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Batteries	2
Cars	3
Cellphones	4
Dinosars	5
Dogs	6
Earthquakes	7
GPS	8
Ice Cream	9
Inside an iPad	10
Lightbulbs	11
Magic Tricks	12
Making Things	13
Oil	14
Pasta.....	15
Pianos.....	16
Sketching	17
Submarines.....	18
Teeth	19
Toys the Fly.....	20
Treehouses.....	21
Volcanos	22

Sites and videos about

BATTERIES

If somebody gave you a lemon, could you make a battery? Do you know which batteries don't need to be recycled -- and which do? Should you store unused batteries in the freezer? Let's learn more about the often overlooked workhorse of all gadgets: the battery.

1. Who invented the battery? In what year?

- 1748, Benjamin Franklin.
- 1800, Alessandro Volta
- 1902, Thomas Edison



While Edison and Franklin were very interested in storing electricity -- Franklin even coined the word "battery" -- according to the Energizer learning center <http://bit.ly/nznnel> it was Italian Alessandro Volta who made the first "modern" battery by layering plates of silver and zinc in salt water. That's why electricity is measure in Volts.

2. Should you store your batteries in the freezer?

No way. It won't make them last any longer, at least according to Green Batteries <http://bit.ly/tQBSm>. You should also avoid cutting into a battery, because it probably contains acid.

3. My Wii remotes use a lot of AA batteries. Is it OK to throw them in the regular trash, or should they be recycled? Throw 'em in the trash. According to Duracell <http://bit.ly/4qKNdd> used Alkyl line batteries are safe for landfills and contain little metal that can be recycled.

Rechargeable and button cell batteries are another story. Stores that sell them are required to take them back. To see a list of recycling facilities near you, visit <http://www.call2recycle.org/> and enter your zip code.

4. Danger danger! What shouldn't you do with batteries?

a) put them in a campfire; b) cut them open; c) swallow them or d) All of the above. The answer is d) all of the above. Many batteries contain chemicals that could explode or burn you. Button cell batteries can be a great danger to babies and toddlers, who tend to put small things in their mouths. According to Consumer Reports <http://bit.ly/jc9xOg> these types of batteries are in musical greeting cards or toys like the Hexbugs, and must be used carefully around little kids.

5. How many charging cycles can a typical laptop battery handle?

If you said between 300 to 500 times, you'd be right. Learn more by taking this battery quiz, <http://bit.ly/qDFMB3>



APPLICATION. Here's how you can make your own battery out of a penny, nail, wire and lemon <http://bit.ly/bLDZw> or a tiny motor out of a battery, screw, wire and magnet (a single BuckyBall works) at <http://bit.ly/pzsC7>



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LITHIUM ION BATTERY CELLS...

...provide power to things like digital cameras, cell phones, laptops and cars. Visit the YouTube channel to learn where lithium comes from, and how it is turned into a thin sheet and coiled up in order in order to be made into a battery.

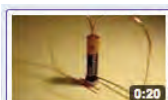
They can be recharged about 300 times. A laptop contains about six of these cells.

At <http://www.teslamotors.com>, you can learn about the Tesla sports car, which carries about 600 of these cells. After an overnight charge, you could drive about 300 miles. To follow the news about electric cars, visit <http://nyti.ms/pMGydd>

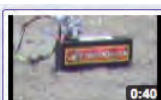


LittleClickers YouTube Playlist: Batteries

<http://www.youtube.com/playlist?list=PL1053947E7A36F6C4>



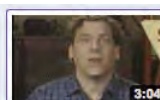
The most simple motor in the world



Lipo Battery Explosion



How It's Made Recycling Car



Volts Amps Watts
acmeschool



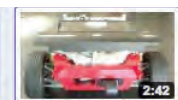
How batteries work
drunk3nrabbit



How To Make A Lemon Battery That



How to Save iPhone 4 Battery Life



Close Look \$110K Tesla Roadster

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Sites and videos about

CAR TECH

You ride in one every day, but how much do you really know about cars? Here's a quiz.

1. Is there such a thing as a driverless car?

Google thinks so. Go to <http://bit.ly/qCB7TQ>, and you can learn how a 64-beam laser, mounted on the top of the car, generates a detailed 3D map that is used to help the car navigate around things like a parking lot.

2. Take a guess. How many parts are in a Toyota Corolla?

If you said 10,000 you'd be way short. According to the Toyota children's room, at <http://www2.toyota.co.jp/en/kids/faq/entry/6203.php> the average car has about 30,000 parts, if you count even the smallest screw.

3. Your car is probably carrying an explosive. Do you know where it is located?

Did you know that your steering wheel is hiding a very specialized bomb? It is controlled by a computer that can sense motion, and it inflates your car's airbag. Want to see one explode? Visit <http://youtu.be/ZEWCFjbqaaE>.

4. Oops. What's the most expensive driving mistake in the world?

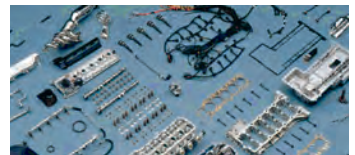
We're not sure, but a recent car accident in Japan cost over \$1 million dollars. Oops. The crash included eight Ferraris, a Lamborghini and three Mercedes sports cars. Read more at <http://nyti.ms/sj28QC>

5. **Can cars fly?** At <http://www.terrafugia.com> the answer is a definite yes. For the cost of a small house in New Jersey (\$280,000) a company called TerraFugia will let you pre-order you a car with self folding wings that can take off like an airplane, and fit in your garage. Want to see it take off? See <http://youtu.be/iE2Ij7Rfw1Q>

APPLICATION

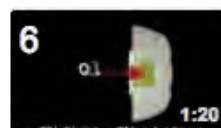
Make a Balloon Car! Make your own car, using a balloon, a cracker box and some old CD-ROMs (finally, a use all that old educational software!) See <http://www.mrg-online.com/car.htm>.

How green is your parent's car? Some cars are more planet friendly than others. How does your car rate? Find out using the tool at <http://www.epa.gov/greenvehicles/Index.do>. Currently in New Jersey, the most planet friendly car is the Chevrolet Volt, a plug in car that gets 100 MPG.



YouTube™ LittleClickers YouTube Playlist: Car Tech

<http://www.youtube.com/playlist?list=PL7FC15CAA828A83E4>



Sites and videos about

CELL PHONES

Do you know what the word cell in cell phone means? What year was the first cell phone made? Here's a look at this amazing pocket-sized gadget that has changed our world.

- Which of these best matches the function of a cell phone?
 - a walkie-talkie
 - a computer
 - a GPS
 - a monthly drain on your bank account -- up to \$80/month.
 - all of the above

According to the Free Dictionary, <http://bit.ly/qve6SA> the best answer is e) all of the above.

- What year was the first cell phone call made, and where?
 - 1962
 - 1973
 - 1986

According to CNN <http://bit.ly/i431h7> the first cell phone call was made by Martin Cooper of Motorola in 1973 in New York City using a brick-sized phone.

- Why is it called a cell phone, anyway?

The cell refers to the ten mile or so honeycomb-shaped regions created by special antenna that communicate with each other. As you move, your call is passed from antenna to antenna, like swinging from one vine to the next vine. The more antennas your town has, the better your call. See a map of your town's registered antennas at <http://www.cellreception.com> (enter the name of your town). Learn more about the science of the cells at http://www.private-line.com/mt_cellbasics/

- What's the difference between a smart phone and a cell phone?

According to <http://btcomputersystems.wikispaces.com/cellphones> smart phones have the additional ability to access the Internet with Wi-Fi and they can have apps installed on it.

