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MAD*ABOUT



Money * Fitness * Green * Life



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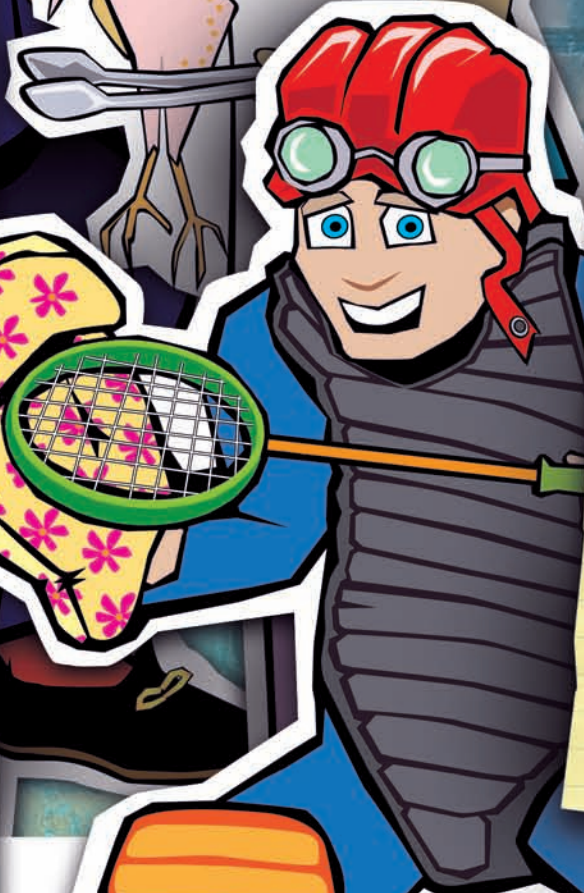
In this book:

How are Energy and Resources Related?

Exercise Can Be Many Things

How to Value Your Individuality

The Importance of Forming a Savings Habit



Mr. Twiddle and Jones burn different kinds of resources.



Rocket McGee and Coach Burly get carried away preparing for the big game.



Casey tries to earn her dream job



A friend of yours learns how to save money.

VOCABULARY

Conformity – doing what everyone else is doing just to fit in

Conservation – using fewer resources

Efficiency – using resources while creating little or no waste

Electricity – a type of energy used to run TVs, computers, appliances, etc.

Energy – the ability to do work or cause change

Energy Balance – performing enough physical activity to balance out the food you eat.

Exercise – intense physical activity that increases your breathing, heart rate, and calorie usage

Heart Rate – the number of times your heart beats per minute

Individuality – embracing the fact that you are different from everyone else

Interest – extra money paid when money is borrowed or saved

Peer Pressure – giving in to what other people think

Physical Activity – any activity that gets you up and moving

Power Plant – a building where large amounts of electricity is made

Prioritize – to decide which options are most important

Renewable Resource – resources, like solar, wind, and hydro power, that keep coming back

Resource – something used to create energy, either renewable or non-renewable

Savings Account – a service where a bank holds on to your money and pays you interest for storing it

Unique – one of a kind; there is nothing like it

Mad*About Green

What is energy? Energy is the ability to do work. Energy is in everything. One of the most common forms of energy is electricity. We make electricity at power plants. We utilize and burn non-renewable resources like coal, oil and natural gas to create large amounts of powerful steam. This steam is sent into a generator to spin a giant fan called a turbine. The spinning turbine

rotates a big magnet inside a coil of copper wire, creating a magnetic field that electrifies the wire. The electric current flows through the wire and is pushed out through high-voltage transformers. This energy is "transformed" into electricity which can travel through power lines to your homes, schools and businesses.



What are Electricity and Resources?

So, the more energy we need, the more non-renewable resources (coal, oil and natural gas) it takes to make that energy. And we are using more and more energy every day! Burning these resources creates a by-product called Greenhouse Gas. Using more energy leads to burning more non-renewable resources. This leads to more Greenhouse Gases being released into the air. The added gases, mostly carbon dioxide (CO₂) and

methane, that are released into the air are enhancing the natural greenhouse effect, and likely contributing to an increase in the global average temperature.

