



Playing into the Future







## Our Vision

ABA 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 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 ABA we took this interactive play into the world of outdoor play. In addition to existing playground equipment, ABA 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.

Our playgrounds include conventional play items such as 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.

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.

The wide range of play items demonstrate 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. 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 & ideas relevant to the product and is turned on during play. Decorative lights accompany the products to create a festival of light.

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.



# 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.

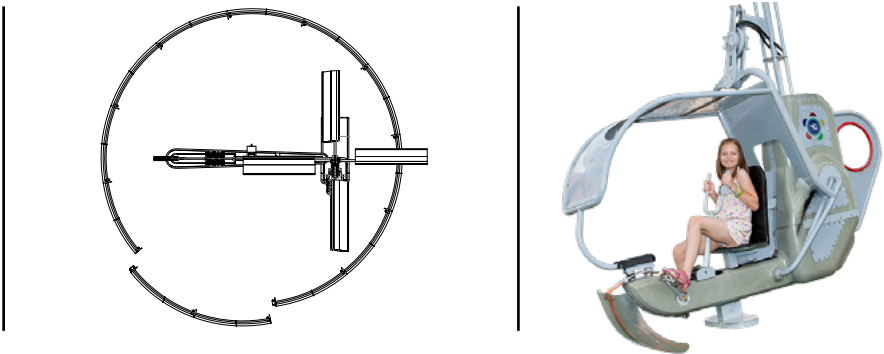


### Specification

Accommodates	1	Overall Weight	3000 Kg   6,600 lbs
Area	138.9 Sq m   1,495 Sq ft	Overall Height	5.5 m   18.04 ft
Safety area (diameter)	11 m   36.1 ft		

### Laws of Physics

- Lift force
- Torque
- Centre of gravity
- Aerodynamic
- Inertia



### Alternative Energy

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



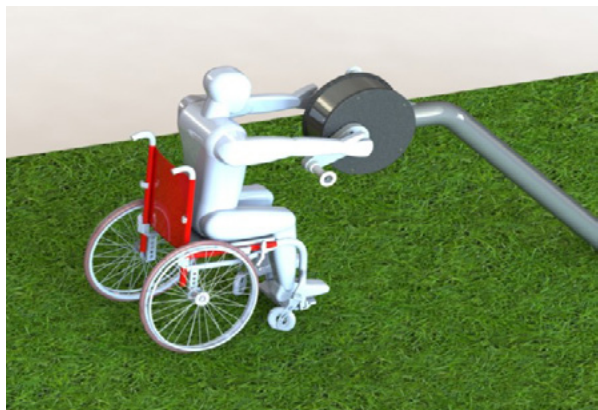


# Flying High

## 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

Accommodates 1 - 3

Overall Weight 600 Kg | 1,320 lbs

Area 45.0 Sq m | 484.2 Sq ft

Overall Height 5.5 m | 18.04 ft

Safety area (diameter) 9.6 m | 31.35 ft

### Laws of Physics

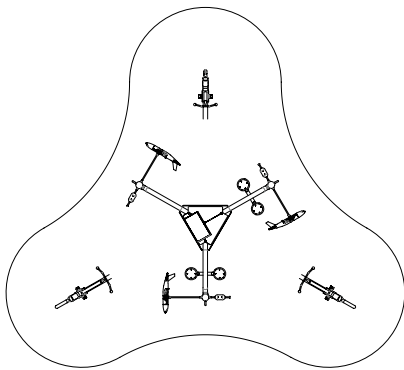
- Optics
- Gravity
- Centrifugal force
- Torque

### Alternative Energy

Solar energy  
Pedaling → Electricity

### Our Planet and Universe

Speed of light





# 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.

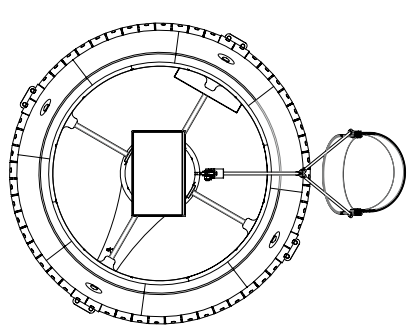


### Specification

Accommodates	1	Overall Weight	600 Kg   1,320 lbs
Area	28.3 Sq m   304.2 Sq ft	Overall Height	3.9 m   12.79 ft
Safety area (diameter)	6 m   19.6 ft		