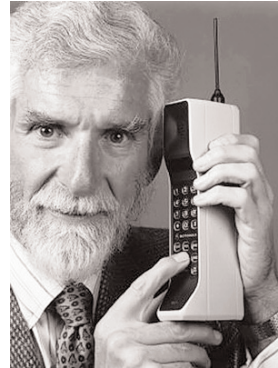
- What is the world's smallest cell phone? The most expensive?

The Modu phone is just larger than a pack of gum, described at <http://techcrunch.com/2008/02/07/modu-revealed>. We found a gold plated, diamond studded phone at <http://bit.ly/pmommK> that costs \$3.2 million. Don't drop it in the pool!

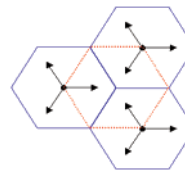
Teacher's Guide Need Help? For Grade Levels: 5-8

APPLICATION 1: Cell phone tear down. Find an old cell phone and tear it apart, like they do in this video <http://youtu.be/co6ekERw1yU>. See if you can find the following components: the battery, screen, keyboard, antenna, microphone, speakers and microprocessors. Make sure to dispose of all the parts properly.

APPLICATION 2: Design your own cell phone. Go to EdHeads (http://www.edheads.org/activities/eng_cell/index.shtml) and play the Design a Cell Phone activity. You'll learn about the challenges of designing a cell phone that people can use.

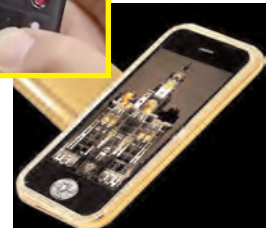


Martin Cooper, shown in Time Magazine's Photographic History of the Cell phone <http://ti.me/sxG6d>



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LittleClickers YouTube Playlist: Cell Phones

<http://www.youtube.com/playlist?list=PL4AA97058015D479E>



Find out how your mobile works



Introduction to Cellular Systems



iFixit's Verizon iPhone Teardown



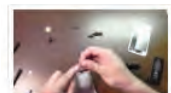
BlackBerry Bold 9700 Disassembly Tutorial Directions



Leasing Cell Phone Towers - Rooftop Cellular Antenna




1989 - Centel - first cell phone ad



Speedy white iPhone 4 teardown

Learning Links About Dinosaurs

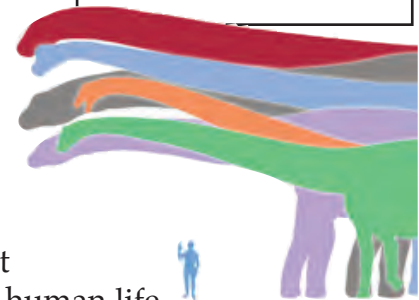
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They were big.
 They were scary.
 How much do you know about them?

1. Quick. Name the biggest dinosaur.

Did you say Argentinosaur? According to the BBC <http://bbc.in/gIz9P2> this 11 feet tall, 60 feet long sauropod laid eggs as big as volleyballs and could peek into a six-story window. Here's a National Geographic quiz for more dino-trivia: <http://bit.ly/OJxTR>



2. How long ago did dinosaurs roam? Use the interactive timeline at <http://bit.ly/bRg9pD> to learn that dinosaurs became extinct 900,000 human lifetimes ago. That equals about 65 million years.

3. If dinosaurs were Pokémon, about how many would there be? According to the Natural History Museum's Dino Directory at <http://bit.ly/kF6ph> there are 333 common dinosaurs. Of these, 89 live in the United States.




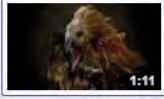
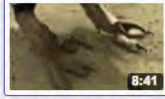


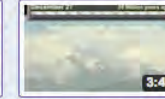


4. Could you outrun a T-Rex? A hungry Tyrannosaurus rex could keep up with a human, according to the USGS (<http://bit.ly/7dIOps>). If one were chasing you, you'd probably run a bit faster.

5. Scientists who study dinosaurs are called _____. The answer is at the Field Museum <http://bit.ly/hIm4V8> where you can learn how paleontologists found and uncovered a nearly complete T-Rex skeleton, whose teeth are pictured at the top of this page.



Dinosaurs Playlist: See Life-Sized Dino-Robots!

This month's YouTube playlist contains a selection of videos based on topics in this month's column.

 1:57	 1:11	 8:41	 2:35	 4:56	 3:47	 1:03	 2:24
Giant Robot Dinosaurs from Japan FreeScienceLectures 8,275,737 views	NOVA NOVA Short A Dinosaur is Born NOVAonline 12,197 views	The truth about killer dinosaurs - Baryonix TheChaosCorp 107,503 views	BBC - The Truth About Killer datauser1529 7,153 views	The Making Of Walking With BBCWorldwide 886,488 views	4.6 Billion Years in the making. Our yumorganics 25,868 views	The Evolution of Life in 60 Seconds cgredan 78,387 views	How to Find Dinosaur Bones infinitesolutions 214,932 views

Sites and videos about

DOGS



A hhhh.... there's nothing like a little puppy breath to brighten your day. Puppies and dogs are fun, but they can require a lot of work. Here are some links and videos on one of our favorite subjects -- dogs:

1. How do you teach a dog to shake hands? Have a look at <http://youtu.be/sfv9DvEDlpo>, (in the YouTube playlist, below). You'll learn how to use treats to get your dog to do just about anything. Here's some tricks for dog walking <http://bit.ly/Hd0w>.

2. Help! I'm afraid of dogs! They sometimes growl, and scare me. Go to this Australian site <http://bit.ly/zAC8tj> and you'll learn that many times, dogs are just as afraid of you! Don't pet a strange dog unless a parent and the owner say it's ok, and never try to take a dog's food.

3. I want a dog. Which breed is the best? Do you have a big backyard? Will you be able to give it a lot of attention? According to the American Kennel Club, at http://www.akc.org/breeds/complete_breed_list.cfm there are 174 types of dogs! Use Animal Planet's Dog Breed Selector, at <http://bit.ly/Asyflj> to find the best match for your family.



4. What is the smallest dog in the world? At http://www.oddee.com/item_96492.aspx you'll find a yappy short-coat Chihuahua that is about the size of a shoe.



5. How many times more powerful is a dog's nose than yours?

Bloodhounds are called noses with dogs attached, for good reason. At PBS <http://to.pbs.org/wy19Y4> you will learn that a bloodhound's nose is 40 times stronger than yours. It can also follow the same scent for up to 130 miles!

Stuff you can do:

1. Raise a Seeing Eye Dog. Visit <http://www.seeingeye.org> and you can learn how you can adopt a puppy, and raise it to become a helper to somebody who had trouble seeing.

2. Teach a Dog a Trick. Materials needed: One dog -- young or old -- and some dog treats. You'll also need a lot of patience. Now go to <http://www.loveyourdog.com/tricks2.html> and pick one of the tricks. Start with something simple, like "shake" or "lay down" and then move on to "stay" and "roll over."



LittleClickers YouTube Playlist: Dogs

<http://www.youtube.com/playlist?list=PL46B34855C96B83E2>



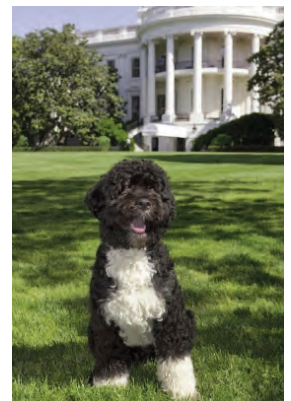
Page 6



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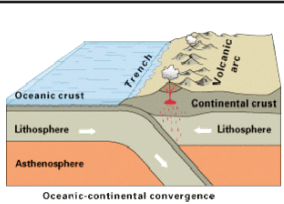
Q. Can you name this dog?
Extra credit: Name his breed.

A. Does the house in the background give it away? His name is Bo, and he lives in the White House. You can learn more about Bo and the other Presidential Pets, at the White House pets page. <http://1.usa.gov/6WkCkO>. (by the way, he's a Portuguese Water Dog).



