

# TechEd2Go's Pathfinders Kits

To order, please email your selection to [john@teched2go.com](mailto:john@teched2go.com) or call 901-212-3715.

## Roman Ballista:

The ballista was a powerful weapon – originally invented by the Greeks over 2000 years ago and widely used by the Romans in battles and sieges. Using the stored energy in twisted sinew the ballista helped the Roman Empire take on and conquer countries all over Europe!

Based on drawings and written records (but not here-say – we only use facts in our historical kits!), this Ballista re-creates the way in which torsion powered weapons worked, and can fire the small wooden projectiles over 15 feet!



Item # D-50 - Price \$22.00

## Roman Catapult:

Originally invented by the Greeks\* over 2000 years ago and widely used by the Romans in battles and sieges, the Catapult had many different methods of launching projectiles. During the Roman Empire the Catapult was refined and improved and this model represents a smaller version of a common catapult style of the time.

Based on drawings and written records, this catapult re-creates the way in which tension powered siege engines worked and can fire small clay balls (included) and other soft projectiles – over 15 feet!



Item # D-52 - Price \$22.00

## Trojan Horse:

Ancient Greek legends have many references to the Trojan Horse – a huge wooden horse that was left in Troy – with warriors inside. When it was brought into the walled city, the warriors came out (late at night when everyone was asleep) and took over and opened the doors to the entrances – allowing the the Greek warriors hiding in the area (outside the walls) to overrun the city. Based on drawings and written records, this Trojan Horse model allows you to re-create one of the most epic tales of ancient Troy – although on a much smaller scale.



Item # D-51 - Price \$24.00

## YouTopia:

Dioramas over the ages have taken many forms, from the early Japanese art of Tatebanko – diorama boxes made of paper, to the shoe box one that you made in kindergarden, and those cool ones in museums that show scenes of early civilizations and animals in their natural environment. We took all of that history, and mixed it up with a bit of mechanics and made it open-ended so you can make your own one – and it moves! See, science and art (and nature) can play together!



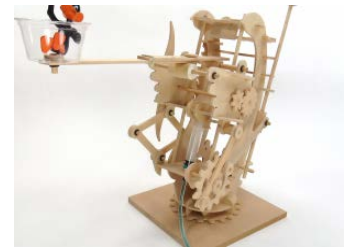
Item # D-40 - Price \$21.00

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## Hydraulic Gearbot:

Hydraulic Gearbots are not all that common, but the fun thing about this one is that it is relatively easy to make, will amaze your friends, and you can toss popcorn around when your parents are not home (if you are a parent don't read that last sentence). Also, your gearbot will be able to launch marshmallows at friends for fun and profit (OK, maybe not profit). There is information about the different gears at the end, and if you read it our researchers said you could be 42% smarter!

Now Here!- and it was awarded "2016 Toy of the Year"- for building kits by Creative Child Magazine!



Item # D-39 - Price \$21.00

## Medieval Trebuchet:

Considered by many to be the most powerful and destructive of all the siege engines, the trebuchet took many forms throughout the Medieval world, hurling huge rocks, giant fireballs and even diseased animals at (and into) castles. This model, based on the Warwolf, is a tabletop working replica of a trebuchet made in the 13th Century. Standing 24 inches (60 cm) tall by 11 inches (27 cm wide) this model will shoot balls of plasticine (included) over 20 feet! Please be careful of what (or whom) you take aim on, this thing can really let loose.

An easy to make and use kit, with the pieces pegged for extra strength, this is a great kit for family learning about counterweights and projectiles, and is a great resource for STEM activities!



Item # 22 - Price \$24.00

## Medieval Siege Tower:

The Siege Tower was used by invading armies to breach the walls of the castle they were attacking. They varied in size and construction (some up to 135 feet tall!) but the one we have here is typical of the styles used from about 900 BC to the medieval times as attackers tried to get over the walls of a castle.

This incredibly sturdy tabletop model will give hours (years!) of reliable sieging around the house and back yard. Like all of our kits, this one is pegged for great strength and authenticity and will give you that cool siege feeling with the firing catapult on the top.



Item # 21 - Price \$24.00

## Medieval Catapult:

The catapult has a long and interesting history. It has been around in many forms, evolving since about 400 BC. This model is based on the medieval styles that were used during the middle ages.

Standing 15 cm tall and 12 cm wide, this siege engine can shoot a plasticine ball over 15 feet! Adjustable pads on the crossbar allow you to change the trajectory angle. The rope, strung through the middle gives great power to the swing arm!



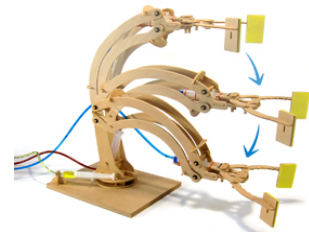
Item # 23 - Price \$21.00

# TechEd2Go's Pathfinders Kits

## Robotic Arm:

This robotic arm is an easy to make 3-dimensional model that grabs, lifts items horizontally, and can turn very close to 90 degrees! Designed to be used alone (with a nice syringe holder), or in a group – each person using one syringe.