**MORE = MORE
ENERGY = RESOURCES**

Thermal Energy put to work

Question: Can thermal energy be made to do useful work?

Mission: Determine if thermal energy can be used for work.

Materials Needed:

- plastic 1-liter bottle
- large balloon
- bowl of hot (not boiling) water
- bowl of ice water
- small rock

Procedure:

1. Cool the balloon and the bottle in the freezer for 5 minutes.
2. Fill the bowl with hot, not boiling, water.
3. Put the balloon over the mouth of the bottle making sure the air has been squeezed from the balloon. Place the bottle into the hot water.
4. The air inside the bottle should expand and inflate the balloon. After it is inflated, put the bottle in the bowl of ice water and watch it deflate.
5. Design a device to convert expansion and contraction into usable work, such as lifting a rock. Design a device that circulates hot, then cold water so the balloon deflates and inflates without moving the bottle.

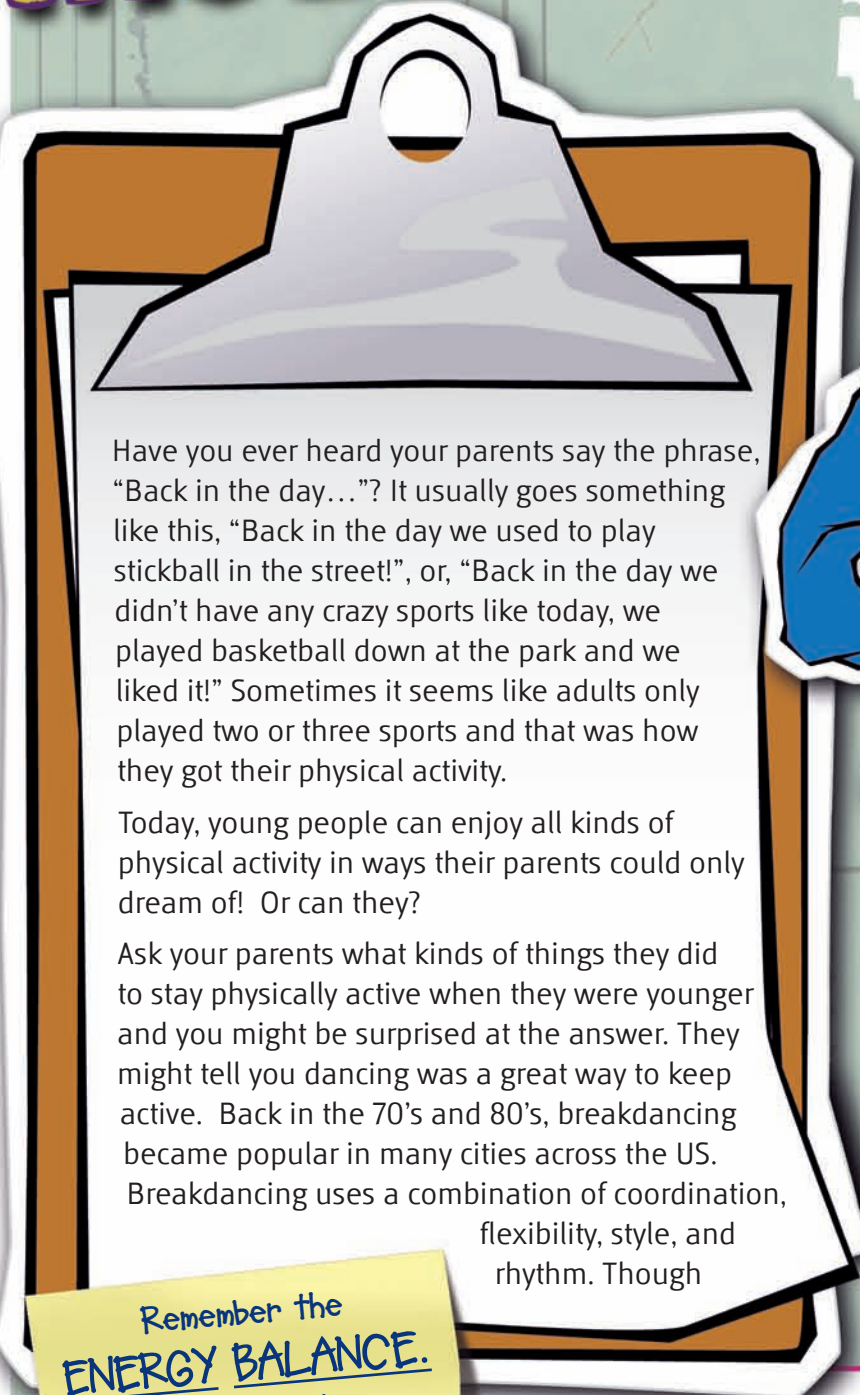
Analysis and Conclusion:

- Were you able to make a device that performed useful work?
- Can you think of devices that convert thermal energy into motion?
- Can you think of a way to convert thermal energy into electrical energy?

Further Research:

Study internal combustion engines and turbine generators.

Mad*About Fitness

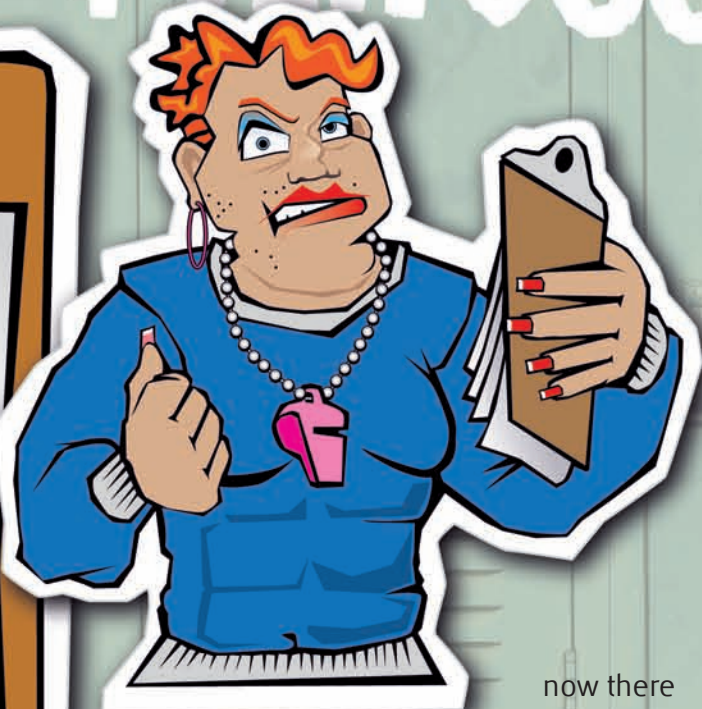


Have you ever heard your parents say the phrase, "Back in the day..."? It usually goes something like this, "Back in the day we used to play stickball in the street!", or, "Back in the day we didn't have any crazy sports like today, we played basketball down at the park and we liked it!" Sometimes it seems like adults only played two or three sports and that was how they got their physical activity.

Today, young people can enjoy all kinds of physical activity in ways their parents could only dream of! Or can they?

Ask your parents what kinds of things they did to stay physically active when they were younger and you might be surprised at the answer. They might tell you dancing was a great way to keep active. Back in the 70's and 80's, breakdancing became popular in many cities across the US.

Breakdancing uses a combination of coordination, flexibility, style, and rhythm. Though



now there are breakdancing competitions across the country, they used to be performed on the streets in communities and urban areas like New York, Los Angeles and Philadelphia.