Learn more about

EARTHQUAKES



Visit *USGS for Kids* <http://bit.ly/5uBCY9> to learn more. Think of the Earth as a cracked egg; with a hard shell (or crust) on the outside, and liquid (or molten rock) in the inside. Now spin your egg on a table, and things start moving. The parts of the shell will rub, slipping along the cracks (or faults), and some of the liquid might be squeezed out (volcanos). Now imagine an egg the size of the earth, spinning in space, and you get a better idea of how earthquakes happen.



Above, the *USGS* probability map found at <http://bit.ly/7zVj5a>. Below, a fallen bridge from last week's quake in Chile, from *National Geographic*, <http://bit.ly/9hBzaf>



They're invisible, silent, and they can strike at any time. When they do, cars and houses get tossed around, and people become frightened. You'll probably be less afraid of earthquakes if you know how they work. Here's a test of your knowledge.

1. You're in your house and it starts to shake. What should you do?

- Run outside where nothing can fall on you.
- Get under a desk or strong table.
- Find a doorframe and stand under it.

Answers: <http://bit.ly/9QoG2g> and <http://bit.ly/6t5Li>

2. True or false. The air starts to change right before an earthquake. It's called "earthquake weather."

Answer: Visit <http://bit.ly/91VB8u> and <http://earthquake.usgs.gov/learn/facts.php>

3. True or false. There was recently an earthquake in Chicago.

Answer: <http://bit.ly/7zVj5a>. Then see <http://nyti.ms/bhPKZ2>.

4. How fast do the continental plates move?

- The speed of a person walking
- The speed that your fingernails are growing
- The speed of a car driving

Answer: <http://bit.ly/3UK8IL>

5. Where was the strongest earthquake ever recorded?

- Chile in 1960
- Haiti in 2010
- San Francisco in 1906

Answer: <http://bit.ly/7pXaYK>

6. About how many recorded earthquakes occurred last week?

- 3
- 30
- 300

Answer: <http://bit.ly/20528P>

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Answers:

- (b) Drop and take cover, by getting under a sturdy table. If you're at school, make sure to follow your teacher's instructions to avoid panic.
- False. There is no such thing as "earthquake weather." They can strike during the day or night, summer or winter.
- True. On 2/10/2010 there was a small earthquake in Chicago. According to the USGS, earthquakes can happen in 39 states; the risk is greatest in California, Alaska and Hawaii.
- (b) About 2 inches/year.
- (a) Chile. On May 22, 1960. The quake measured 9.5. By comparison, the recent Feb. 22 quake measured 8.8, and the Haiti quake measured 7.0
- (c) About 300. Earthquakes happen all the time. You just can't feel all of them.



Want to See an Earthquake?

<http://www.youtube.com/user/childrenstech#grid/user/047343CC6ED9EFB5>

This month's LittleClicker's playlist includes some newscasters in an earthquake while on live TV; a view of Microsoft during a quake, and a lecture on how earthquakes are measured (the Richter Scale). There's also some security camera views of earthquakes in action.

1	2	3	4	5	6	7	8
David Letterman - Earthquake	Microsoft Earthquake	How Things Work : How Does the Richter Scale Work?	Earthquake Destruction	Earthquake Destruction	barbados earthquake part 3	WAVE-TV 3: Earthquake Shakes Studio	Footage from a surveillance cam in Sichuan earthquake
Added: 3 years ago	Added: 4 years ago	Added: 1 year ago	Added: 7 months ago	Added: 2 years ago	Added: 2 years ago	Added: 1 year ago	Added: 1 year ago
Views: 813,009	Views: 162,204	Views: 4,361	Views: 146,773	Views: 3,545,030	Views: 465,323	Views: 239,731	Views: 1,008,917
★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
1:17	1:00	3:19	2:22	0:47	1:59	1:51	5:57

Learn more about the

GPS

<https://gps.afspc.af.mil/gps/>

Once upon a time, in the very olden days, people (like your parents) used printed maps and compasses to figure out where they were going. Before that they used the stars. Today, we use the GPS that uses a network of sophisticated man-made stars (satellites) to work. If you have a GPS receiver — about \$100 these days — in your car or pocket you can know exactly where you are. How much do you know about this magical technology? Do you know what the letters “GPS” stand for? Do you know how many GPS satellites there are? Do you know how to Geocache? Here are some sites about the GPS.

1. What do the letters GPS stand for?

Find out at <http://www.gps.gov> (or cheat, and use the answers in the right column).

2. Who paid for the GPS system? And what year was the first GPS satellite launched? Find out at <http://www.nasm.si.edu/gps/>

3. A GPS receiver can best be compared to which device:

- a car radio that only receives radio waves.
- a cell phone that both sends and receives radio waves. Find out at

<http://www8.garmin.com/aboutGPS/>

4. How many satellites must your GPS receiver “see” in order to calculate your location?

- 5
- 1
- 3

Answer. Visit <http://www.how-gps-works.com> for this and other GPS facts (Contains ads).

5. The GPS satellites each are tuned to the same very accurate clock that costs millions of dollars. Where is this clock located?

- The moon
- An igloo in Alaska
- An airforce base in Colorado

Find out at <https://gps.afspc.af.mil/gps/>



Above: A selection of GPS receivers, some as small as a wrist watch.

Below: the atomic clock that keeps the GPS satellites in sync.



MAKE THE FACTS MATCH! Can you draw a line from each sentence to the best answer? If you get stuck, visit <http://www8.garmin.com/aboutGPS/>

- | | |
|---|---|
| 6. Number of orbits per day for most GPS satellites. | a) 12,000 |
| 7. Number of years a GPS satellite lasts? | b) 30 |
| 8. Weight of a GPS satellite. | c) 2 |
| 9. Miles from earth of most satellites. | d) 10 years |
| 10. Accuracy of a commercial GPS receiver, in feet. | e) by the sun! |
| 11. How are they powered? | f) 2000 lbs (the same as a small car) |
| 12. Maximum number of satellites your receiver can “see” at any one time? | g) 12. The other 12 are on the other side of the earth! |

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ANSWERS

- Global Positioning System
- You did. The US military created the GPS, funded by taxes, starting in 1978. It wasn't until 1994 that all 24 satellites were available.
- a) A car radio. A GPS receiver is a specialized radio wave receiver, tuned to capture 24 frequencies.
- c) 3
- c) The Schriever Air Force base in Colorado Springs.
- c) 2
- d) 10 years
- f) 2000 lbs.
- a) 12,000 miles. That's about five trips across the USA.
- b) 30
- e) Each satellite has large solar panels for power.
- g) 12

YouTube™

Six videos explaining the GPS

<http://bit.ly/cBi2mH>



Sites and videos about

ICE CREAM

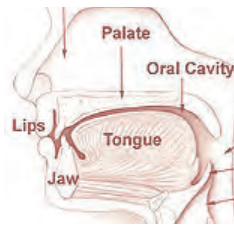
Can you name the five most common ingredients found in all ice cream?
Do you know why ice cream can give you a headache? Bring on the answers!

1. What's the difference between ice cream and Gelato?

Gelato is a lot like ice cream, but it smoother and more gooey, because it contains more egg yolks (the yellow part of the egg) and less fat. Learn more at <http://bit.ly/I7HiW>

2. Why do I get a headache when I take a big bite of ice cream?

You may have "brain freeze." According to www.kidshealth.org (<http://bit.ly/oG8gal>), the roof of your mouth, called the palate, is full of nerves. When they feel something really cold, they send a rush of blood to your brain, causing your head to hurt. Don't worry, its not dangerous and it goes away as soon as your mouth warms up. To avoid it, just take smaller licks.



3. Q. I've noticed that ice cream stores and cafeterias have giant soft serve ice cream machines. I want one in my house! How much do they cost?

