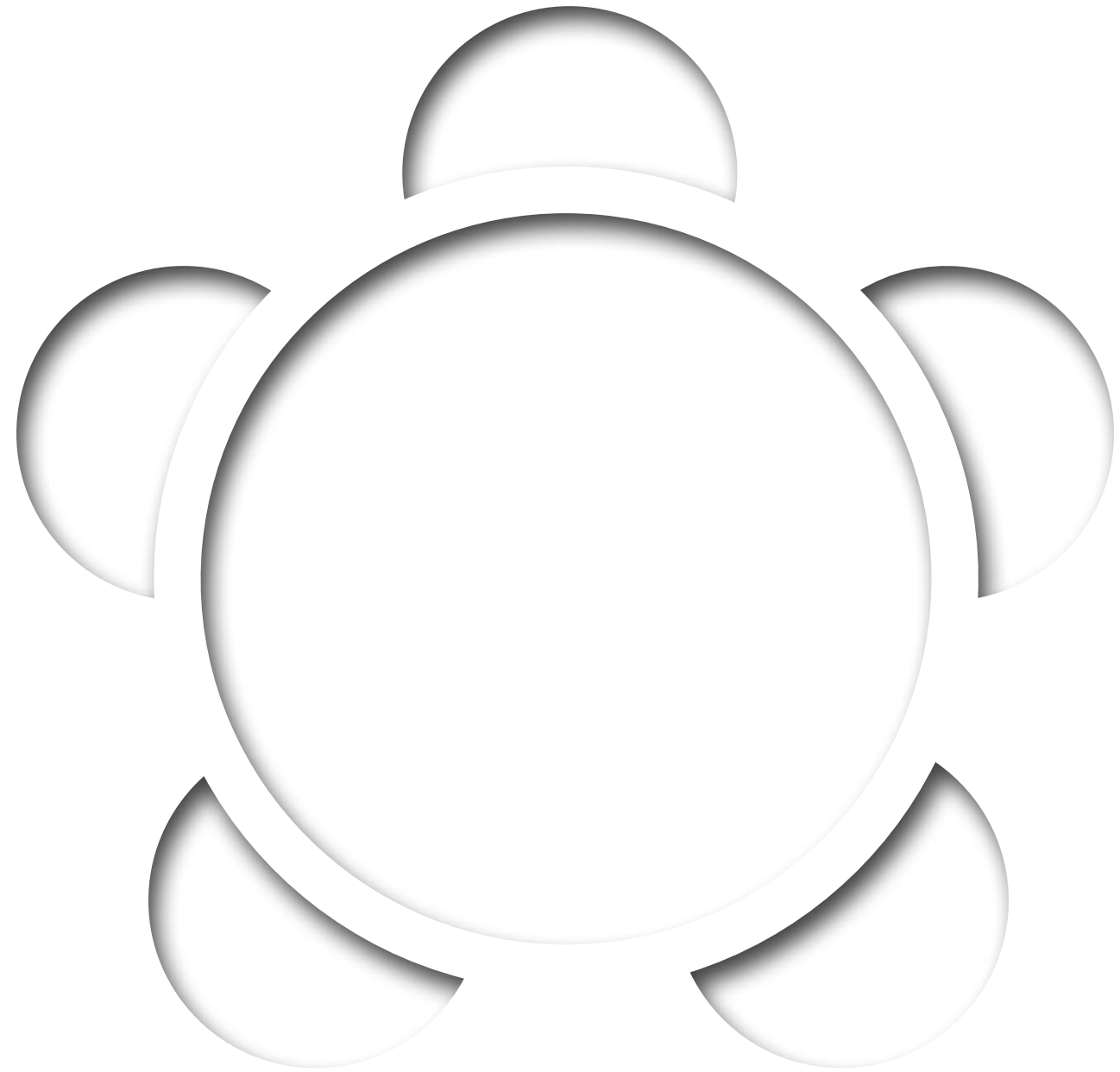


# PRODUCT CATALOGUE



**ABA SCIENCE PLAY**  
Playgrounds of Tomorrow



# PRODUCT CATALOGUE



[aba-scienceplay.com](http://aba-scienceplay.com)



**ABA SCIENCE PLAY**  
Playgrounds of Tomorrow



**PLAY**  
**LEARN**  
**CARE**

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# Playgrounds of Tomorrow



## Our Vision

A.B.A. Science Play heralds a revolution in outdoor play equipment for children of all ages, bringing interactive play and learning to the playground as never before.

The company brings to the market a totally new concept of playground equipment for sale globally. The play equipment combines conventional fun play with the added attraction of hands-on learning and acquisition of scientific knowledge of the world we live in and our environment.

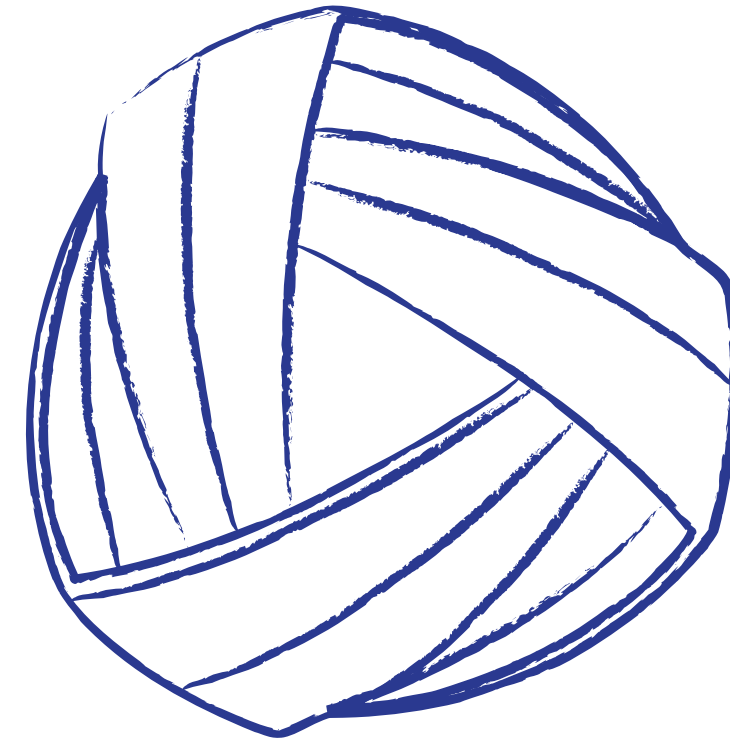
More and more children nowadays are playing interactively on computers and at A.B.A we took this interactive play into the world of outdoor play. In addition to existing playground equipment, A.B.A introduces visual and audio elements, electronic components, water, light, solar energy, and much more.

Playgrounds will encourage combined playing activities for children and parents accompanying them, strengthening the bonds between parent and child through play.

You are invited to join us and enter this new realm of Fun & Learning.



# Our Vision



## KEY ELEMENTS



## KEY ELEMENTS

Fun & Play

Scientific Knowledge

Our Environment & the World We Live In



## Challenging Environment Brings Long Lasting Fun

Our playgrounds include conventional play items such as slides, swings and carousels alongside innovative play structures. We construct stimulating environments to constantly attract children of all ages to participate in our world of fun.



# Fun & Play

## Joint Parent & Child Experience

The parks are designed to incorporate many elements to attract parents to join their children and participate in joint activities that will strengthen the parent & child bond.