Skateboarding has also been around for longer than you might think. Skateboards first began to appear in California in the 1940's and 1950's. It seemed like a simple idea to put wheels on a board to simulate surfing while on land. The popularity of skateboards made their way into cities over the next few decades. Though

Exercise can be Many Things



skateboarders will often use the concrete and stone landscape of the city, it is preferred that they use specially designated "skate parks". This preserves the streets, buildings and fountains in a city and keeps skaters safe in one area. And speaking of protecting things, don't forget to wear a helmet and pads when you skateboard. It can help keep you safe! Next time you see your grandparents, ask them if they ever skateboarded. Who knows, they might even show you a few tricks!

BURN BABY BURN!

You can burn calories everyday by doing the following activities. Keep in mind, this is not a complete list. How many of these everyday activities did you do this week?

Activity	Avg Calories burned in 30 minutes
Washing the car	75
Skateboarding	75
Cooking	80
Walking	80
Playing basketball	275
Playing the drums	130
Gardening	135
Marching band	140
Martial arts	145
Pushing a stroller	100
Bowling	100
Cleaning your room	100
Dancing	200
Double dutch	250
Riding your bike	205
Swimming	240
Jogging	275
Shoveling snow	300
Stair walking	300

Remember...anything that gets you up and moving counts as an activity!

Remember the **ENERGY BALANCE.** We need to balance the food we take in, versus the energy we use during physical activity.

Xtreme Questions about Xtreme Activities:

1. When did breakdancing become popular?
2. In what cities was breakdancing first witnessed?
3. Where is it safe for people to skateboard?
4. Why are skateboarders encouraged to use a skate park?
5. Why should you wear a helmet when skateboarding?

DO THIS...

Using the activity chart above, how many calories would you burn by doing the following activities?

- Dancing for 30 minutes followed by washing the car for another 30?
- Working in a garden for 30 minutes

- Riding your bike for 30 minutes, and jumping double dutch for 30?
- Martial arts for 60 minutes and walking for 15 minutes?
- Shoveling snow for 10 minutes?

Mad*About Life

In our world today, and especially in school, you are under pressure to be just like everyone else. Perhaps some kids dress a certain way, or you feel pressured to buy a new smart phone or ipod because "everyone else has one." Or maybe you don't go out for the debate team because all your friends are joining the basketball team instead.

But you don't have to change who you are or what you like just because of your friends. Stay an individual. Being an individual means having confidence in yourself and your choices, regardless of who agrees or disagrees with you. If you like playing the trombone, then do it – even if your friends joke with you about it. And if a friend of yours tells you she wants to dye her hair bright green, then show your support! Encourage others to be their own unique selves as well.



Look at the top 40 pop stars throughout the years. The ones that stick out most in your mind are the ones who embrace their own unique style. I know what you're thinking. Yes, they're celebrities and you're just a middle school student. What does this have to do with you? More than you think. You don't have to be famous to be an individual. Employers and college personnel looking at applications don't want to see the same thing on every resume. Your teachers will even admit they like it when students put their own flair on an assignment. We're not saying you should break any rules. Just be comfortable if you choose to stand out from the normal.

How to value your Individuality

WAYS TO EMBRACE YOUR INDIVIDUALITY:

1. Stop Making Excuses
 Michael Jordan was cut from his middle school basketball team for not being very good. It inspired him to become the BEST EVER!

2. Take Reasonable Risks
 "Our greatest glory is not in never falling, but in rising every time we fall."
 — Confucius, Chinese philosopher

3. Examine Your Fears
 "Don't let fear of striking out hold you back"
 — Babe Ruth, Baseball Superstar

4. Identify and Change Negative Self talk
 "I do the very best I know how - the very best I can; and mean to keep doing so until the end. If the end brings me out all right, what is said against me won't amount to anything."
 — Abraham Lincoln, 16th President of the United States

ACTIVITY: POSITIVE SELF IMAGE: CELEBRATE YOU!