A: A lot. There's a lot to these machines, including a freezing system, mixer, pumps and valves. One machine can easily cost as much as \$8,000. Learn more at SaniServ (www.saniserve.com).



4. T/F Is it possible to make ice cream and play soccer at the same time?

A. True! The Play & Freeze ice cream maker is like a rolling ice cream mixer and freezer. After you fill it up the center with your egg/sugar/cream mixture, you fill the outside with salt and ice, seal it up, and roll it around. You can buy one at Walmart for \$25 <http://bit.ly/qyPYZZ>. See other models at <http://www.icecreamrevolution.com>



5. Which is stronger, a waffle cone or a sugar cone?

The answer is in this video <http://youtu.be/f7-Eq4H0D8>, but if you said sugar cone, you'd be right!



6. Which two ingredients are not found in ice cream.

A) Eggs B) Cream C) Sugar D) Flour E) Ice

Answer: D and E. There is no ice in ice cream! There is no flour, either. Ice is used only to freeze the sweet mixture. At Teachnet.com (<http://bit.ly/fcLXWu>) you'll learn how the salt and ice combine to create lower than freezing temperatures. But, the salt and ice never touch the actual ice cream.

WANT MORE? Take a quiz, at <http://www.factmonster.com/quizzes/icecream/1.html>

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Recipe for No-Cooking Vanilla Ice Cream

Want to make your own ice cream? It's pretty tricky, so ask your parents first.

You can see some recipes here <http://bit.ly/I7HiW> or watch <http://youtu.be/z0lx9QdMns>

This recipe makes 1 ½ pints.

- 2 eggs
- ¾ cup sugar
- 2 cups of whipping cream
- 1 ½ cups whole or 2% milk
- 2 teaspoons pure vanilla extract
- A pinch of salt

Mix the eggs really fast (whisk) until they're light and fluffy and add the sugar a bit at a time (keep mixing!) Now add the cream, milk, and vanilla. Mix some more. Put the mixture in a small zip lock bag, and place in a large zip lock bag full of a salt and ice. Start stirring for 15 to 30 minutes (check to see how it is freezing). You can also use a commercial ice cream mixer -- its a lot easier! Mix in fruit or candy for variety.

YouTube™ LittleClickers YouTube Playlist: Ice Cream

<http://www.youtube.com/user/childrenstech#grid/user/934102DE83099A90>



A video review of the Camper's Dream -Ice
yoooreds
59,716 views



How It's Made- Ice Cream Cones
ScienceChannel
144,741 views



No Cook Vanilla Ice Cream recipe
legourmettv
14,438 views



Mango Ice Cream - Indian Dessert Recipe
ShowMeTheCurry
608,210 views



CHOCOLATE ICE CREAM - VIDEO
robjnxon
145,491 views



Homemade Ice Cream better
145,714 views

What's Inside an iPad?



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Have you ever wondered what it looks like inside an iPad 2? How thick and strong is the glass? Where is the CPU? How big are the batteries? Taking your mom's iPad apart is NOT a good idea, but you can still see what they look like inside, thanks to these sites and videos.

1. Where is an iPad made?

In China in a huge factory called Foxconn. Thousands of workers and robots work (and live) in a city-sized facility, where they make all sorts of computers -- not just iPads. Want to see what it looks like? We found some photos <http://bit.ly/q8c4FV>

2. How do you take an iPad apart?

You can't. Apple seals the parts with glue. At <http://www.ifixit.com/Browse/iPad> however, you can find step-by-step instructions on how to open an iPad, using such things as a hair dryer, guitar picks, and special prying tools. If you try such a thing, remember that the iPad is full of dangerous parts and it is very unlikely you'll get it back together again. It is much easier to look at the photos.



3. Which is faster?

- A Color Nook
- An Amazon Fire
- An iPad 2

At Geek.com <http://bit.ly/trsFnr> these three tablets are compared. You'll learn that each has a processor that is the same speed (1 GHz). The

Nook and Fire are smaller, lighter and more portable; the iPad is thinner and has the best battery life.

4. What's the most expensive part in an iPad?

At iSupli.com, <http://bit.ly/eorsWY> you'll learn that it costs Apple \$336 to make an iPad 2. Of that, \$127 goes for the touch screen (with special aluminosilicate glass) and \$26 is for the 10 hour batteries.

5. How strong is the glass?

Watch this video, and you'll learn that the iPad 2 glass can bend <http://youtu.be/r4vvQq7BpiE>.








APPLICATION

The parts of computers generally fall into three categories: **input**, **storage**, and **output**. Find any unused laptop, get some tools, and take it apart. Stack the parts into three piles. Are there any that don't belong?

YouTube LittleClickers YouTube Playlist: Inside an iPad

<http://www.youtube.com/user/childrenstech#grid/user/EDE4C5D4AE2A6C4F>

						
Foxconn To Build New China Plant TantaoNews 861 views	A typical work day for a Foxconn worker in NMANewsDirect 14,327 views	Nexus One: The Story - Episode 4: GoogleNexusOne 246,012 views	iPhone 4 manufacturing movie arcmatica 73,621 views	Apple - iPad 2 - TV Ad - We Believe Apple 1,880,814 views	iPad Disassembly by TechRestore TechRestore 644,565 views	iPad 1 vs iPad 2 strength test by iFixYourI 793,401 views



Learn about the
Light Bulb



This month's LittleClickers was inspired by the above photo in the in the New York Times Magazine at <http://nyti.ms/mjOOYY>

Before 1880, when the sun went down, you went to bed or you burned something, like whale oil or a kerosene lamp. But then Thomas Edison figured out how to turn electricity into light, by making the first light bulb. Today, LEDs are replacing Edison's invention, making this a good time to learn more about the past, present and future of the light bulb. Here are some links.

1. How many barrels of lighting oil could you squeeze from one whale?

At the Petroleum History site <http://bit.ly/lusUEy>, you learn that one dead adult sperm whale could make about 30 barrels of oil. You can bet the whales liked Edison's invention!



2. How many materials did Thomas Edison test for his filament?

The answer was 1600, according to the Smithsonian <http://bit.ly/dAcmqB>. These included coconut fiber, fishing line and beard hair. You can see Edison's original light bulb patent at <http://1.usa.gov/11RTsr>.

3. What is a CFL Bulb, and what does CFL stand for?

At the Energy Star site <http://1.usa.gov/bikOX4> you learn about the Compact Florescent Light (the curlicue) which uses 75% less energy than standard incandescent bulbs and lasts up to 10 times longer.



4. What is an LED Bulb, and what does LED stand for?

At Earth Easy http://eartheasy.com/live_led_bulbs_comparison.html, you learn that a Light Emitting Diode (LED) bulb lasts 12,083 days, compared to 50 days for an incandescent bulb. Even though it costs much more, you still save money using an LED bulb.

	LED	CFL	Incandescent
Light bulb projected lifespan	50,000 hours	10,000 hours	1,200 hours
Watts per bulb (equiv. 60 watts)	6	14	60
Cost per bulb	\$35.95	\$3.95	\$1.25



LittleClickers YouTube Playlist: Light Bulbs

<http://www.youtube.com/playlist?p=PLE557B5B67C6F612A>

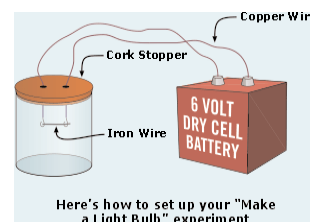
						
How a light bulb works bjtaylor09 142,168 views	How Fluorescent Lights Work confessfletch 56,519 views	Thomas Edison Talks brniJeff 87,154 views	Mysterious Lightbulb Hack Kipkay 4,027,154 views	LED aka Light-emitting Diode Rad revision3 10,152 views	Organic Light Emitting Diodes ChipDipvideo 8,989 views	Unboxing the Philips 7W LED Bulb jdoscher 10,607 views

See this page online, at <http://www.LittleClickers.com/lc/lightbulb611.html>

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Make Your Own Lightbulb!