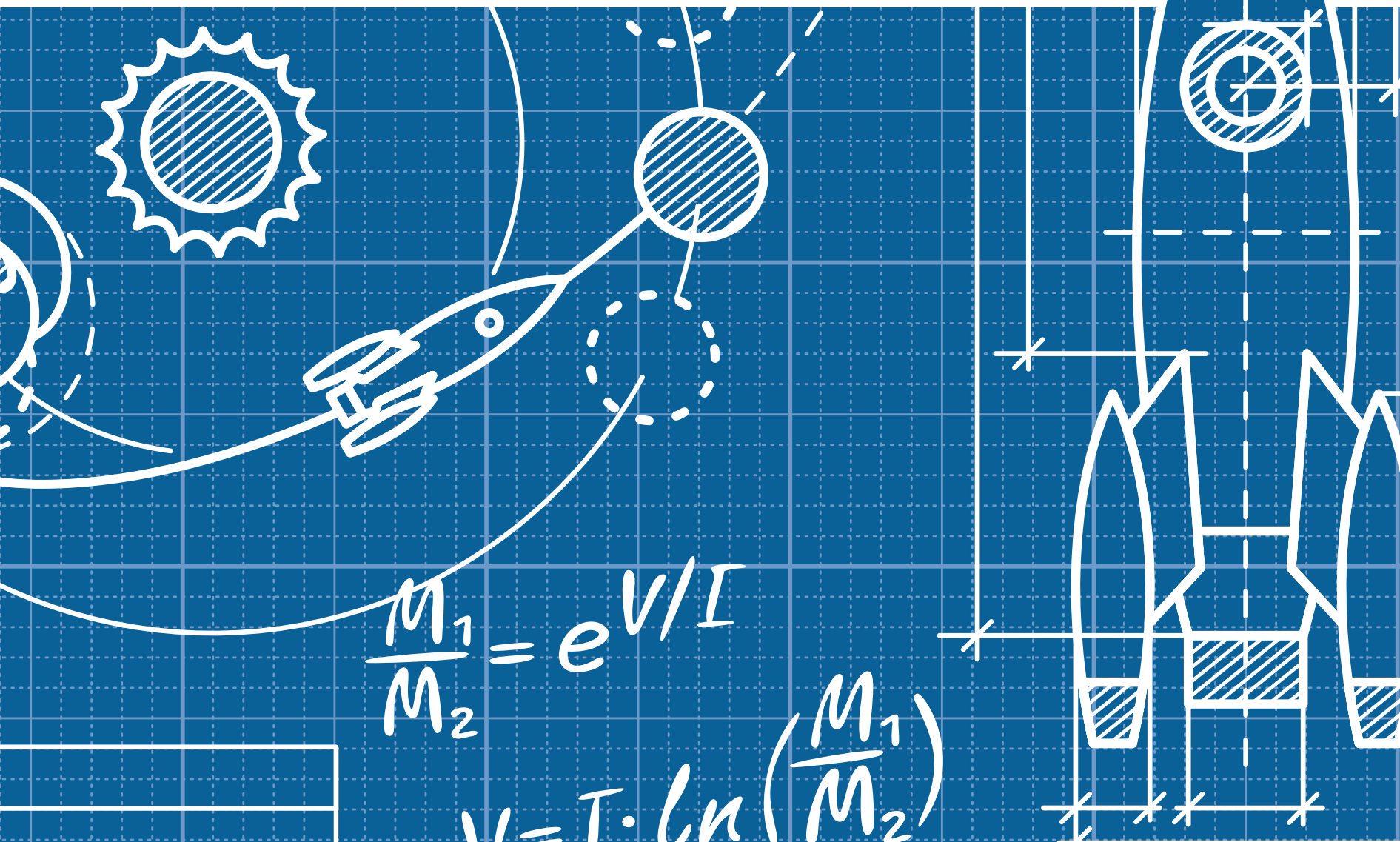


# Understanding the Laws of Physics

The wide range of play items demonstrates the basic laws of science and the world around us, integrating them into the play equipment.

The equipment demonstrates phenomena such as centrifugal forces, Pascal's laws, aerodynamics, reflection and absorption of light and heat, energy production and many more principles taken from the school curriculum.

More Scientific, More Stimulating, More Fun



Scientific Knowledge





# Our Environment



## Electric Components, No Electricity

The elements of the equipment need a power source to function. All power is derived from alternate clean energy sources such as kinetic energy, wind and solar power. During play time, the children experience the self generation of electricity, when their activities generate energy that is captured and transformed into electricity.

Many of the products include vocal narration that explains different insights and ideas relevant to the product and is turned on during play.

Decorative and flashing lights accompany the products to create a festival of light.



## Look Around You, Know Where You Live

The play equipment offers explanations on Earth's geography, topography and demography. Phenomena such as tides, winds, seasons and time zones are explained. Light and darkness, movement of the sun, earth and moon and planets of our galaxy can be understood with hand-on interactive play.

The line of products includes dozens of environmental elements, physical phenomena and explanatory items on our Universe. The playgrounds also reinforce awareness for recycling and preserving our planet.



### UP IN THE AIR

Cockpit | Flying High | Moon Walk | Twister

### CONVENTIONAL, OR IS IT?

Swinging Harmony | Spinning Universe  
Seesaw | Elevator Slide

### BALANCE

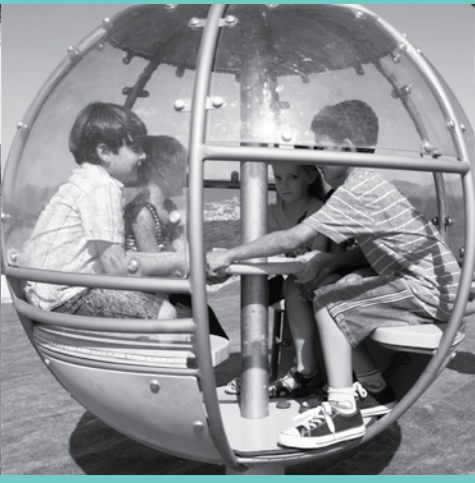
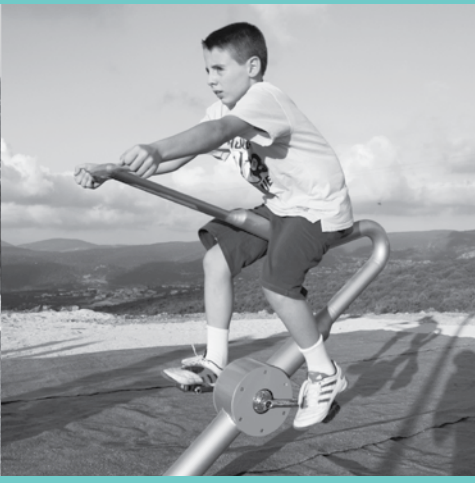
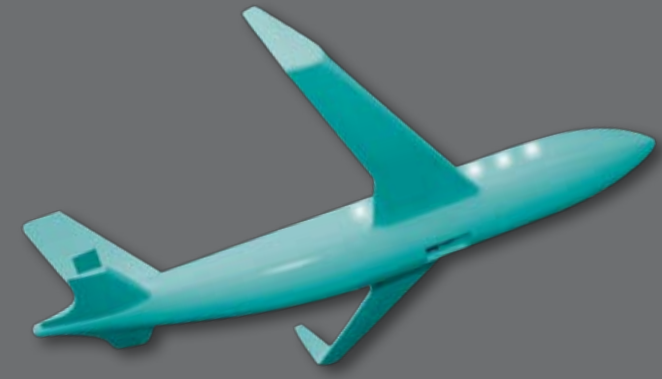
Simon Says | Pythagoras Treadmill  
Spider | Omega Zip-Line