Celebrate your uniqueness by creating a personal collage.

MATERIALS

- Poster board
- Art supplies
- A variety of magazines and newspapers

ACTIVITY DIRECTIONS

Think about the following questions and journal your thoughts:

- What groups do I see myself as belonging to?
- Do these groups have a positive impact on me?
- What is something completely unique about me?
- What are my interests? Hobbies? Music/Movie tastes?
- Do these interests connect me with a group or are they more individual?
- Why is it important to recognize uniqueness in ourselves and others?

CREATE A COLLAGE

Cut out pictures and words from magazines and newsprint that you feel describe your personality, likes and interests.

Creatively arrange the cut out pictures and words on a piece of poster board.

Mad*About Money

The importance of forming a Savings Habit

Paying yourself first. What does it mean? Basically, if you can find a way to put some money in the bank or credit union every time you get some in your hand, you'll be able to afford bigger, cooler things than you ever could before. It's easy to say "I'll start saving when I get my next paycheck," or "Once I get a job, I'll be able to save." But why wait? It can and should be as easy as emptying out your pockets at the end of the day.

Paying Yourself First means taking part of the money you already have and putting it aside. It doesn't mean you have to buy a savings bond every time you get your allowance, but collect it in little bits – If you get 10 dollars, save 2 of it. If you find 5 dollars in your pocket, save a buck. Place it in a jar or pitcher and leave it in your bedroom. Then take all the money you've collected to the bank or credit union once a week and toss it into a savings account. You'll be surprised how quickly it adds up.

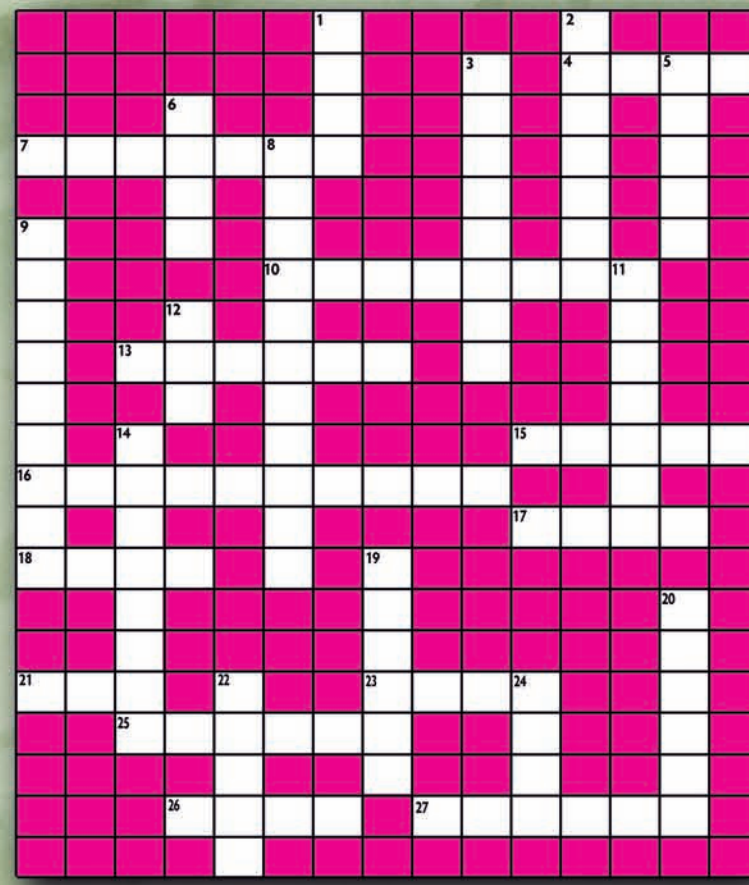
Another way to pay yourself first is to watch how you spend. There are lots of ways to save money merely by spending it wisely. Buy things on sale or in the off season. Get books, CDs, and DVDs from the library instead of buying them from the store.