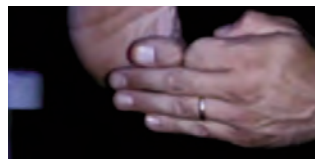
At <http://bit.ly/js0IQV> you can turn a jar into a light bulb. Next, you can make your own LED with this YouTube video <http://bit.ly/982r0>



Sites and Videos About Magic Tricks

A true magician never reveals his or her tricks, but the Internet does. Here's a collection of sites and videos that can help you learn how to amaze your friends and family.

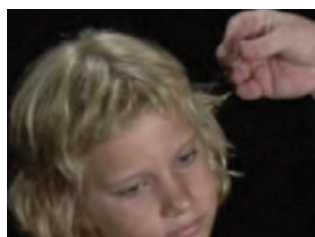
1. Pull your thumb off, and put it back on again. Watch this YouTube video <http://bit.ly/bnpOzf> to see how you do it. Don't scare any little kids!



2. Make your nose bone crack! After you've pulled off your thumb, it only makes sense that you know how to pretend to crack the bones in your nose. See <http://bit.ly/e21Jnz>



3. Make a coin come out of your ear. This trick will cost you at least a penny, but it's worth it. Go find a friend, a coin and watch this video <http://bit.ly/cb5Bw1>



4. Make a packet of ketchup defy gravity. Using a bottle of water and a packet of ketchup (mustard works, too) you can fool people into thinking that you can make it move with your brain waves. Learn how, at <http://bit.ly/hVZqcb>



5. Throw your voice! A ventriloquist is a special magician that can make his or her voice seem like it is coming out of a puppet. If you're good, you can make a lot of money! Learn how to do it at <http://bit.ly/fq7NwY> (contains ads).



6. Try some card tricks! Find a deck of cards, and practice some of these tricks, at the Card Trick Site <http://www.cardtricksite.com> (contains ads).



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The best way to learn a trick? YouTube and Wikipedia!

At <http://bit.ly/huYqZE> you can learn a lot about different types of magic tricks, with links on how to do some of them. If you want to see a trick, step by step, find the video on YouTube. We've posted many of them below. If you want to become a serious magician, don't forget the **Magicians Oath** (from Wikipedia)

"As a magician I promise never to reveal the secret of any illusion to a non-magician, unless that one swears to uphold the Magician's Oath in turn. I promise never to perform any illusion for any non-magician without first practicing the effect until I can perform it well enough to maintain the illusion of magic."



LittleClickers YouTube Playlist: Magic Tricks

http://www.youtube.com/view_play_list?p=12349180570F3FB4

This month's YouTube playlist contains a selection of videos based on topics in this column.



1st Magician on mericas got talent



How to Do Rope Magic Tricks : One



Free Magic Tricks for Partles: Simple



Magic Tricks Revealed : Learn



Learn street magic tricks right now,



Seattle Magician Teaches Coin Magic



Magic trick - This'nThat card



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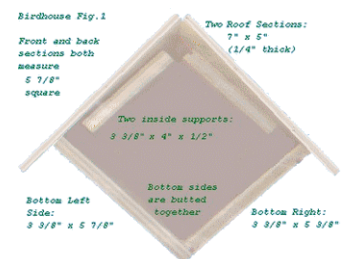
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Spring is a great time to make things, and the Internet has thousands of ideas. The first place to visit is Make Magazine, which has a page just for kids. See <http://makeprojects.com/c/Kids>. You can make ice cube crayons or a giant spin art machine (pictured above). Another site is <http://www.youngmakers.org> where you can meet other kids who like to make things, and share expensive tools. By the way, don't use any tool without your parent's permission. Here are more links.

1. What tools should I have in my workshop? Look at the pictures in the New York Times article <http://bcove.me/ubctgkfn> and you can see kids using real tools, to make all sorts of common crafts. Teachers, here's an article on how to setup a woodworking corner in your classroom <http://bit.ly/zRDF9V>.

2. How can I make my own pumpkin? One of the best DIY (do it yourself) projects for the spring is a garden. Why not make your own pumpkin, for halloween? All it takes is a few seeds in the right place. Learn how at All About Pumpkins, at <http://www.allaboutpumpkins.com/growing.html>

3. How do I make a birdhouse? First visit a catalog like <http://www.bird-houses101.com/> to see what kind of birds you want to attract. Then modify the plans at <http://www.wikihow.com/Build-a-Birdhouse>



GOOD FOR GROWNUPS AND KIDS

4. How do you make a good YouTube video? Make Magazine offers this guide to making a good YouTube video that is good to watch, for kids or adults See <http://bit.ly/ytT4Up>

YouTube LittleClickers YouTube Playlist: Children as Makers

<http://www.youtube.com/playlist?list=PLEB55CD97CCF98B3C>



Learning Links About

OIL

Oil is something we use every day, but seldom think about. Without it, we couldn't drive our car or have LEGOs, because they're made of plastic, which comes from oil. How much do you know about this ancient, magical substance?



<http://schools-wikipedia.org/wp/p/Petroleum.htm>

1. Where does the gasoline in our car come from?

- Dead plants and animals that lived on the Earth, millions of years ago.
- A distillery.
- It might be imported from half way around the world.
- All of the above.

Find out with this Shell Oil video: <http://bit.ly/9LrUjU>



2. Which country uses the most oil, per person?

- China
- The United States
- Canada

Find out at <http://bit.ly/aKbXoD>

3. If a puddle of gasoline catches on fire, what's the best way to put it out?

- Spray it with water
- Use a special "Type B" fire extinguisher, or smother it with a wet cloth. But don't throw water on it.

Find out at <http://www.fire-extinguisher101.com>



4. In the Gulf of Mexico, how many miles down do you have to drill before you find oil?

- 1 mile
- 5 miles
- 15 miles

Find out at <http://bit.ly/9lnKMG> (Wired Magazine).



5. How big is the BP Oil Spill of 2010?

Visit the EPA's page on the BP spill, <http://www.epa.gov/bpspill/> to see some photos of the world's largest oil spill. You can also find some ongoing coverage at National Geographic, <http://bit.ly/9GSKM8>



6. How many oil rigs are in the Gulf of Mexico?

Find out at <http://bit.ly/dwtGAF>

Answers:

- D. Oil is made up of dead plants and animals many millions of years old. Before it can be used in your car, it has to be distilled.
- The United States is the world leader in oil consumption.
- b.
- It depends, but the deep water rigs go between 3 and 5 miles down. That doesn't count a mile of ice cold salt water!
- You can see the giant oil slick from satellites.
- There are about 4000 off shore oil rigs in the Gulf of Mexico. Not all are active.

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Want to watch a whale sniff an oil drill?

<http://www.youtube.com/user/buckleit#grid/user/FB3BF47B970494C7>

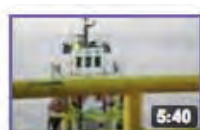
Here's a dozen pre-selected YouTube videos that deal with oil. You'll see some pretty cool things!



Whale on subsea oilwell
reinsbukk
35,989 views



Burning oil spill on water
Cleanupoil
1,201 views



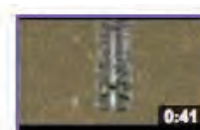
A look at Life on an offshore Oil Rig
bstansbu
256,451 views



Fractional distillation
koassihiskandersjah
52,634 views



petroleum refining basics
noekenn
18,772 views



Oil Drill Animation
IDEAVIZ
117,121 views

Internet sites and videos to help you learn about

PASTA

Macaroni and cheese, lasagna, spaghetti and Ramen noodles are all different forms of pasta. Where did pasta come from and how is it made? Let's go online and learn some more about pasta!