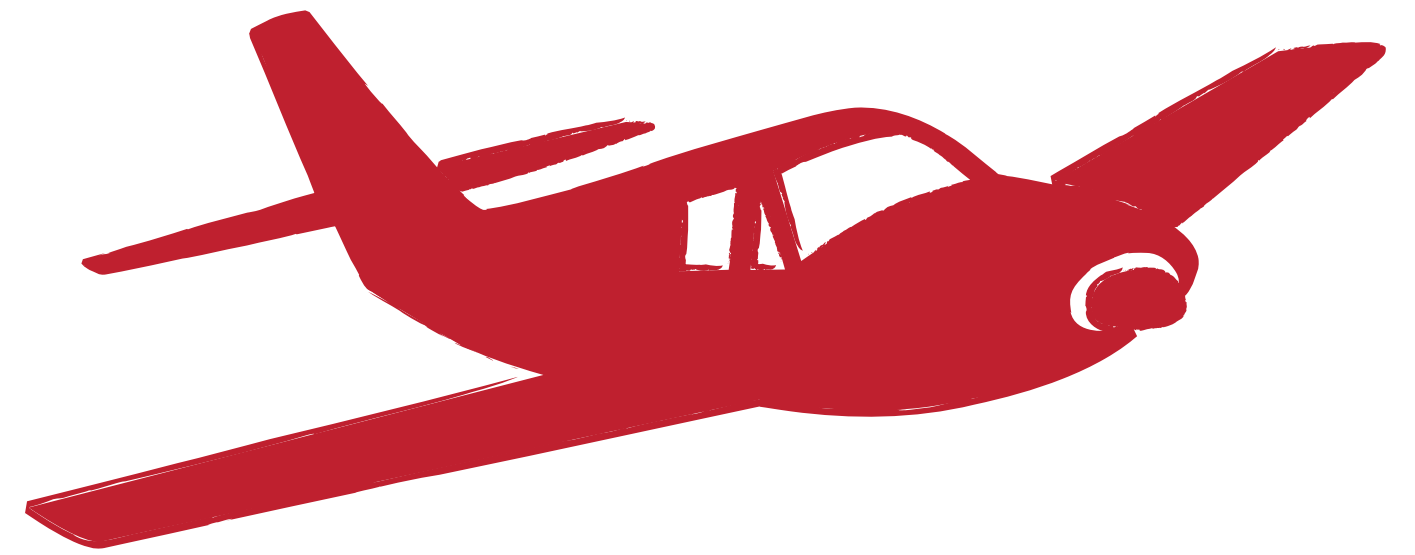
### SIT BACK AND RELAX

Mobius Bench | Pursuing the Sun  
What Goes Around Comes Around

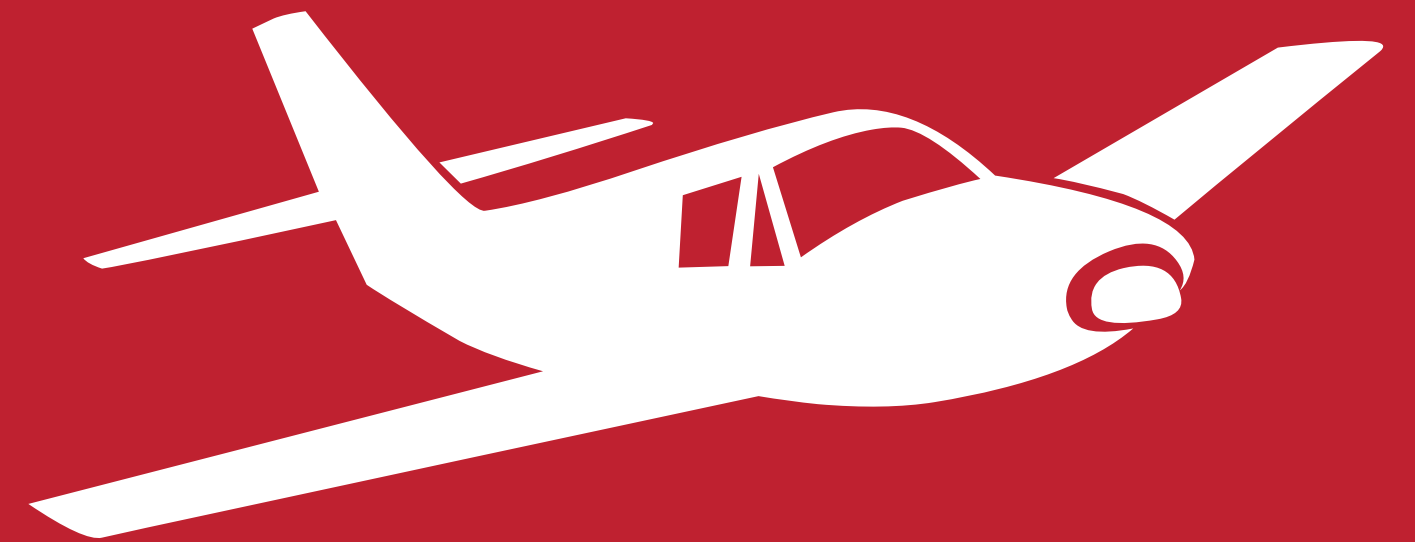


# Get to know our Products





**UP IN THE AIR**



## UP IN THE AIR

Cockpit

Flying High

Moon Walk





Twister

# Cockpit

Buckle up and get ready to take off in a chopper like apparatus  

A structure that simulates a helicopter's flight while sitting in a cockpit-like carrier. The child or adult will first elevate the apparatus by operating a handheld pump. Once airborne will pedal with their feet to initiate propeller motion and control the speed of flight. The energy generated by the manual work will be converted to light up the entire structure.

## Specification

 Age	4+
 Accomodates	1
 Area	49.0 Sq m   527.2 Sq ft
 Overall Height	4.2 m   13.78 ft

AVI-101a	Patent pending
 Overall Weight	580 Kg   1,276 lbs
 In Ground Depth*	1.2 m   3.94 ft
 Installation Time**	8 Hours

\*Including concrete foundation \*\*Not including concrete foundation

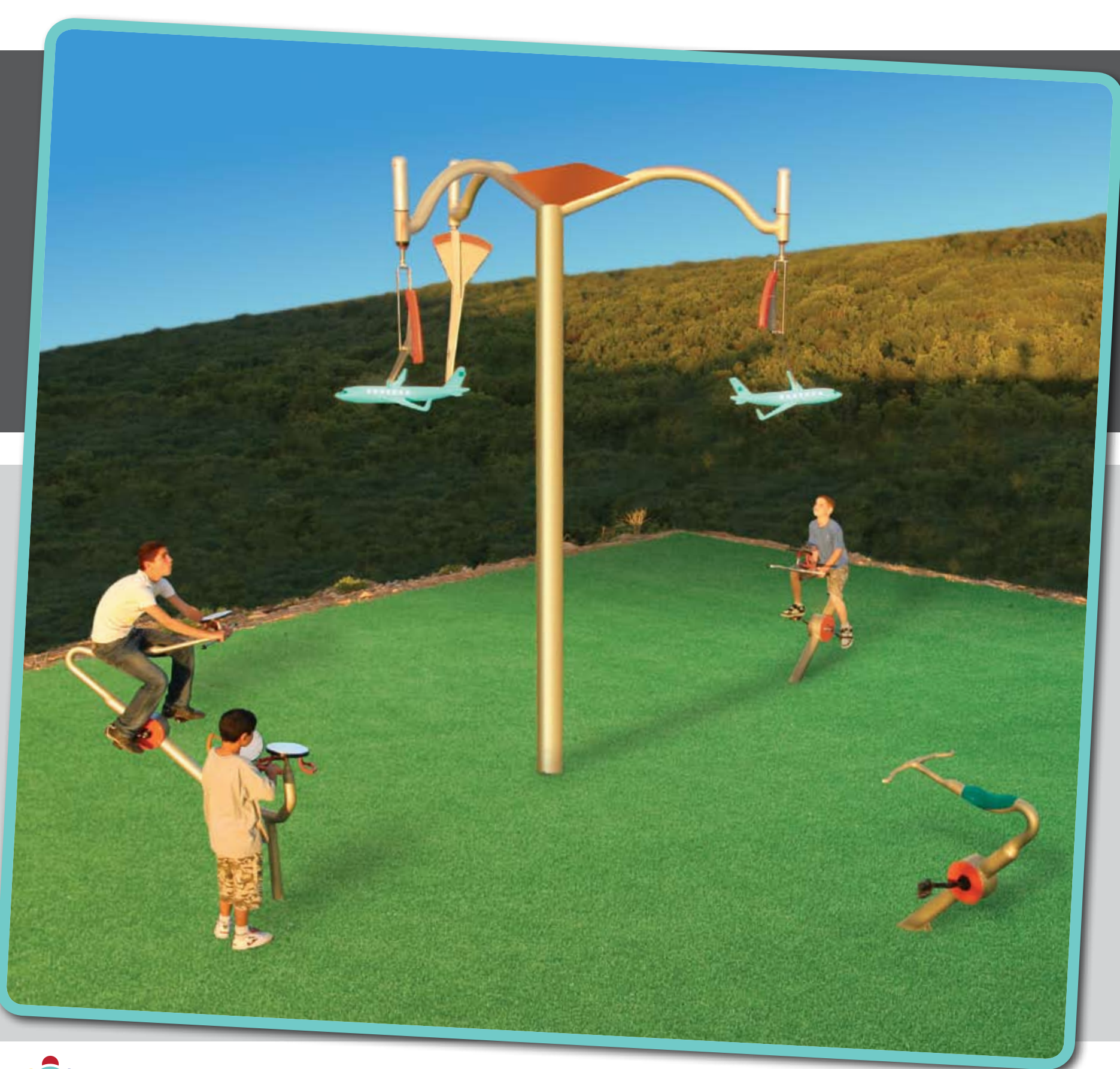
## Laws of Physics

Lift force • Torque • Centre of gravity  
Aerodynamics • Inertia

## Alternative Energy

Manual operation of a hydraulic system  
Electricity → Mechanic energy  
Lift Force → Mechanic energy





# Flying High

Manoeuvre solar plates to propel planes around



An interactive game, fun for adults and children alike, that requires coordination, with players competing against or cooperating with other players. Flying High requires players mount a bike and reflect sun's rays from mirrors onto undercarriage of planes producing energy to propel planes around, circling faster and higher. Centrifugal forces, light reflection, torque forces and solar energy as a power source are all demonstrated.