A great way to learn about Robotics, Levers and Simple Machines, Fluid dynamics, Engineering, Invention, Design and Technology – or just moving things around the house. (Small things, mind you – no dogs or cats, please.)



Item # D-028 - Price \$21.00

## Hydraulics 4-in-1 Pack:

This kit contains 4 hydraulics kits in one mini-Mega box of fun. It's almost like getting 2 free kits!

These kits provide hours of interesting building and thoughtful use – building blocks, moving Lego people around the house, and for those who want to give their mouse the ride of his life! Kits included are: Mini Scissor Lift, Mini Platform Lifter, Mini Cherry Picker, and Mini Excavator



Item # D-005 - Price \$36.00

## Da Vinci Tank:

Leonardo Da Vinci was a prolific inventor and artist who came up with amazing ideas for machines to attack and defend the Lords and Dukes of the time. This armored tank is a unique design that had never been seen before and had an interesting drive train of gears to make it move. His gear design was technically incorrect, and many have hypothesized that he did it on purpose (in case the drawings were found by an enemy), and others thought that he did not understand what he had done. Judging by the incredible detail on so many of his machines drawings, it is unlikely he didn't know what he was doing, perhaps he was just having some fun!



Item # D-38 - Price \$21.00

## Da Vinci Trebuchet:

While Trebuchets were common siege engines in Medieval Times, Leonardo's take on the most powerful weapon of the time was unique – his design used one main mast, different from all others before!

Based on his drawing from the Codex Atlanticus, da Vinci's Trebuchet was a design likely made for the Duke of Milan in about 1482, to impress the Duke of his skills as a military engineer. While it is not known if it was ever used in battle, you can bring Leonardo's trebuchet to life with this working model!



Item # D-32 - Price \$22.00

## Da Vinci Ornithopter:

Flying has always been a dream of humans, and Leonardo's fascination with birds and flight was evident in his studies of birds and different human powered flying machines. His ornithopter design has captured the imagination of people for generations, and we have combined his cool flying machine with one of his bevel gear designs to make a neat working model with flapping wings and a pilot with moving arms and legs.

While it remains a mystery if his ornithopter design was ever fully made or tested at the time, there are many ideas (hanging in museums around the world!) of what it might have looked like, and we have added our ideas as well.



Item # D-18 - Price \$25.00

## TechEd2Go's Pathfinders Kits

### Da Vinci Catapult:

This catapult is one of da Vinci's redesigns from the medieval catapults of 400 or so years earlier.

While the Medieval catapult we made uses the force of twisted rope, this uses the tension stored in bent wood to hurl objects – usually over 15 feet. With no modifications you can experiment with flinging grapes, and those fun mini marshmallows too! A great way to introduce graphing for kids!



Item # D-17 - Price \$21.00

### Da Vinci Helicopter:

One of Leonardo's most iconic images, the Aerial Screw (also known as the Helicopter) illustrates the ingenuity of da Vinci, and indicates (along with many other drawings!) his obsession with flying. While this idea may never have got off the ground, for some basic technical reasons, it gave us an insight into the different ways in which Leonardo considered the challenge of human powered flying, and defines him as an inventor well ahead of his time.

While it is often referred to as a helicopter, the premise of the lift to make it rise is more like Archimedes' screw than the rotors of a helicopter. Our model uses one of the bevel gears he drew in his codices and creates a nice 2 to 1 increase in speed of the crankshaft, so the mast spins quickly, illustrating the manner in which this machine would have worked.

A great kit for beginner to advanced model makers, this is a great way to learn about gears, flight and brings Leonardo's iconic drawing to life. Takes between 1 and 3 hours to make. (Glue has to dry!) This is a great project that works well and looks really cool on the shelf!



Item # D-19 - Price \$22.00

### Da Vinci Bridge:

The Leonardo Emergency Bridge is finally here! Designed to be set up and removed quickly by armies (Lego armies for this bridge). This is a simple kit, yet elegant in design, and one of his many designs.



Item # D-29 - Price \$11.00

### Lift Bridge:

One of the most common types of bridges for freight trains, our Truss Design Lift Bridge is a working replica of the many lift bridges that have been made over the last 100 years.

Lift bridges became the workhorses of the freight railroads for many years as rail lines expanded over the rivers and ports of the world. The design was particularly useful in areas where there was no room for a bridge to swing, such as a busy industrial port. This bridge uses a small handle and crankshaft to lift the center span to the top of the truss structure, allowing trolleys and other vehicles to safely pass between the two ends. The kit can be mostly made without glue and taken apart for storage. Snug slot construction and accurate cutting makes this possible!



Item # D-12 - Price \$17.00

## TechEd2Go's Pathfinders Kits

### Swing Bridge:

Based on the classic design at Newcastle-upon-Tyne in the UK, this elegant design has been used for hundreds years around the world. In fact, Leonardo da Vinci invented a swing bridge in the 1400's! Swing bridges are still used widely around the world.