1. Which US President (who was also a founding father) loved Macaroni and Cheese? Hint: He even served it in the Whitehouse!

At Monticello.org, <http://bit.ly/cSvj6i> you learn that Thomas Jefferson was interested in macaroni. He sketched out a design for a macaroni machine, and served macaroni and cheese to White House Visitors in 1802.



2. Who eats more pasta, people in Italy or the USA?

According to the National Pasta Association, at <http://www.ilovepasta.org/funfacts.html> the Italians rule on this issue. The average Italian eats 51 pounds of pasta per year, compared to 15 pounds for people in the United States.

3. How many pasta shapes are there?

More than 600. This leads to the question, can you tell a Tortellini from a Tortelloni? Try the quiz at Purpose Games, <http://bit.ly/mO2SYh> or the harder test at the Good Food Channel <http://bit.ly/kIwdqs>. At Fine Cooking.com <http://bit.ly/huGKGe> you can learn which type of sauce works best with each type of noodle.

4. What year was the instant noodle (also called Ramen) invented? In which country?

At MIT's Inventor of the Week site, at <http://web.mit.edu/invent/iow/ando.html> you can learn the rags to riches story of Momofuku Ando who invented a fast way to cook pasta. He called it the Ramen Noodle, and he became very rich.

5. In which country was the world's oldest noodle discovered? In what year?

According to the BBC News, at <http://bbc.in/aklhZx>, the world's oldest noodle came from China. It was discovered over 4000 years ago.



Application

For instructions on how to dye pasta with rubbing alcohol: <http://bit.ly/mmWbIh>
To make pasta jewelry: <http://www.kid-craft-project.com/2009/08/pasta-jewelry/>
Read "Cloudy With A Chance of Meatballs" and then make some Spaghetti Art, following the instructions at Family Fun <http://familyfun.go.com/crafts/pasta-art-663132/>

Help, this column made me hungry!

Try some of the New York Times pasta recipes: <http://nyti.ms/kBxhCh>
(Disclosure, Warren Buckleitner is a NYTimes.com technology contributor).

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LittleClickers YouTube Playlist: Pasta

<http://www.youtube.com/playlist?list=PL930B69A41DEDF5A>



Pasta Crafts from Parents.tv



The Art of Noodle Making Part 1



Making Pasta in Florence



Macaroni and Cheese Recipe - Tom Jefferson's Mac



Pasta: Past and Present



how to make homemade pasta



Longest Campbell Noodle



What do Elton John, Lady GaGa, and Mozart have in common? They all started playing the piano when they were four years old. Let's learn more about this magical musical machine, with 88 keys.

1. When was the piano invented?

Answer: At <http://piano300.si.edu/timeline.htm> you learn that the very first piano was invented in Italy in the year 1700, so the piano is 312 years old. You'll also learn that "piano" means "to be played quietly" because it was the first instrument to use a special hammer mechanism so it could be played loud or soft.

http://bit.ly/t011q9



One of the first pianos

2. If you dropped a piano off of a roof, would it still work?

Answer: Have a look! <http://youtu.be/Nfu1BB2F4TQ>. Every year the students at MIT see what happens when they drop a piano off the roof. Let's just say that the answer is no.

3. How much does a new piano cost?

You can pay as little as \$2 for an app like Magic Piano, or a million dollars if you're Elton John. For \$140 you can buy a 61 key Yamaha synthesizer. If you want a real piano, expect to pay the same as a new car -- from \$10,000 to \$100,000. See <http://www.bluebookofpianos.com> for the latest prices.



4. Can a cat play the piano?

Yes, at least if you ask the owners of Nora, the famous YouTube cat. If you're one of the few that hasn't seen it, heere's Nora! <http://youtu.be/TZ860P4iTaM>

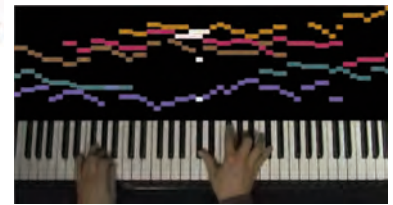
5. How does a piano hammer work?

Visit YouTube <http://youtu.be/xr21z1CZ54I> where

you can see a video of the mechanics of a piano hammer in action.



Animusic (above) and Music Animator (below)



Application: When Pianos Meet Computers

Back in the 1980s, computer programmers figured out how to digitalize music, and re-invent the piano. Want to see? Visit Wayne Lytle at Animusic <http://www.animusic.com> to see some sound driven digital machines, like this one <http://www.youtube.com/AnimusicLLC> or Stephen Malinowski's Music Animation Machine, at <http://www.musanim.com>. You can watch piano scores, one note as a time, at <http://youtu.be/RhKYJclQj5s>.

What to Learn More?

Tune your browser to the radio program to <http://www.classicsforkids.com> where you can learn more about music in general including a game that will test your ability to name the notes.



YouTube LittleClickers YouTube Playlist: Pianos

<http://www.youtube.com/playlist?list=PL6DED9BA362642699>



The Making of a Steinway - A Steinway
SteinwayOfficial
1,300 views



1969 Liberace Show Boogie Woogie
showmanlee
1,083,233 views



The Piano - Amazing Short - Animation by aniBOOM
aniBOOM
17,101,072 views



The Next Mozart? 6-Year Old Piano
wgn
21,240,416 views



MIT Baker Piano Drop 2007
luisblackaller
155 views



MIT's annual Piano Drop in Cambridge -
cambron
6,492 views

Go online and make a



Grab your pencils and visit these sites, which can help you learn the steps to drawing cartoons, faces and animals.

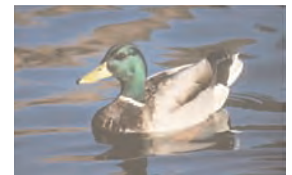
Make a cartoon with www.unclefred.com. Pick your favorite and copy each part of the drawing. The steps are given out one at a time, so they're easy to follow! (Just click the "next" button each time you've finished a step.)



Sketch your dog at The Art Factory, where you can find lessons on how to make real looking animals, at <http://bit.ly/97fGS8>



Draw a duck -- You'll find three simple steps to drawing six of these beautiful birds from outline to shading stages. You'll know a lot about ducks and mallards before you're done! http://www.calwaterfowl.org/waterfowl_draw/water_draw13.htm



Play with 3D using Sketchup. Ready for some serious design work? Download and install a free copy of Google Sketchup from <http://sketchup.google.com> and start making some serious designs. If you get confused, check out the online videos <http://bit.ly/92J13G> that walk you through each step.



Learn to Sketch Playlist

http://www.youtube.com/view_playlist?p=3E93B068869BDB26

This month's YouTube playlist contains a selection of videos based on topics in this month's column.

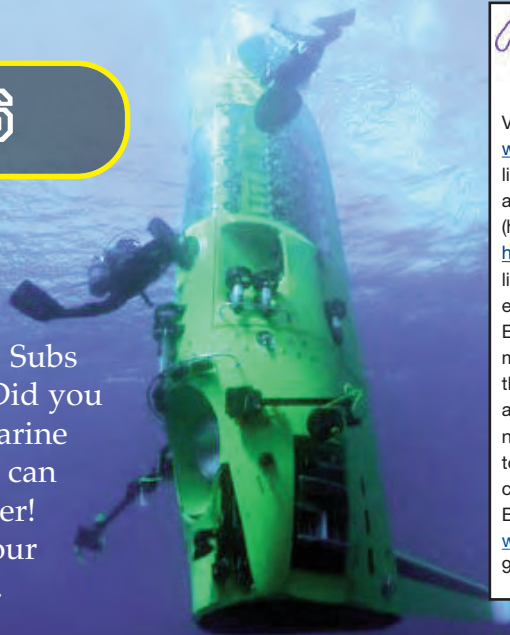


Check out COMPUTER EXPLORERS new look on their new Website: www.computerexplorers.com. The web-based version of this page <http://www.littleclickers.com> contains live links, plus a place to report any errors. CTR and COMPUTER EXPLORERS do not have commercial interests in the sites listed on this page. Librarians and teachers are permitted to copy this page for non-profit use. To suggest a future topic or to report a bad link, please contact the editor, Warren Buckleitner warren@childrenstech.com, or call 908-284-0404 (9 - 3 PM, EST).