## Specification

Age	4+
Accommodates	1 - 3
Area	45.0 Sq m   484.2 Sq ft
Overall Height	4.9 m   16.07 ft

AVI-102a	Patent pending
Overall Weight	120 Kg   264 lbs
In Ground Depth*	1 m   3.28 ft
Installation Time**	8 Hours

\*Including concrete foundation \*\*Not including concrete foundation

## Laws of Physics

Optics • Gravity • Centrifugal force • Torque

## Our Planet and Universe

Speed of light

## Alternative Energy

Solar energy • Pedaling → Electricity









# Moon Walk

Exhilarating sense of reduced gravity, while spinning in mid-air  

A sitting harness hanging down from a centre pole. The child sits within the harness and jumps against a circular board to start spinning around the pole. The jumping motion simulates the reduced sense of gravity on the surface of the moon and illustrates various physical elements such as Newton's third law, gravity and more.



## Specification

 Age	4+
 Accomodates	1
 Area	28.3 Sq m   304.2 Sq ft
 Overall Height	3.7 m   12.14 ft

AVI-103a

 Overall Weight	100 Kg   220 lbs
 In Ground Depth*	1 m   3.28 ft
 Installation Time**	2 Hours

\*Including concrete foundation \*\*Not including concrete foundation

## Laws of Physics

Kinetic energy • Potential energy • Newton's third law (action = reaction)  
Gravity • Angular momentum • Gyro effect

## Our Planet and Universe

Hop like an astronaut on the moon





# Twister



Create your own private twister, while pedalling your bike

A cycling apparatus attached to a 6 feet tall, water filled cylinder. The cycling motion stirs the water within the cylinder to create a whirlpool effect. A child or adult may use the equipment by riding on one of the preset mono-cycles or even by attaching their own personal bicycles.



## Specification

👤 Age	4+
👥 Accomodates	1 - 3
📏 Area	45.0 Sq m   484.2 Sq ft
📏 Overall Height	1.0 m   3.28 ft

AVI-104a	Patent pending
⚖️ Overall Weight	70 Kg   154 lbs
⬇️ In Ground Depth*	0.7 m   2.30 ft
🕒 Installation Time**	4 Hours

\*Including concrete foundation \*\*Not including concrete foundation

## Laws of Physics

Coriolis effect • Centrifugal force • Inertia  
Liquid friction • Viscosity • Gravity

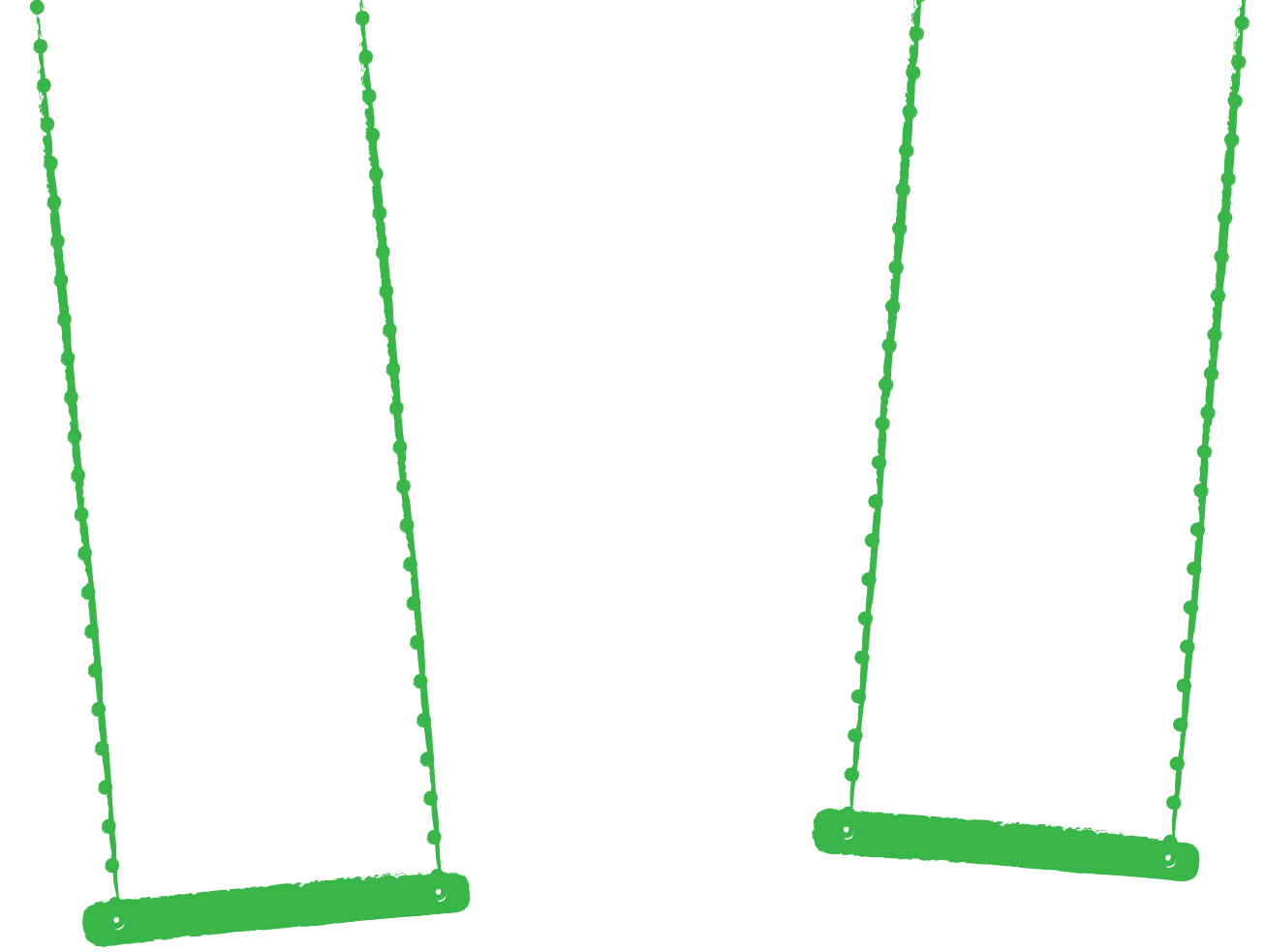
## Our Planet and Universe

Whirlpool • Tropical cyclone

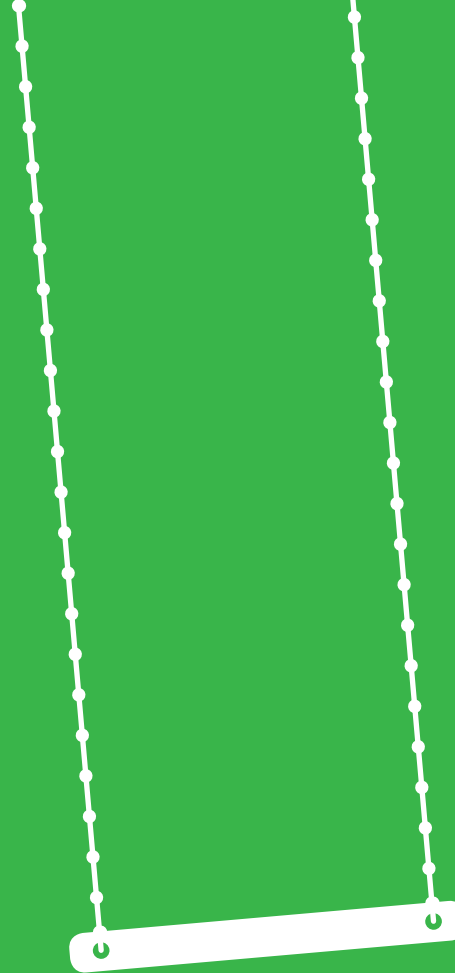
## Alternative Energy

Kinetic energy





**CONVENTIONAL, OR IS IT?**



<b>CONVENTIONAL, OR IS IT?</b>	
Swinging Harmony	Spinning Universe
Seesaw	Elevator Slide



