**Science Big Ideas WCPSS**

**2nd Grade**

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| **Big Idea/Standards** | **Suggested Achieve3000 Titles** |
| **Solids and Liquids**  **3.P.2.2** |  |
| **Sound**  2.P.1.1, 2.P.2.2 | Music-Making Machines  Students made robots that can play music |
| **Weather**  **1.E.1.1, 1.E.1.2**,  2.E.1.1, 2.E.1.2,  2.E.1.3, 2.E.1.4,  **3.P.2.1, 3.P.2.2** | Old Weather Is New News  Books about past weather help scientists today  [Hot, Hot, Hot](http://portal.achieve3000.com/kb/lesson/?lid=15791&c=56&origin=search&asn=1)  The summer of 2011 was a hot one in many parts of the U.S  [Where's the Rain?](http://portal.achieve3000.com/kb/lesson/?lid=15812&c=56&origin=search&asn=1)  During the summer of 2009, many places in Texas were drying up  The Trouble With Water  In 2011, parts of the U.S. got too much rain. Other parts got very little. Should people try to move water to the places that need it?  Flying to Better Weather Forecasts  Some planes help weathermen recognize weather patterns. Then, the weathermen can figure out where storms will strike  Water Worries  Some people want to make sure that the world has enough clean water for future use |
| Life Cycle of the Butterfly  2.L.1.1, 2.L.1.2,  2.L.2.1, 2.L.2.2 | What Butterflies Can Tell Us  Some people are counting butterflies around the U.S. The people want to help keep some kinds of butterflies from dying out.  How Are the Butterflies Doing? \_  Scientists are counting butterflies to find out just how the insects—and the planet—are doing.  Trying To Save Plants and Animals  Leaders in Europe say that huge number of native plants and animals are threatened. Many say they should be saved  Butterflies on the Rise  The number of monarch butterflies migrating from Canada and the U.S. to Mexico rose in the winter of 2011  Bees: Don't Buzz Off!  Scientists are trying to figure out why so many honeybees are dying off.  The Lives of Ants  The National Museum of Natural History is filled with ants, but no one wants to get rid of them.  Zoo Welcomes Dragons!  Twenty-two baby Komodo dragons hatched at a zoo |

**3rd Grade**

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| **Big Idea** | **Suggested Achieve3000 Titles** |
| **Human Body**  3.L.1.1, 3.L.1.2, 3.P.1.1, 3.P.1.2, 3.P.1.3 | Staying Stronger Longer  Kids need sunlight and exercise for strong bones  What To Do With These Bones?  Charles Byrne was very tall. Doctors studied his body after he died. What should happen to his body now? |
| **Objects in the Sky**  3.E.1.1, 3.E.1.2, 3.E.2.1, 3.E.2.2**, 4.E.1.1, 4.E.1.2** | Pluto Is Changing  Pluto may be far away from the sun, but it's not boring. New photos of Pluto show that it is redder than before, and its ice is shifting.    Greetings From Mars  Curiosity has been exploring Mars since August 2012. It is already turning up information about the Red Planet.    Goodbye, Sunspots?  Scientists say big changes are happening in the sun.    The Search for New Planets  Two strange things have been found in space. What are they?    The Hubble Space Telescope  People know a lot about the planets, stars, and space. They learned a lot of it with the help of a NASA telescope. |
| **Changes**  **2.P.2.1, 2.P.2.2,**  **2.P.2.3**, 3.P.2.2,  3.P.2.3, 3.P.3.1,  3.P.3.2 | Pooch Power  Can dog waste be useful? One man used it to light up a dog park.  Drilling for Energy  One kind of energy comes from the earth's heat. Some want to use more of it.  Is Soot Melting the Snowy Arctic?  The North Pole is getting warmer. What could be causing it?  It's Lights Out for Some Bulbs  California has a new law about light bulbs.  Trouble in the Air in Wyoming  Dirty air is becoming a problem in Wyoming.  Goldman Takes the Cake  In 2013, Duff Goldman made a very special cake.  On Thin Ice  A huge ice shelf has broken away from an island in northern Canada. It is a sign that warming temperatures are changing the Arctic  Here Today, Gone Tomorrow?  Glacier National Park has celebrated its 100th birthday. The park isn't aging well. Many of its famous glaciers have melted. |
| **Plants and Soils**  3.L.2.1, 3.L.2.2,  3.L.2.3, 3.L.2.4 | The Magic of Snowy River  Some people are studying a strange find in a cave in New Mexico.  All About Dirt  Visitors to a Washington, D.C. museum can learn all about dirt.  Three Wonders of the World  Many people go to U.S. national parks each year. Learn about 3 of these parks.  There's Gold in That Ocean  Companies want to bring up gold, silver, and other metals from the sea floor.  The Power of Heat  Hot water found underground may be used to heat buildings and run machines.  A New Way To Grow Food  Scientists are growing crops indoors. This may help feed the world  Fresh Food on the Menu  More restaurants are growing their own fruits and vegetables in private gardens.  No Water? Grow Safflower!  What's a farmer to do when water is scarce? Grow a crop that doesn't need much water, like safflower |