Sites and videos about

SUBMARINES

Last month, a submarine called the Deepsea Challenger took explorer James Cameron to the deepest part of the ocean, more than seven miles down. Subs like his use some amazing technology. Did you know, for example, that a nuclear submarine can go for 30 years without refueling? It can also make it's own air and drinking water! Want to learn more? No need to hold your breath. Here are some links and movies.

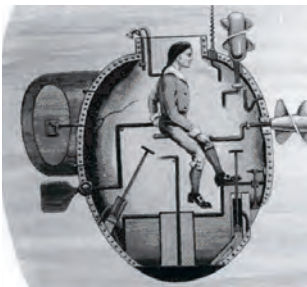


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Q. Which is greater, the highest mountain or the deepest ocean?

A. The ocean wins. If the highest mountain, Mount Everest, were placed on the floor of Challenger Deep (part of the Mariana Trench) there would still be over one mile of water piled on top, according to <http://visual.ly/tallest-mountain-deepest-ocean-trench>. You can see some satellite photos at <http://bit.ly/18yrBJ>.

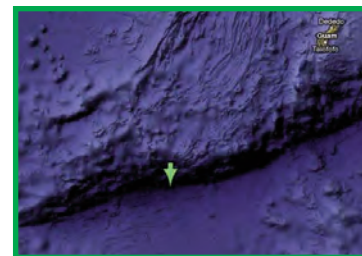


Q. When was the first American military submarine made?

A. The Turtle <http://1.usa.gov/1LxBhJ> was built in 1775 to break the British naval blockade in the New York Harbor. It had a hand-driven propeller.

Q. T/F A submarine go under the North Pole

A. At <http://www.subguru.com/nautilus571.htm> you learn about the Nautilus, a nuclear submarine that was the first to go under the North Pole.



Above: A Google Earth image of the Challenger Deep. Below, the Sportsub from IVC



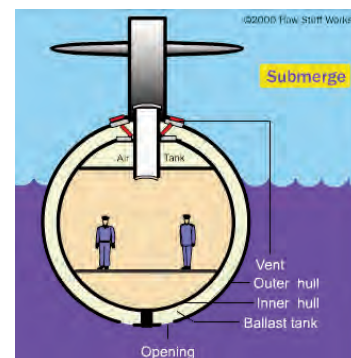
Q. How much does a submarine cost?

A. At least as much as a very nice car, for even the cheapest model. At <http://www.ivccorp.com/kits.html> you can buy a Sportsub kit (pictured to the right) for about \$50,000. You should know how to scuba dive before you use one.

APPLICATION: Does it float or sink? At how stuff works <http://bit.ly/cFNTOp>, you can learn more about how subs use a "ballast" to go up or down (float or sink). Get a ball of clay and put it in a bucket. It will sink. But make it into a hollow ball, and you can see how the same substance, of the same weight, will float.

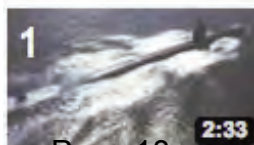
Go inside a submarine. There are 25 submarine museums located in the USA. First visit this site and see if there's one near you: <http://www.submarinemuseums.org>. Next, bug your mom or dad to take you.

Make a submarine. If you're really serious about your submarine experience, visit <http://www.submarineboat.com/submarine.htm> and get the instructions on how you can build your own working submarine.



YouTube™ LittleClickers YouTube Playlist: Submarines

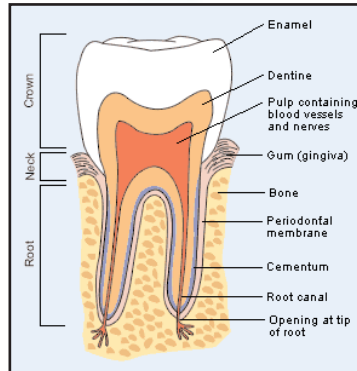
<http://www.youtube.com/playlist?list=PL856DB7FB2500AEDE>



Page 18

Interact with this page online, at <http://www.LittleClickers.com>

Learn about your Teeth



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1. Is a tooth dead or alive?

At <http://bit.ly/flg084> you learn that each tooth is a living, growing thing, even though you can't feel things with them.

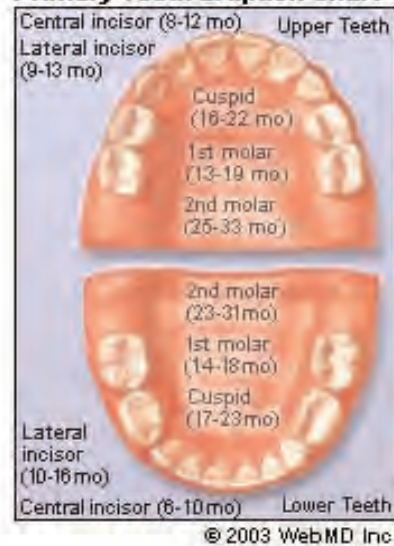
2. Who has more teeth -- you or a dog?

To find this answer, you have to visit two sites: WebMD for people <http://bit.ly/g6y8Sm> and eHow for dogs <http://bit.ly/gxHHda>. So who has the most? Your dog. According to WebMD, by the time you're an adult, you'll have 32 teeth. eHow says that adult dog have 42 teeth. Like a human, a baby dog is born with no teeth, grows baby teeth that fall out, and then grows adult teeth, which explains why they like to chew on things so much.

3. T/F Did George Washington really have wooden teeth?

At the National Museum of Dentistry you learn that George Washington did indeed have false teeth. But they were made out of ivory, not wood. You can see a picture of them, at <http://bit.ly/g0eUhy>

Primary Teeth Eruption Chart



4. How old are you when your teeth stop falling out?

According to WebMD's page on baby teeth care, <http://bit.ly/AfjcP>, your last tooth falls out when you are about 12 years old.

5. What animal had the biggest teeth?

According to this ThinkQuest page, <http://bit.ly/i7Ny7u>, the Megalodon shark was over 40 feet long, and had teeth 7 inches long. Fortunately, that shark lived during the times of the dinosaurs.



6. Can you tell an ultrasonic scaler from a cavity prep?

Take the kid's quiz at <http://www.mouthpower.org/> and test your knowledge. You'll also learn about foods that promote good dental health, and other interesting things.



LittleClickers Playlist: Learn About Teeth

http://www.youtube.com/view_play_list?p=4B8D926588A2D8E1

This month's YouTube playlist contains a selection of videos based on topics in this column.



Getting Braces (Time Lapsed) - Top Brackets



Tooth Extraction
Added: 3 years ago
Views: 7,055



The Megalodon (world biggest shark)



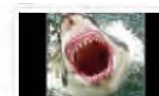
The History Channel: The History Of The Toothbrush



Getting Braces (Time Lapsed) - Top Brackets
Added: 3 years ago



Tooth Extraction
Added: 3 years ago
Views: 7,055



The Megalodon (world biggest shark)
Added: 1 year ago

Learn about

Toys that Fly

Our reviews of toys that fly in this issue led us to some interesting questions. Here are some answers!

1. What was the first flying toy?

At <http://www.toyhalloffame.org/toys/kite> (the Strong Museum of Play) you can learn about the very first flying toy, the kite.