Most people aren't even aware of how much they spend each day. Try this – Carry a notebook and pen with you wherever you go and for one week, write down everything you buy. Include all the little things too, like gum, bus fare, or fries after the game. At the end of the week, total it up and see where you stand.



Look how fast money adds up when you pay yourself first!

How I earned the money	How much I earned	I Paid myself 10% first	How much I've saved up so far
1) washed dad's car	\$ 10.00	$\times .10 =$ \$ 1.00	\$ 1.00
2) mowed neighbor's lawn	\$ 12.00	$\times .10 =$ \$ 1.20	+ \$ 2.20
3) worked at Happy Burger	\$ 136.00	$\times .10 =$	+ _____
4) walked Grandma's dogs	\$ 6.00	$\times .10 =$	+ _____
5) taught piano lessons	\$ 18.00	$\times .10 =$	+ _____
6) washed windows	\$ 20.00	$\times .10 =$	+ _____
7) worked booth at fair	\$ 72.00	$\times .10 =$	+ _____
8) paper route	\$ 112.00	$\times .10 =$	+ _____



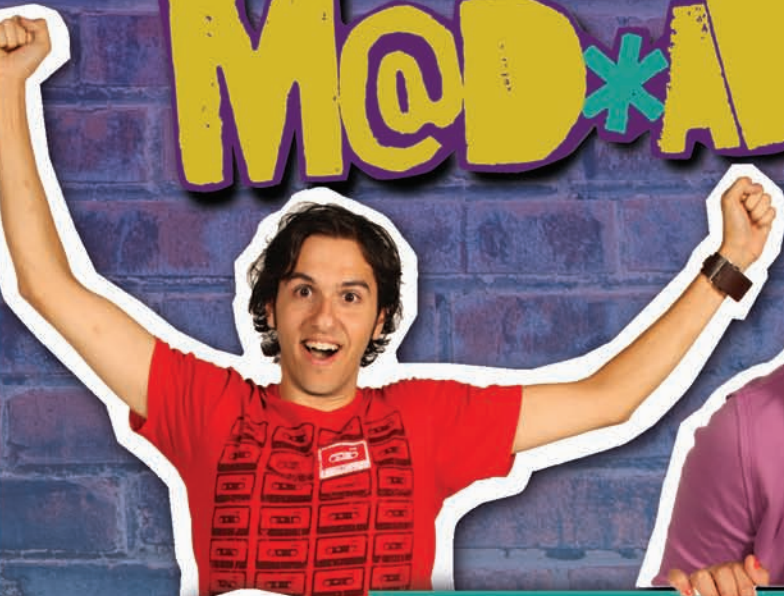
- ACROSS**
- Money that is easiest to spend
 - The total in an account after expenses
 - You pay back a loan by making scheduled _____
 - A way to invest in many companies at once is called a _____ fund
 - Stocks and _____
 - To list things in order of importance
 - The chance that you could lose money
 - To borrow money you take out a _____
 - If you carry debt, you _____ money
 - To make money
 - Shares of a company that one buys
 - If you owe money, you carry a _____
 - A plan for earning, spending and saving
- DOWN**
- A percentage added to a loan payment is called the interest _____
 - A checking or savings _____
 - The fee charged if you borrow money is called _____
 - The opposite of save
 - A place to keep or borrow money
 - Interest that keeps building upon itself
 - The original sum of money borrowed or loaned before interest has been applied
 - A safe place to store money is in a _____ account
 - The opposite of sell
 - It is wise to be in control of your _____
 - When you _____, you buy shares of a company
 - If you have good _____, you are allowed to borrow money
 - Cash, coin, currency, checks, etc.
 - More than just a "want"

- account
- balance
- bank
- bonds
- budget
- buy
- cash
- compounding
- credit
- debt
- earn
- finances
- interest
- invest
- loan
- money
- mutual
- need
- owe
- payments
- principal
- prioritize
- rate
- risk
- savings
- spend
- stock



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Sundays at 7:00 am

