Public Works Works for You!

You might ask “What is public works?” Public works are services provided to the public, used by the public, and usually paid for by their tax dollars.

Public works can be found all around you. It is transportation (how people travel), construction (how public facilities are built), water and wastewater (how water is cleaned and goes through pipes) and more. You might have seen or used public works projects without knowing who did the work.

Remember, it’s because of public works that your community is a better, safer place to live, work, and play. Look at these pictures—are any of these services familiar to you?
What Is National Public Works Week?

Are you ready for National Public Works Week? We are! In fact, we are so excited; we want you to celebrate with us. National Public Works Week (NPWW) began in 1960. It is celebrated the third full week of May, which this year is May 19–25, 2013, in cities all over North America! What is it that we celebrate? The men and women of public works, of course! NPWW is when we think of all of the great things that the people of public works do. Why do they do them? To make your community a better place to live, work, and play.

NPWW ‘13 Theme: Because of Public Works...

The theme for this year’s NPWW is “Because of Public Works...” This theme is just the beginning of many important sentences. For example... “Because of Public Works we have clean water to drink.” Or, “Because of Public Works the landfills contain less recyclable material.” Of course, this theme is also the end of great sentences like, “The icy roads were made drivable because of public works.” Or... “No one was hurt by the downed power line because of public works.” The list goes on and on.

The next time you walk down a sidewalk, play in a public park, or ride your bike down a bike path... stop! Take a breath. Look around. And discover how many things you see, use, and enjoy everyday... because of public works.

Public Works SuDoku

Because of public works, there are so many colorful signs, symbols, and objects all around your city. Some of these objects are printed in this challenging SuDoku puzzle!

Rules: Draw each of the objects to complete the puzzle. Every row (left to right) must contain exactly one of each object. All the while, each column (top to bottom) should contain one of each object, too. When you're done, you'll know that you solved the puzzle when every 2 x 3 grid also contains one of each object!
A Visit from Sandy
When 2012’s Hurricane Sandy struck the northeast coast, public works employees were ready for action! Everyone from emergency services to parks and recreation. From transportation to waste collection.

Here are some of the many things that come into play when an unruly guest blows in to town.

Early Warning
The storm’s path is tracked carefully through the National Weather Service. This gives public works officials valuable information as they ask:
• Should shelters be created for citizens?
• Will sandbags be needed for flooding?
• How much fuel should be gathered for generators and vehicles?

Preparation
Public works equipment and teams are assembled. Lines of communication are created with community leaders. These leaders can be:
• the mayor
• the public works director
• the police chief
• the fire chief
• and even the governor.

Public works employees prepare the city by:
• Setting up shelters and comfort stations
• Preparing emergency fuel vehicles
• Getting ready for possible flooding
• Preparing for loss of power and water
• Assembling crews and supplies to repair roads, bridges, and public buildings

If an evacuation is needed, all departments work together to clear routes and provide transportation. The police, public works, and the fire department make sure everyone gets out safely.

Evacuation – when citizens leave a dangerous area

This is the hurricane evacuation route symbol.

Re-Entry Operations
After the storm, teams are sent in for search and rescue operations. Other workers inspect the area for health and safety.

Public works plays a big role with re-entry operations. They remove debris from roads, clear downed electrical wires, and help divert floodwater.

After areas are deemed safe, there is a controlled re-entry of citizens.

Clean Up
Roadways are cleared so public works crews can begin repairs. Bridges and roads are inspected for damage. Debris is removed from streets and drainage basins.

Because of public works, the storm-ravaged city will be back to normal as soon as possible!
A Boring Beetle

How can a beetle no larger than a penny cause so much trouble?

In October of 2012, nearly fifty ash trees had to be removed from the Village of Barrington, Illinois. The Barrington Public Works Department inspected over seven thousand parkway trees and discovered that many trees were infected by a bothersome beetle called the *emerald ash borer*.

The beetle is called *emerald* because of its sparkling green color. The “Ash” in its name comes from its favorite tasty tree—the ash tree. And it’s a borer, not because it puts people to sleep with boring conversation. No, it bores, or gets under, tree bark, eventually killing the entire tree.

The public works employees could treat the trees, but there was no guarantee that the trees would survive. Instead, they decided to replace the trees to save time and money. Because of the public works department, the City of Barrington parkways will have plenty of healthy ash trees to keep the scenery beautiful as well as break up some of the street noise.

Now, let’s follow its life cycle and discover some interesting facts about this not-so-boring beetle...

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**Adult Beetle**

The beetle was first discovered in the U.S. near Detroit in the summer of 2002. The pesky insect is suspected to have come from Asia in wood packing material.