**4th Grade**

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| **Big Idea** | **Suggested Achieve3000 Titles** |
| **Magnetism and Electricity**  4.P.1.1, 4.P.1.2, 4.P.2.1, 4.P.3.1, 4.P.3.2 | Power Up!  Researchers have developed a backpack that turns a hiker's energy into electricity |
| **Earth Materials**  4.E.2.1, 4.E.2.2, 4.P.2.1, 4.P.2.2, 4.P.2.3 | All About Dirt  Visitors to a Washington, D.C. museum can learn all about dirt.    There's Gold in That Ocean  Companies want to bring up gold, silver, and other metals from the sea floor.    Found! Huge Gem in North Carolina  Something interesting was found in North Carolina.    The Power of Heat  Hot water found underground may be used to heat buildings and run machines. |
| **Landforms**  4.E.2.1, 4.E.2.2,  4.E.2.3 | A Strange World, Right Here on Earth  In the deepest parts of the ocean, scientists found thousands of species they'd never seen before.  Where No One Has Gone Before  Explorer Charles Brewer Carías has made many discoveries in Venezuela—and he's not finished yet.  When a Flood Is Good News\*  Officials recently flooded the Grand Canyon in order to help save wildlife living in the canyon.  On Thin Ice  Many of the world's beautiful glaciers are disappearing. Most scientists believe that the melting is due to climate change. In this Bonus Lesson, you'll learn about some of these glaciers.  Here Today, Gone Tomorrow?  Glacier National Park recently celebrated its 100th birthday. The park isn't aging well. Many of its famous glaciers have melted.  Problems on the Mississippi  Not enough rain in the Midwest could hurt trade on the Mississippi River.  Saving Robin Hood's Forest  Sherwood Forest, made famous in tales of Robin Hood, is dying out. Some people have a plan to save it  Where No One Has Gone Before  Explorer Charles Brewer Carías has made many discoveries in Venezuela—and he's not finished yet. |
| **Animal Studies**  4.L.1.1, 4.L.1.2,  4.L.1.4, 4.L.2.1, 4.L.2.2 | There's a New Squirrel in Town  Researchers study squirrels as they react to the behavior of a mechanical squirrel.  The Perfect Apple?  Researchers at Cornell University are using new technology to try to develop a better apple.  Honeybee Hotel  As a part of New York City's "go-green" efforts, a famous hotel in Manhattan has some unusual guests.  The Polar Bear Problem  Some U.S. leaders want to help polar bears in Alaska.  What's Hiding on Borneo?  The island of Borneo is home to tons of plants and animals, including some that are newly discovered. Scientists hope to save the rainforest where many of these live.  Eagles Fly High Again  The number of bald eagles in the U.S. is back up  Small Animals, Big News  In 2012, scientists discovered a family of amphibians in the distant forests of India.  Animals Can Dance!  Scientists have found that some animals can dance to the beat of music  Trying To Save Plants and Animals  Leaders in Europe say that huge number of native plants and animals are threatened. Many say they should be saved  Where Have You Been, Lizard?  Scientists have discovered a new kind of lizard in the forests of the Philippines. |