Coming Soon

# Swinging Harmony

Synchronise your swing with your friends to generate a harmonic wave

A structure holding two single seated swings. A child mounting a single-ride will enjoy a standard swinging experience, however the apparatus really comes to life when used by two swingers simultaneously. The bar on which the swings hang is not a standard straight bar, but rather curved in such a way that at all times, one of the swings is higher than the other. Smooth swinging will only be enabled once the two children synchronise their swing in such a way that when one is at the far back the other is at the close front, intensifying the challenge and increasing stimulation.

## Specification

Age	4+
Accommodates	2 - 3
Area	9.5 Sq m   102.3 Sq ft
Overall Height	3.5 m   11.48 ft

STD-102a

Overall Weight	100 Kg   220 lbs
In Ground Depth*	0.7 m   2.30 ft
Installation Time**	4 Hours

\*Including concrete foundation \*\*Not including concrete foundation

## Laws of Physics

Pendulum – harmonic oscillator • Crankshaft • Torque  
Gravity centre – affects the swinging speed

## Our Planet and Universe

Gravity – different swinging motion on the moon

## Alternative Energy

Kinetic energy • Potential energy

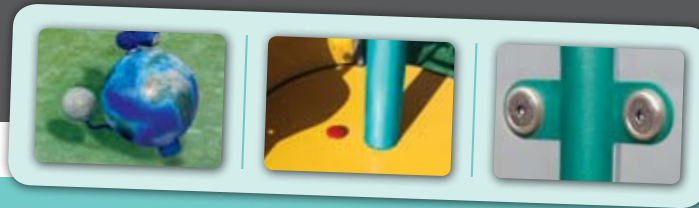


Close up on the apparatus that harmonises the swinging motion


# Spinning Universe

Spin on the carousel to learn about the cycle of our solar system  

Our Solar System. Children sit inside a sphere shaped roundabout representing the sun. The earth and moon attached on an upper axis move relative to the sun as the carousel turns around. Display boards show the relative sizes and position of the planets and their orbit around the sun. Explanations on our solar system include information on length of days, months and years as a result of orbits.



## Specification

 Age	2+
 Accomodates	6
 Area	14.4 Sq m   154.8 Sq ft
 Overall Height	2.2 m   7.06 ft

STD-104a	Patent pending
 Overall Weight	100 Kg   220 lbs
 In Ground Depth*	1 m   3.28 ft
 Installation Time**	2 Hours

\*Including concrete foundation \*\*Not including concrete foundation

## Our Planet and Universe

Solar system • Moon eclipse • Day/night  
Sun eclipse • Length of day on earth  
The sun and the moon • Seasons

## Alternative Energy

Kinetic Energy





# Seesaw



Hop up and down on a set of tubes to visualise the connected vessels effect

An enlarged seesaw designed as an environmental sculpture. One or two players may hop on each side of the structure. A set of tubes filled with liquid are attached to the pendulum and during play the liquid is shifted around the tubes while constantly retaining a level parallel with the ground, illustrating the connected vessels law. In addition the seats constantly remain levelled with the ground regardless of the pendulum angle. A great deal of energy is converted to electricity, lighting up the structure.

## Specification

👤 Age	4+
👥 Accomodates	2 - 4
📏 Area	32.0 Sq m   344.3 Sq ft
📏 Overall Height	3 m   9.84 ft

STD-101a	Patent pending
⚖️ Overall Weight	200 Kg   440 lbs
⬇️ In Ground Depth*	1 m   3.28 ft
🕒 Installation Time**	4 Hours
*Including concrete foundation **Not including concrete foundation	

## Laws of Physics

Connected vessels  
Parallelogram

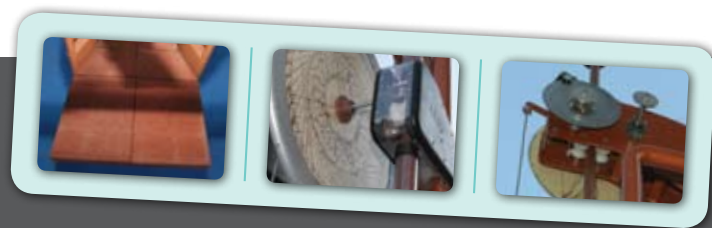
## Alternative Energy

Kinetic Energy

## Our Planet and Universe

Gravity creates the connected vessels law  
Surface of the sea is identical across Earth  
Gravity is equal throughout Earth  
The moon's gravity contradicts earth's gravity, causing high and low tides





# Elevator Slide

Elevate yourself on the self operating lift and slide down on a set of cylinders

A challenging activity stimulating all senses. A child mounts a platform, functioning as a self operating lift. Pulling a rope attached to a set of cog-wheels will lift the platform until it levels with the top of a slide. The force required to lift a person will be one sixth the weight of that person, demonstrating the moon's gravity (which is one sixth the Earth's). The sliding surface is comprised of multiple aligned cylinders, adding friction to the sliding action and therefore generating energy that will be converted to electricity, lighting a set of led bulbs that will escort the children through their path down. The sliding surface will end with a small ascent which the child will have to overcome by controlling the sliding speed.

## Specification

Age	4+
Accommodates	1 - 4
Area	27.6 Sq m   296.6 Sq ft
Overall Height	5.2 m   16.96 ft

STD-103a

Overall Weight	200 Kg   440 lbs
In Ground Depth*	0.7 m   2.30 ft
Installation Time**	5 Hours

\*Including concrete foundation \*\*Not including concrete foundation

## Laws of Physics

- Block and tackle
- Colour wheel
- Friction – reduced by using the cylinders
- Newton's third law (action = reaction)

## Our Planet and Universe

- Gravity on moon
- Alternative Energy
- Manual lift • Potential energy • Kinetic energy







**BALANCE**



# BALANCE

BALANCE	
Simon Says	Pythagoras Treadmill
Spider	Omega Zip-Line

# Simon Says

Challenge yourself playing “Simon Says” on a shaky platform, loosely balanced by unequally weighted objects



A mushroom shaped platform stabilised solely at its centre and therefore tilts to the sides when stood upon. The edges of the platform are connected with ropes to several pegs and pulled by the weight of cubic boxes. All boxes are evenly shaped however weighing differently, illustrating the concept of specific weight. A set of 4 large electric buttons mounted on top of the platform, is utilised to playing the legendary children’s game of Simon Says. The children hop on the platform and play the game with their feet, sharpening the memory skills while overcoming the non balanced platform. All electric components are operated by transforming the movement of the platform to energy.

