to use its water. She was excited to work with a team that found new ways to store drinking water underground.

Wilcox is especially proud that she can help make sure the water quality and water supply is good for future generations.

### Water Facts

A dripping faucet can waste up to **2,000 gallons of water a year.**

– *Environmental Education for Kids, Wisconsin Department of Natural Resources*  
(<http://dnr.wi.gov/org/caer/ce/eek/earth/conserves.htm>)

A quart of motor oil can contaminate up to **250,000 gallons of drinking water.**

– *Los Angeles County Department of Public Works*  
([http://dpw.lacounty.gov/epd/ea/usedoil/oil\\_whyrecycle.cfm](http://dpw.lacounty.gov/epd/ea/usedoil/oil_whyrecycle.cfm))

# Spotlighting a Green City



On the night of May 4, 2007, a massive EF5 tornado nearly 2 miles in diameter hit Greensburg, Kansas. The twister killed 10 people and destroyed at least 95 percent of the town. Residents could have moved to another area. But many saw this as an opportunity to become a green city.

“People felt they could make a difference in what’s happening in the world by modeling a new kind of community,” said Daniel Wallach. He is the director of Greensburg GreenTown, a nonprofit group leading the green effort.

To create a green town takes teamwork. “Through community meetings, people worked together to vision the future, and eventually they came up with a plan,” he said. The plan includes:

**A community wind farm.** “It’s a very, very windy area, and wind turbines make a lot of sense economically and for other reasons,” he said.

**Streetscapes with native vegetation and energy-efficient streetlights.**

Native grasses are very “water wise.” They require less water and reclaim

any water that falls into the vegetation. And all the streetlights in town will be very energy- and light-efficient, Wallach explained. “At night, you can see the stars,” he added.

**Green homes.** Many people are building homes rated LEED gold. LEED stands for Leadership in Energy and Environmental Design. Features include insulation, efficient heating and cooling units, efficient appliances, water-wise plumbing fixtures and recycling areas. “Recycling will be an important component,” said Wallach.

**Green school and city buildings.** The new school will be more energy-efficient and include “daylighting,” or using sunlight to light the building, Wallach explained. All city buildings will meet the highest environmental standard – LEED platinum. And transportation will include natural gas and electric vehicles.

Greensburg is hopeful about its future, and it’s setting a good example for living green.

# Renewable Energy

## *Smart Answers to Our Energy Problem*

People today rely on oil, natural gas and coal to produce energy. These resources provide electricity and fuel for our homes, cars, factories, schools, stores, offices, hospitals and more.

The problem? Once used, these resources can't be replaced. And usage

is growing around the world. Also, scientists say that using these resources harms the environment.

There is a solution – renewable energy. Here you'll read about four kinds. To learn more, go to the “Energy Kid’s Page” at <http://tonto.eia.doe.gov/kids>.



### **Wind Turbines**

Wind turbines are like windmills. They use wind to make electricity. Wind turbines consist of 200- to 300-foot towers that have three 65- to 130-foot blades. The wind turns the blades, which are connected to a drive shaft. The drive shaft turns an electric generator to produce energy. One wind machine can produce enough electricity to power between 150 to 400 homes for one year.

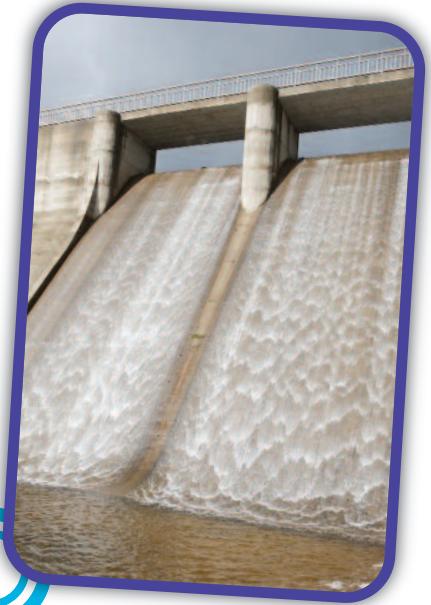
### **Solar Energy**

Solar energy happens when the sun’s rays reach the earth. Photovoltaic cells can change solar energy into heat and electricity. Three things can happen when the photons or particles of solar energy strike a cell. They may be reflected, absorbed or passed through the cell. Only the photons that are absorbed can provide electricity.



## Hydroelectric Power

Hydroelectric power produces electricity from falling or streaming water. The water comes from rain and snow in lakes, streams and rivers. Hydropower plants use the water that runs from high places like Niagara Falls. Or the plants use the water that is collected in reservoirs near dams. In the plant, the water turns a large wheel called a turbine. The turbine changes the energy of falling water into mechanical energy. That energy creates electricity that goes to communities through transmission lines. The water that has no pollutants is released back into the lakes, streams or rivers.



## Biomass Energy

Biomass energy is made from natural materials like trees and plants and even algae. It's also made from your garbage, trash and even manure or animal waste. This raw biomass can be changed into useful energy in different ways. When it's burned, it can produce heat or steam for electricity. Then the electricity can be delivered to electric companies. When it breaks down into forms such as methane and ethanol, it can be refined into fuels.

Maybe you will ***become a scientist*** who will find another ***alternative form of energy.***



# How Can You Live Greener?

## How Can You Inspire Others to Live Greener?

Think smart, and you can save the planet for future generations. Here are some ideas for you, your school, your community and your city.

1. Buy food that has less packaging. If your favorite food from the grocery store or fast-food restaurant has a lot of packaging, write a letter with your concern.
2. Bike or walk instead of riding in a car.
3. Buy recycled products.
4. Decide what you want before you open the refrigerator door. Be fast to open and close the door.
5. Recycle aluminum, paper, glass and plastic.
6. Create a compost pile. You can turn your garbage into wonderful fertilizer.
7. Fix your old toys, and give them to a worthy cause.
8. Grow a garden.
9. Use cloth napkins instead of paper. Use cloth bags instead of plastic when shopping.
10. Buy rechargeable batteries.
11. Stop leaks.
12. Buy organic food.
13. Find a use for leftover water such as watering a plant or garden or using it to clean.
14. Take shorter showers.
15. Share your “green” tips with others.



**You can make a difference!**



# What Makes a City **Green**?



**Public transportation** – subways, buses, bicycles, walking, carpooling, gas-efficient cars



**Electricity** – wind, solar, using less



**Trees and parks** – the more there are, the better the air quality



**Recycling** – reduce, reuse, recycle



**Attitude** – care about creating a green city

## It's a **Fact**

Refrigerators consume 14 percent of the energy used in average American homes.

– U.S. Energy Information Administration

([http://tonto.eia.doe.gov/ask/electricity\\_faqs.asp#electricity\\_use\\_home](http://tonto.eia.doe.gov/ask/electricity_faqs.asp#electricity_use_home))

“There’s enough on this planet for everyone’s **needs** but not for everyone’s **greed**.”

– Mahatma Gandhi





●●■ **career communications, inc.**

6701 W. 64th Street, Suite 210  
Overland Park, KS 66202