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**Emerald Ash Borer Beetle Life Cycle**

- **Eggs**
  - The adults lay eggs in clusters on the bark of ash trees. One beetle can lay up to 275 eggs!
- **Larva**
  - Once the eggs hatch, the beetle larvae bore into the tree. This is where the damage happens. A larva really chews down on the tree’s inner bark. Its S-shaped tunnels interfere with the tree’s ability to transport essential water and nutrients.
- **Pupa**
  - The larva takes a break from eating after it has carved out a wide chamber under the bark. Then it becomes a pupa living in a protective covering for 28 days—slowly changing into an adult beetle.
- **Adult Beetle**
  - The beetle was first discovered in the U.S. near Detroit in the summer of 2002. The pesky insect is suspected to have come from Asia in wood packing material.

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There’s one bird that finds both the larvae and pupae quite tasty – the woodpecker.

So there you have it. The life of the tiny beetle that has killed millions and millions of ash trees across North America. Actually, the adult beetle barely nibbles on the tree leaves. As you learned from the life cycle, the larvae are the real culprits. Maybe the public works department of Barrington, Illinois, should put some woodpeckers on the payroll to help keep their parkways full of beautiful ash trees!
Hey there, Chopper. What do you have there? Whoa, that’s not the best toy for little dogs.

Let me give you something else to chew on...like where this bottle ends up after the public works recycling program gets hold of it!

That plastic bottle of yours gets taken to a recycling center along with paper, glass, and metal cans.

Once the plastic bottles are separated out, they get their labels removed and are cleaned.

The clean bottles are shredded and then melted down into little plastic pellets. These pellets are sold to companies all over the world, including…

...dog toy factories! Because of public works employees, you can chew on a fun dog toy instead!

Did You Know…

…it takes nearly 700 years for a plastic bottle to degrade in a landfill?

…recycling 1 ton of plastic bottles frees up 7.4 cubic yards of landfill space?

…Americans use approximately 4 million plastic bottles every hour?

…and only about 1 million of them will be recycled?
Ramping Up with New Technology!
The public works department of Minneapolis, Minnesota, saved a quarter of a million dollars by using iPads to inventory the city’s 15,000 pedestrian curb ramps.

Using the iPads to photograph each curb ramp, a database was created for later use. Now public works employees can pull up any curb ramp in the city to see if it is in need of repair or improvement. Because of public works, citizens in wheelchairs will have an easier time traveling the Minneapolis sidewalks.

Help Jessica get to school by using the sidewalks, crosswalks, and curb ramps. When you’re done, count all the curb ramps and see how many you can inventory!

Draw P.W. PAWS
Public works handles the “big picture” by taking care of little things everywhere. You can do the same to draw P.W. PAWS! Use the grid system to copy the lines in each square. Just like the men and women of public works, after you copy all the smaller squares, you’ll take care of the big picture, too!
Publicus Workus

Public works has been around much longer than you think.

“Is it 100 years old?”
“Maybe 200 years old?”
“How about 500?”

Try more than two thousand!

That’s right! People throughout the ages have lived better lives because of public works. And it goes all the way back to Ancient Rome.

Roman Aqueducts

The aqueducts were a series of channels, ducts, and pipes that supplied Rome with water. As the city grew, local lakes and wells became polluted with sewage.

Luckily, the crafty Romans figured out a way to get water from lakes and rivers from miles away. Their engineering was so solid, that parts of the aqueduct system are still in use today!

Roman Sewers

Bringing in clean water with aqueducts wasn’t enough; they had to get rid of the dirty water and waste, too. Ancient Rome solved that problem with the Cloaca Maxima (or Great Sewer).

The Cloaca Maxima was a large system that originally directed storm water into a large channel. The runoff then dumped into the Tiber River. Later, public baths and toilets were tied into the system. Even some private homes were connected.

The ancient Romans didn’t have any way to treat sewage the way public works does today. But flushing it out of the city was better than having it stick around to make people ill.

These days, we enjoy many of the same benefits as the ancient Romans. And, because of public works employees and departments, we have cleaner lakes and rivers to boot!

Aqueduct facts:
• Total length: 260 miles below ground, 30 miles above ground.
• The Curator Aquarium was the title of the person in charge of the aqueducts.
• The aqueducts could provide as much as 220 gallons of water for every person in Rome.

Roman Sewer Facts:
• Engineers even used the sewer’s underground pipeline to drain marshes from nearby villages.
• In some of the public toilets, a Roman citizen sat side-by-side with up to twenty other people.
• Before public sewers, many ancient citizens simply dumped their sewage out of windows and onto the street. Look out below!
Where's Chipper?

Chipper is hidden 12 times in this scene. How many can you find?

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