## Specification

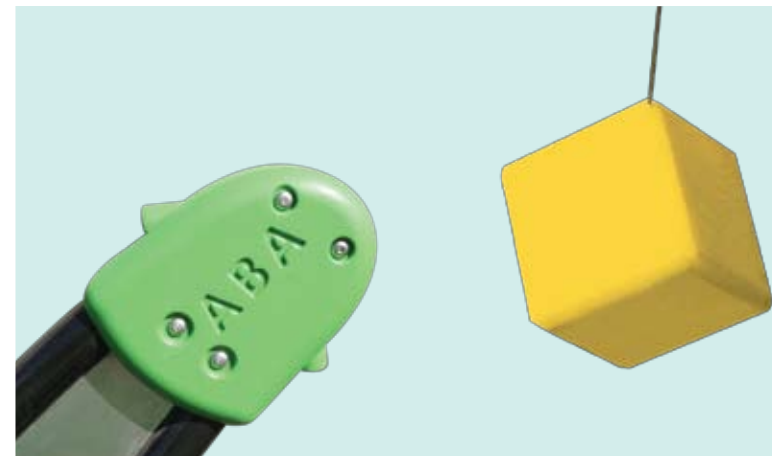
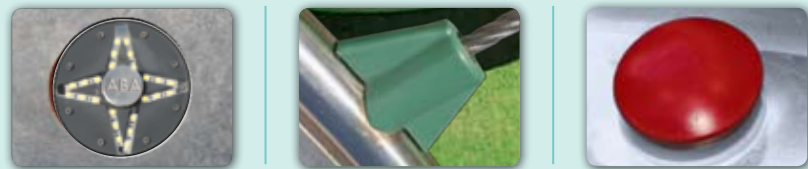
Age	6+
Accomodates	3
Area	19.6 Sq m   211.3 Sq ft
Overall Height	1 m   3.28 ft

BLC-101a	Patent pending
Overall Weight	100 Kg   220 lbs
In Ground Depth*	0.8 m   2.62 ft
Installation Time**	2 Hours

\*Including concrete foundation \*\*Not including concrete foundation

## Laws of Physics

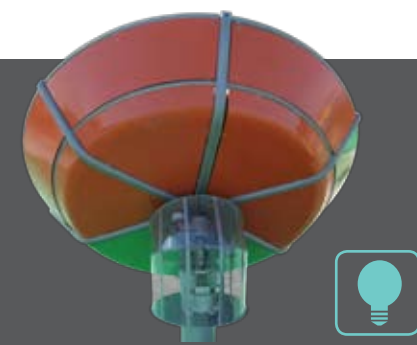
Specific weight • Centre of mass • Balance • Tension





# Pythagoras Treadmill

Walk on a tilted, circular treadmill-like apparatus to get a grasp on Pythagoras theorem



A circular treadmill apparatus, lying tilted against the ground. Walking or running over it rotates the platform constituting a challenging non balanced environment. The centre of the platform contains 3 squares adjusted in a way that forms a right-angled triangle. The platform is filled with liquid that exactly fills the larger of the three squares. While playing, the liquid, due to forces of gravity, migrates around. It is clearly observed that the amount of liquid required to fill the large square is identical to the amount required to fill both the other squares together, therefore illustrating Pythagoras' theorem. The rotation motion is converted into energy that is then used to illuminate the structure.

## Specification

Age	2+
Accommodates	1
Area	7.3 Sq m   78.4 Sq ft
Overall Height	1.8 m   5.90 ft

BLC-102a	Patent pending
Overall Weight	100 Kg   220 lbs
In Ground Depth*	1 m   3.28 ft
Installation Time**	2 Hours

\*Including concrete foundation \*\*Not including concrete foundation

## Laws of Physics

Pythagoras theorem • Connected vessels  
Potential energy (flow to the lowest point)

## Alternative Energy

Kinetic energy



# Spider

Climb up and around a web of entangled cables



A tall climbing structure, comprised of several hoops and dozens of entangled cables, wrapped with 16mm nylon ropes and extends to a total length of 300m. It provides numerous paths to reach the top in different levels of difficulties to match a wide variety of climbers attempting to reach the top simultaneously. The prominent structure is observed from a distance and can act as one of park's cornerstones when designing its overall appearance.

## Specification

Age	6+
Accomodates	10
Area	78.5 Sq m   845.1 Sq ft
Overall Height	3.0 m   9.84 ft

BLC-103a

Overall Weight	500 Kg   1,100 lbs
In Ground Depth*	0.8 m   1.64 ft
Installation Time**	8 Hours

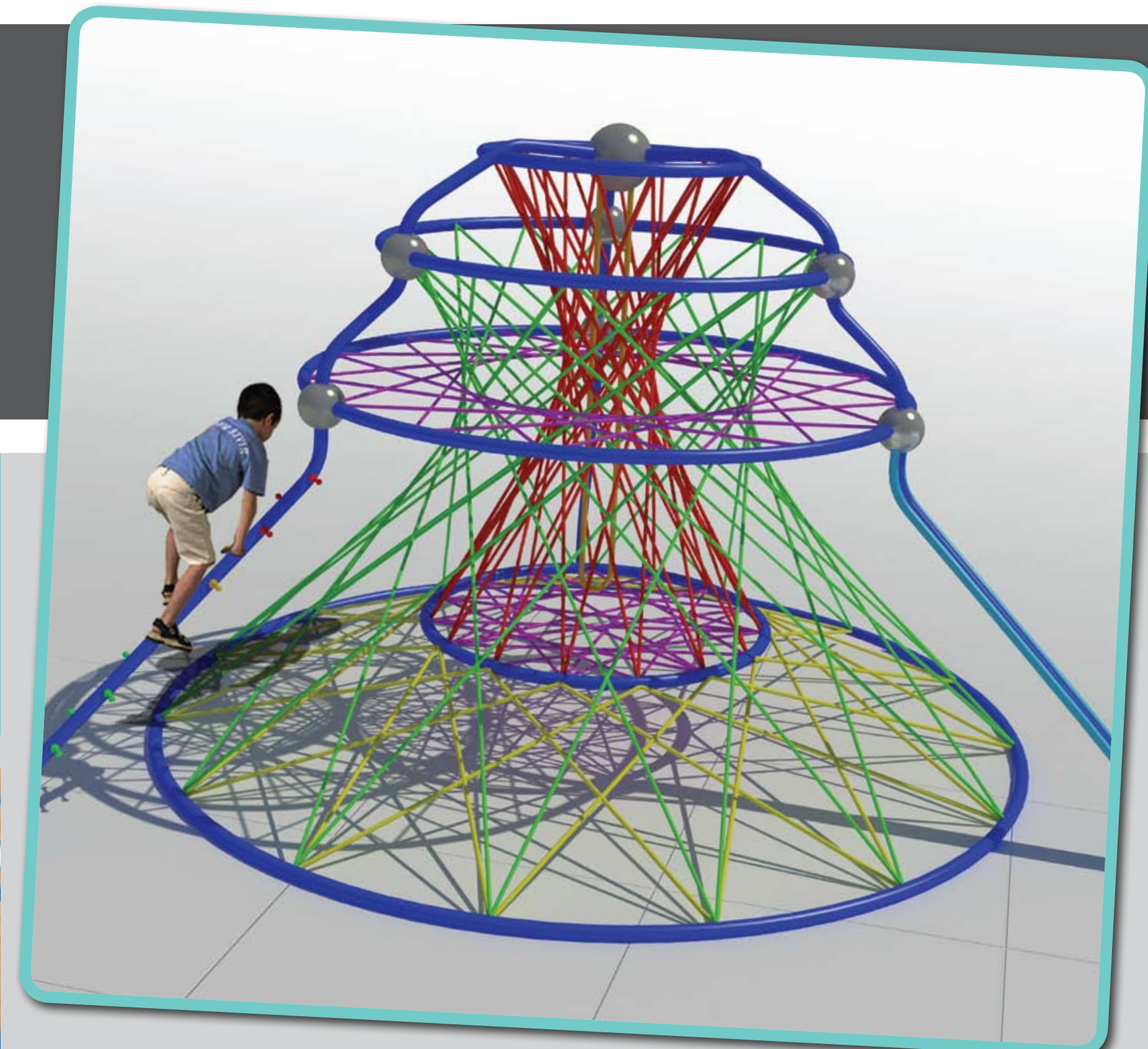
\*Including concrete foundation \*\*Not including concrete foundation

## Laws of Physics

An object travels in space in straight lines • Apollonius' theorem  
An object travels in a parabolic movement on Earth

## Alternative Energy

A combination of straight lines forms parabolic shaped structure  
Potential energy builds up during ascent  
Electric energy and light are generated by descending through the central cable





**Coming Soon**

# Omega Zip-Line

Slide down an omega zip-line to lift a second one back up

An upgraded version of the standard known omega zip-line. Two posts with a pulley on top, one taller than the other are connected with a cable, which form 2 straight cable lines. A grasping handle hangs down from each side of the cable. 2 children or a single adult hold on to the upper handle, while a single child holds on to the lower handle. The larger weight of the 2 children slides them down the cable, while simultaneously pulling the lighter child up the cable. Unlike a standard omega zip-line, there is no need to return the handle back up after sliding, as one handle is always up during play.