2. How do you make a paper airplane?

Visit <http://www.10paperairplanes.com/> to find step-by-step instructions on how to make ten of the most common paper airplanes.



3. How are most flying airplanes and helicopters powered?

Visit <http://bit.ly/gNHqEZ> (the DragonFly Innovations online store) to learn about charging and working with Lithium Polymer batteries.

4. Anyone knows how to make a paper airplane. Is it possible to make a paper helicopter?

Visit the Exploratorium to find out, at http://www.exploratorium.edu/science_explorer/roto-copter.html.

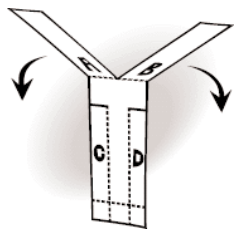
5. I want to make my own real rocket, and launch it in my backyard. How do it do it? Is it safe?

You can join the The National Association of Rocketry <http://www.nar.org/NARmrsc.html> and learn the difference between a toy rocket, like the Estes Patriarch, found in the Estes online store, here <http://bit.ly/gK7MEg> and a High Powered Rocket (HPR), like the one shown on the right. It turns out that it can be very dangerous. You also might want to know about the annual NASA Student Launch projects where you compete to see if you can build a rocket that can travel one mile high. The contest is for high school and college students. Tell your science teacher to visit <http://bit.ly/etiM9y> if you want to join.



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Flying Toys Video Playlist

<http://www.youtube.com/user/childrenstech#grid/user/75311BF0641FB198>

This month's YouTube playlist contains a selection of videos based on topics in this month's column.



Failed Rocket Launch

Added: 3 years ago
Views: 18,903
0:16



NitroPlanes's Discus CS Sailplane "2.6 Meter Giant Scale RC"

Added: 1 year ago
Views: 56,998



Walkera 4ch HM4#6 Rc Helicopter Review by Tony 3DT

Added: 11 months ago
Views: 62,751
5:55



Air Hogs Hawk Eye Review

Added: 2 months ago
Views: 18,127
6:54



Indoor RC flight

Added: 4 years ago
Views: 113,258
2:17



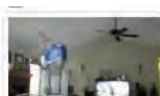
Close call crash

Added: 4 years ago
Views: 49,076
1:03



Radio Control Plane

Added: 2 years ago
Views: 552,933
6:30



Radio Control Blimp

Added: 3 years ago
Views: 28,599
2:53

Go Online and Learn About

Treehouses

Want to build a treehouse this summer?
Here are some handy links!

1. I'd like to start simple. Any Suggestions? Visit eHow <http://bit.ly/mk7ED0> where you can find instructions for building a very basic treehouse, including instructions for making a rope ladder <http://bit.ly/3KWQvG>. You might also get some ideas at Treehouse Guides <http://bit.ly/1ZygfA> or this month's YouTube Playlist, with 14 treehouse related videos <http://bit.ly/kRIZeJ>.

2. Is it OK to drive a nail into a tree?

No. Remember that a tree is a living thing, and nails could cause an infection or fall out. It is better to us a long, single bolt that goes all the way through the tree, according to the Treehouse Workshop, <http://bit.ly/mx5B>.

3. What's the biggest treehouse ever made?

If you do a search on "treehouse ideas" you can find all sorts of crazy treehouses, including one that is 10 stories tall! Located in Tennessee, it was built by a landscape architect. You can learn more at Treehugger <http://bit.ly/ckGeJT>.



A simple plan at Treehouse Guides. Below, the world's largest treehouse.



Visit the Computer Explorers Resource Center <http://bit.ly/fHDWN9> with links for parents, principals and administrators. The web-based version of this page <http://www.littleclickers.com> contains live links, plus a place to report any errors. CTR and COMPUTER EXPLORERS do not have commercial interests in the sites listed on this page. Librarians and teachers are permitted to copy this page for non-profit use. To suggest a future topic or to report a bad link, please contact the editor, Warren Buckleitner warren@childrenstech.com, or call 908-284-0404 (9 - 3 PM, EST).

Stuff you'll need

1. Parent's permission.
2. A tree and a ladder.
3. A plan.
4. A hammer and nails, or cordless drill and outdoor screws and nails.
5. Portable Saw with safety goggles.
6. Treated 2x6x8 boards and posts, plus a lot of scrap lumber and exterior plywood sheets.

CAUTION! Before you start, find out who owns the tree! If you don't have permission, you might have to tear down your project. Also make sure to tell your parents what you are doing.



LittleClickers YouTube Playlist: Treehouses

http://www.youtube.com/view_play_list?p=3C073442012DE8DA

This month's YouTube playlist contains a selection of videos based on topics in this column.



Treehouse Time-Lapse



Tree House in a week



How to Build a Treehouse-DIY



Zip to our treehouse



treehouse



Terrific Tree House Designs



Pirate Ship Treehouse

Learn more about VOLCANOES

- How many active volcanoes are there right now?
 - 359
 - 1900
 - 820

Find out when you take the quiz at National Geographic Kids, at this link <http://bit.ly/bzoXt6>.

- There are four categories of volcanoes. Can you name them?

Each type is described here <http://bit.ly/aPPHZn> at Kid's Cosmos.

- What planet has the largest volcano? (Hint: it's not on Earth).

- Jupiter
- Mars
- Venus

Find the answers, and see some pictures, by visiting the Worsley Central School's website at <http://bit.ly/aYTisJ>.

- Coming back to Earth, which country has the most active volcano? (study the URL for a hint).

- USA
- Iceland
- Japan

Visit <http://hvo.wr.usgs.gov/kilauea/update/images.html> for the answer.

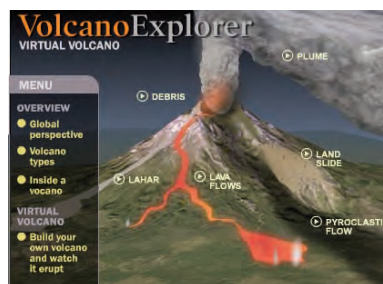
- Which Roman God inspired the name "volcano?"
Answer at <http://bit.ly/52fVag>

- What is the most explosive type of volcano?

- Shield
- Fire Fountain
- Plinian

Visit Discovery Kids and you can adjust the gas pressure and viscosity (thickness) of the lava, to make different types of volcanoes. If you turn the settings all the way up - BANG - you'll learn the answer.

<http://kids.discovery.com/games/pompeii/pompeii.html>



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Answers:

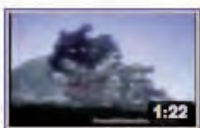
- B. Scientists believe there are about 1,900 active volcanoes on earth.
- Cinder, cone, shield and lava.
- Mars. The Olympus Mons is an extinct 'shield' volcano that is bigger than the entire state of Washington.
- A. The world's most active volcano is Kilauea, located on the big island of Hawaii. Did you see the letters "us" in the web address?
- Vulcan, a god of fire, from Roman mythology.
- "Plinian" is the most explosive type. Mt. St. Helens was this type of volcano. They are very dangerous.



Want to See an Volcano Erupt?

<http://www.youtube.com/user/childrenstech#grid/user/25C50AD92F1E78ED>

This month's LittleClicker's playlist includes video of active volcanos. You can even see a person roasting a marshmallow over hot lava!



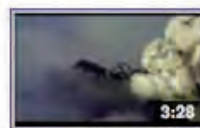
helens
littlepyro13
27,577 views



volcano etna in italy
volcanoetna
140,029 views



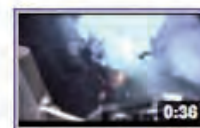
Hawaii volcanic eruption with
mathoda
463,057 views



Inside a Volcano
NationalGeographic
149,221 views



Melting marshmallow
nielsvreeken
73,178 views



Scientists Discover and Image
noaa
40,187 views