Using a wooden bevel gear, this bridge swings open and closed, just like a real swing bridge.

Great for wooden trains and car sets, kids can learn about gears and have the neatest bridge on the block. Sir Topham Hatt and Thomas would be very impressed, as this bridge works to get trains there and back (in a hurry!), and has room for a Lego or other bridge keepers in the control center over the bridge.



Item # D-14 - Price \$17.00

### Strauss Trunnion Bridge:

Probably the coolest bridge we make, this is a replica of the Joseph Strauss design that was made all over North America in the 1920's and 1930's. Well known bridges of this type are the Johnston Street (Blue Bridge) in Victoria, B.C., Wishka River bridge in Washington, the Ashtaula Bridge in Ohio, the Cherry Street bridge in Toronto and the Third Street Bridge in San Francisco.

Sized to fit wooden train sets, this bridge is an elegant reminder of the cool truss bridges that used to be built years ago and are still in use! Great to use for school bridge studies and to learn more about interesting linkages, this kit will bring a new level of sophistication to playing with wooden cars and trains. Graffiti is not included, but that gives you the chance to be creative!



Item # D-15 - Price \$17.00

### Flying Unicorn:

The Flying Unicorn, also known as the Alicorn, has been a mythical creature through the ages – from Greek myths to modern day Princess Celestia and Swift Wind. We pay homage to the Unicorns that grace the coats of arms of many nations, and call on you to explore your magical art skills and make and paint this whimsical beast. Easy to assemble in an hour or two, this kit uses a single linkage to make the movement. There is even a unicorn-head shaped window to see how the crankshaft works. A great STEAM kit – combining art and science!

Designed for kids of all ages to explore the principles of mechanics, get some hands-on model making skills and celebrate the free spirit of the flying Unicorn!

As with all of our automata, it is easy to make and fun to play with. A great gift for unicorn enthusiasts and those who want to be a unicorn owner at a fraction of the cost. (Like all of our hoofed animal automata kits, this one has been pre-fed and could run for years!)



Item # 36 - Price \$15.00



## TechEd2Go's Pathfinders Kits

### Enter The Dragon:

Our final uber-automata kit, the flying dragon brings to life the dragons of our imaginations.

With the turn of the crankshaft the body moves forward and back, while the wings flap, the legs move up and down, and the neck, tail and head move in a graceful motion. Paint it to resemble your favourite dragon and fly away!

Not as easy to construct as the running horse and flying pig, but well worth the effort, this is an impressive kit that is fun to make and cool to use. Decorate with markers, feathers, bottle caps or sequins and make a statement! Have a look at the Gallery to see some cool ones!



Item # D-9 - Price \$21.00

### Pet Pteranodon:

Winging its way in from prehistoric days is our new pteranodon automata.

A fun automata with a wide wingspan of 30 cm, this pteranodon brings to life the graceful majesty of a bygone time when dinosaurs ruled the Earth and space travel was just a mere thought in minds of the T-Rex.

Easy to assemble in an hour or so, this is a great gift for those dinosaur lovers who have everything. With a little window to look inside the box, youngsters can see the movement of the linkage. Paint it to resemble your favorite pteranodon, or add feathers and a hat to astound your friends and confuse your enemies.



Item # 236 - Price \$21.00

### Running Horse:

A part of North American tradition, running horses have been featured in western movies, fairy tales, constellations, and fancy drinks with umbrellas. We pay homage to the running horse with a cool automaton that beckons you to turn the handle and run like the wind!

You can colour it with magic markers, or even paint it up to resemble a zebra or unicorn. Easy to assemble in an hour or two, this kit uses a single linkage to make the movement. There is even a horse head shaped window to see how the crankshaft works.



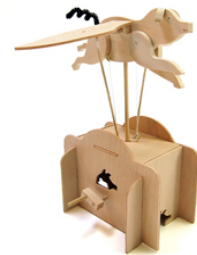
Item # 234 - Price \$15.00

### Flying Pig:

"When Pigs can fly!" has been a common term for those of us who find things unbelievable, but now that we have made one fly – everything is possible!

This easy to make kit has a fun and whimsical action; as the legs move and the wings flap, the pig makes an elegant circular motion and moves up and down. Paint it up to resemble your favourite pig super-hero, like Spider Pig, or even that greek Pig-God - "Pigasus!"

Takes about an hour or two to make, and you can use your own paint, feathers, googly eyes or pencil crayons to make your own flying pig come to life.



Item # 235 - Price \$15.00

## TechEd2Go's Pathfinders Kits

### **StoryTime Dinosaur Puzzle:**

A rich new style of open-ended puzzle designed to bring out the creativity and imagination of children!

This innovative wooden puzzle has a base with circular pieces, so the dinosaurs that stand up can turn in every direction. The child can create a new story each time they make the puzzle!

Complete with great information cards and activities for learning for both teachers and parents. Also includes a draw string canvas bag for easy storage of pieces! Printed on both sides, pieces can be removed from the puzzle and stand on their own.



Item # D-33 - Price \$13.00