## Specification

Age	4+
Accommodates	1 - 4
Area	210.0 Sq m   2,259.6 Sq ft
Overall Height	3.0 m   9.84 ft

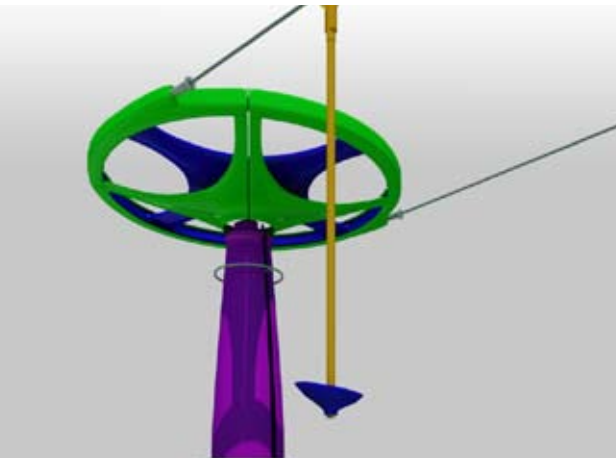
BLC-104a

Overall Weight	200 Kg   440 lbs
In Ground Depth*	1.2 m   3.94 ft
Installation Time**	8 Hours

\*Including concrete foundation \*\*Not including concrete foundation

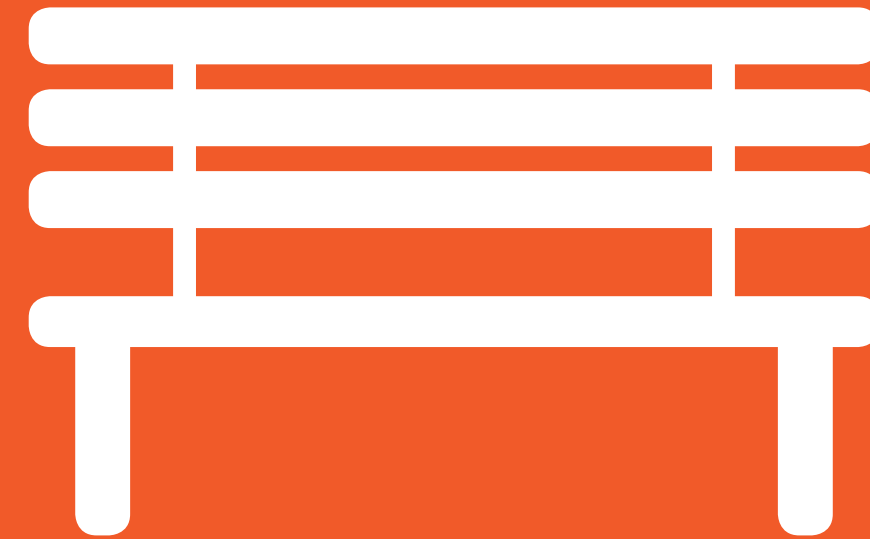
**Laws of Physics**  
Parallelogram

**Alternative Energy**  
Kinetic energy





**SIT BACK AND RELAX**



## **SIT BACK AND RELAX**

Mobius Bench

Pursuing the sun

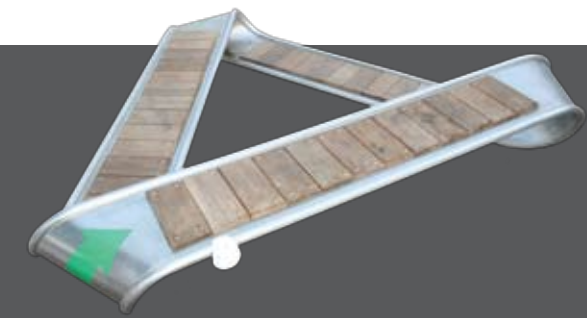
What goes around comes around





# Mobius Bench

Three level bench shaped as the recycling logo



A triangular-like shaped bench with each edge designed at a different height, providing tailored comfort for children of different ages and adults alike. To be more precise, the bench is actually shaped as a Mobius, a surface with only one side and only one boundary component. The shape of the international recycling logo is shaped like a Mobius. To illustrate this physical wonder, balls are attached to the side of the bench. The child will slide the balls along the bench and surprisingly observe that a ball starting on the outer side of the bench will complete the circle on the inner side, concluding that the bench is indeed one-sided.

## Specification

👤 Age	1+
👥 Accomodates	1 - 8
📏 Area	20.0 Sq m   215.2 Sq ft
📏 Overall Height	0.59 m   1.94 ft

RLX-101a

⚖️ Overall Weight	75 Kg   165 lbs
⬇️ In Ground Depth*	0.5 m   1.64 ft
🕒 Installation Time**	1 Hour

\*Including concrete foundation \*\*Not including concrete foundation

## Laws of Physics

Thermodynamics • Mobius ring

## Alternative Energy

The recycling logo



# Pursuing the Sun

Solar operated, rotating canopy, pursuing the sun and maximising shaded area

A triangular shaped shading canopy hanging over a tall pole. The apparatus is connected to an engine, timed so that it rotates to pursue the direction of the sun in the sky. The smart rotation element allows for a smaller canopy to be installed while still maintaining a great deal of shade during all of daytime. The engine receives its energy from solar plates which are placed on top of the canopy. The generated energy is large enough to supply power to several additional park structures simultaneously.

## Specification

Age	1+
Accommodates	-
Area	4.0 Sq m   43.0 Sq ft
Overall Height	3.0 m   9.84 ft

RLX-102a

Overall Weight	100 Kg   220 lbs
In Ground Depth*	1 m   3.28 ft
Installation Time**	4 Hours

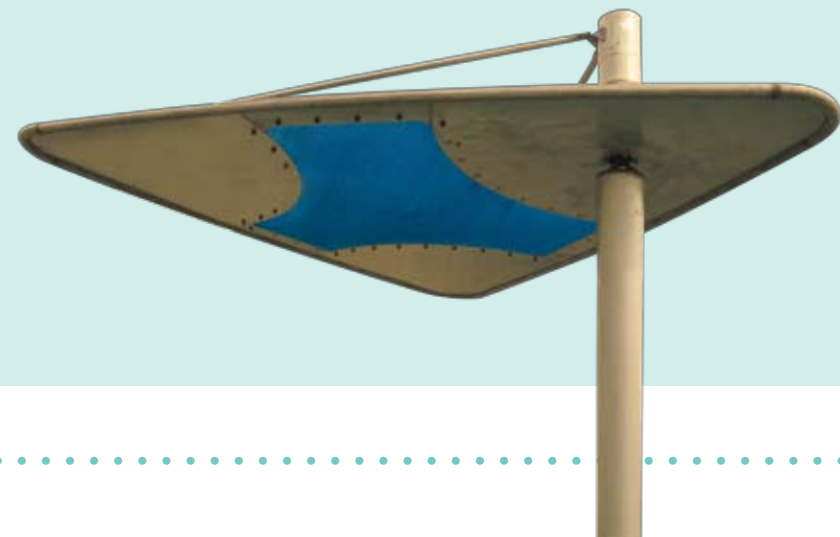
\*Including concrete foundation \*\*Not including concrete foundation

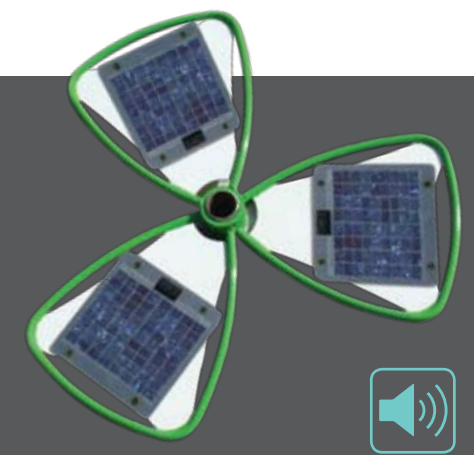
## Our Planet and Universe

Sun/earth orbit

## Alternative Energy

Solar energy





# What Goes Around Comes Around

Interactive recycling centre for waste segregation accompanied by stimulating visual effects

A recycling centre, to segregate litter into several compartments such as cans, glass, paper, nylon and organic trash. The recycling centre senses children approaching and interacts with them using an audio device. Vacuum pumps shrink plastic bottles by removing air, cans are squashed and all carried out by the children who feel involved and receive positive feedback from the audio devices.