**5th Grade**

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| **Big Idea** | **Suggested Achieve3000 Titles** |
| **Motion and Design**  5.P.1.1, 5.P.1.2, 5.P.1.3, 5.P.1.4, 5.P.2.2, 5.P.2.3 | Cars of the Future?  In this Bonus Lesson, you'll read about two cars. One is called the sQuba. It travels on land and underwater. The second is called the iChange.    The Ice Slide  Jill Bakken likes bobsledding. Others like the luge. In both sports, people go quickly down an ice track.    Big Race Put on Ice  Read a story about ice skating in the Netherlands!    Mia Hamm: A Leader in Women's Soccer  Many people believe that Mia Hamm is one of the greatest soccer players of all time. |
| **Human Body Systems**  5.L.1.1, 5.L.1.2, 5.L.3.1, 5.L.3.2 | Making Robots Come to Life  It took thousands of hours to make the giant robots for the latest Transformers movie.    Staying Strong in Space  It's hard to stay strong while living in space. What can astronauts do to keep fit?  Steps Towards Walking  A man hurt after being hit by a car can move again. It's all because of a new tool. |
| **Weather Systems**  5.E.1.1, 5.E.1.2,  5.E.1.3, 5.P.2.1,  5.P.3.1, 5.P.3.2 | No Water? No Problem  Texas has joined a growing number of places around the world that are removing salt from seawater to create drinking water.  U.S. Gets the Chills  In early 2014, very cold weather was surprisingly good for some parts of the U.S.  Hot, Hot, Hot  The summer of 2011 was a hot one in many parts of the U.S. Experts say this is because much of the nation was under a "heat dome."  Where's the Rain?  In the summer of 2009, parts of Texas suffered from severe drought conditions. Residents hoped that the water supply would last until the rain fell again.  Flying to Better Weather Forecasts  Would you like to know about the weather? Now, some airplanes can help.  Live From Antarctica  Students learned about Antarctica by speaking to a teacher who was there studying climate change.  No More Snow Days?  Some schools are experimenting with online learning on days when stormy weather keeps students at home.  A Quick Melt  A new study shows that the ice sheets at the North and South Poles are melting faster than in the 1990s |
| **Ecosystems**  5.L.1.3, 5.L.1.1,  5.L.2.1, 5.L.2.2, 5.L.2.3, 5.P.3.1 | Without a Plan, U.S. Oceans in Deep Water\*  Federal researchers say the U.S. must create a plan that outlines the activities that are allowed in various coastal waters.  Safety in Numbers\*  The federal government has proposed protection for a group of 48 species.  A Surprise on the Sea Floor  Scientists have found 7 new species of bamboo coral in the ocean near Hawaii.  Gone Fishing\*  In an effort to preserve ecosystems, the stocking of nonnative fish has been banned in the lakes of North Cascades National Park.  Paris Zoo Redo  The Paris Zoo was closed in 2008 because it was falling apart. Now, officials are building a better zoo for the animals and the public.  Trying To Save Plants and Animals\*  Officials in Europe say that hundreds of the continent's native plants and animals are endangered.  A Mess at Sea  Trash dragged into the Pacific Ocean by the 2011 tsunami in Japan could reach Hawaii by late 2012 and the U.S. mainland by 2013, if not sooner.  Looking for Food  A drainage basin being built in the Netherlands prompted a study to find out how far mosquitoes travel. Researchers were surprised by their findings.  The Polar Bear Problem  Some U.S. leaders want to help polar bears in Alaska.  [Stop the Beetle!](http://portal.achieve3000.com/kb/lesson/?lid=15127&c=62&origin=search&asn=1)  Two groups are working together to save trees  Small Elephants, Big Problems \*  Farmers and loggers are destroying Borneo's lowland forest, affecting the country's pygmy elephants.  Snowy Owls Fly South  Snowy owls, a species that is native to the Arctic, have been spotted across the U.S.  Saving the Red Apes  Rainforests are rapidly being changed into palm oil farms. Because of this, orangutans may soon disappear forever.  Flying By the Sun  The Solar Impulse, a plane that is powered by the energy of the sun, completed a test flight. Next, its creators want to fly a solar-powered plane around the world |