## Specification

Age	4+
Accommodates	1 - 6
Area	0.2 Sq m   2.3 Sq ft
Overall Height	2.8 m   9.16 ft

RLX-103a	
Overall Weight	50 Kg   110 lbs
In Ground Depth*	0.7 m   2.30 ft
Installation Time**	1 Hour
*Including concrete foundation **Not including concrete foundation	

## Laws of Physics

Vacuum – shrinks the bottles

## Our Planet and Universe

Time it takes material to dispose

## Alternative Energy

4 recycling bins  
Crushing cans to reduce space



# Sign Posts

One or more sign posts can be added to each product. Sign posts provide short operating guideline, relevant laws of physics and other trivia and enriching content. Sign posts are equipped with an audio device to narrate the text or possibly provide additional information. Sign posts can be connected to a power source or be embedded with a self supplying energy system, based on solar plates.

## Spinning Universe

### Laws of Physics

Do you feel like something is trying to throw you out of the carousel while spinning. This is the Centrifugal force. The faster you spin, the harder it is to stay put. Every moving object (you included) strives to keep moving straight. Since the carousel constantly tries the direction of our movement, it appears as if we being thrown out.

**Centripetal Force:** Can you feel the force in your arms when holding the steering wheel? This is the force that keeps you within the carousel.

### Alternative Energy

**Kinetic Energy:** Observe how the energy you exert to turn the carousel around is being preserved and converted into electric energy to light up the sun. The faster you spin the more energy you generate.

### Our World and Universe

**Day & Night:** Look at Earth, half of it is facing the sun, absorbing light and is during the daytime. The other half doesn't receive light and remains in the dark - this half is during the night. Earth completes a full spin every 24 hours and lighted areas eventually become dark and vice versa.





# Wake up, it's night time

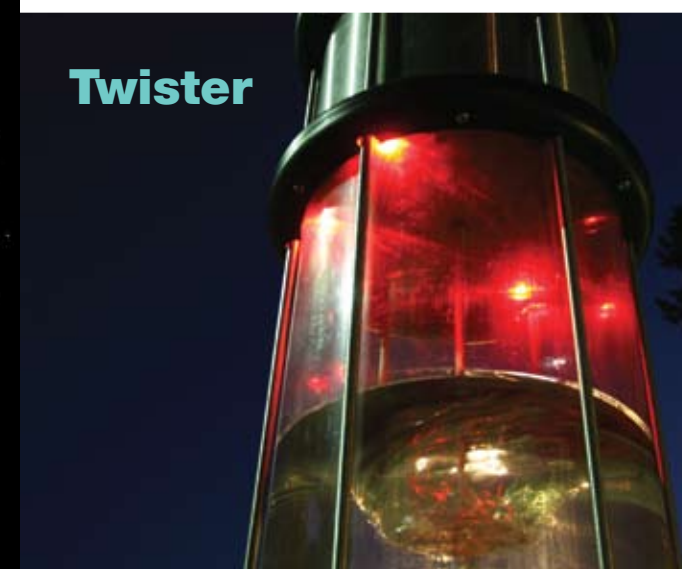
If you think that our playgrounds go to sleep at night - think again. Our parks wake up after dark to introduce a festival of lights. Multi-colour static and flashing lights are turned on during play on the individual products. The energy to power up the lights is either generated by the children's activity, solar plates that stored energy during the daytime or by standard electric power. Join us at night time to witness an experience of a life-time.



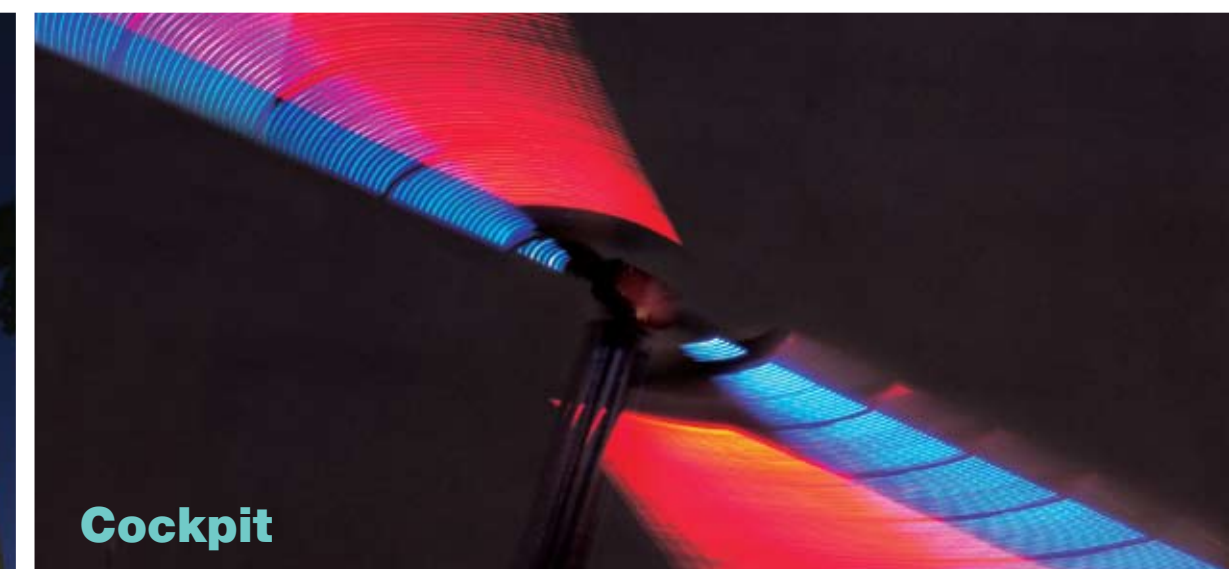
**Pythagoras Treadmill**



**Spining Universe**



**Twister**



**Cockpit**



Cockpit  
AVI-101a | Page: 28



Flying High  
AVI-102a | Page: 30



Moon Walk  
AVI-103a | Page: 32



Twister  
AVI-104a | Page: 34



Swinging Harmony  
STD-102a | Page: 40



Spining Universe  
STD-104a | Page: 42



Seesaw  
STD-101a | Page: 44



Elevator Slide  
STD-103a | Page: 46



Simon Says  
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Pythagoras Treadmill  
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# Warranty



## Warranty

Our products have been designed and are manufactured under the highest standards and we do our best to ensure that you receive a top quality product. However, we understand that from time to time some defects may occur and we therefore warranty you against such cases.

Warranty covers only components, which have been properly installed and maintained. Normal wear and tear is not covered as well as damage caused due to misuse, poor maintenance and vandalism. Warranty applies to the components parts only and not to the entire product.

### Limited 10 year warranty

On all plastic components, metal and aluminium components, galvanised and non-painted steel, metal joints and soldering, against structural failure caused by material or production defects.

### Limited 3 year warranty

On all nets, climbing cables, colour coating on plastic and metal components.

### Limited 1 year warranty

On all other components not mentioned above

## Design, delivery and installation

Items will be delivered within 60 days of order. Freight charges are not included in the prices. Products will be delivered unassembled and packaged. Assembly and installation will be provided by our local representative – contact us for help locating your nearest representative. Our park designers and engineers will be happy to provide assistance with the park design and layout to fit your individual requirements. Don't hesitate to ask.

## Safety

Safety is key to us and we do our best efforts to provide you with the highest quality safe equipment. All manufacturing complies with the European Standard: DIN / EN 1176.



# Design

# Safety





[aba-scienceplay.com](http://aba-scienceplay.com)

We are constantly enhancing our product offering and value and therefore, specifications are subject to change.

ABA-1001-EU-01