### 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.



### Specification

Accommodates 1 - 3

Area 30 Sq m | 322.8 Sq ft

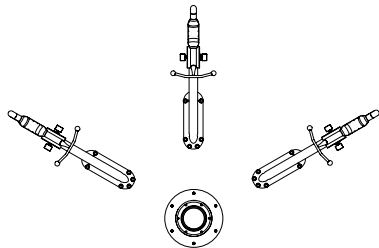
Safety area (diameter) 8.5 m | 27.8 ft

Overall Weight 350 Kg | 770 lbs

Overall Height 2.5 m | 8.2 ft

### Laws of Physics

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



### Alternative Energy

Kinetic energy

### Our Planet and Universe

Whirlpool | Tropical cyclone





# 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

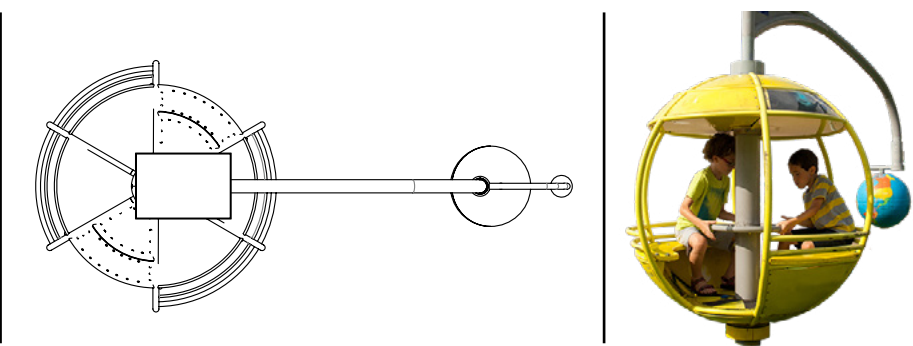
Accommodates	6	Overall Weight	400 Kg   880 lbs
Area	43 Sq m   462.7 Sq ft	Overall Height	2 m   6.56 ft
Safety area (diameter)	7 m   22.9 ft		

### Alternative Energy

Kinetic Energy

### Our Planet and Universe

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





# 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

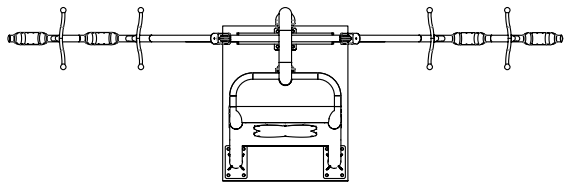
Accommodates	2 - 4	Overall Weight	400 Kg   880 lbs
Area	32 Sq m   344.3 Sq ft	Overall Height	2.5 m   8.2 ft
Safety area (diameter)	8.97 m   29.09 ft		

### 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



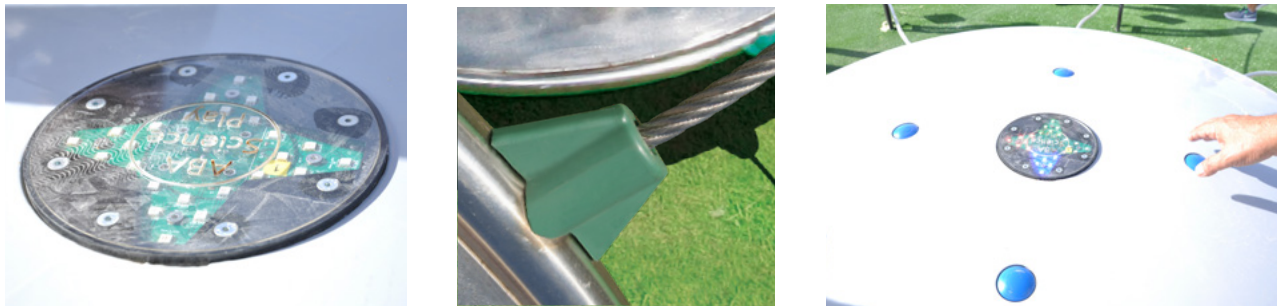


# Simon Says

## 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

Accommodates 3

Overall Weight 400 Kg | 880 lbs

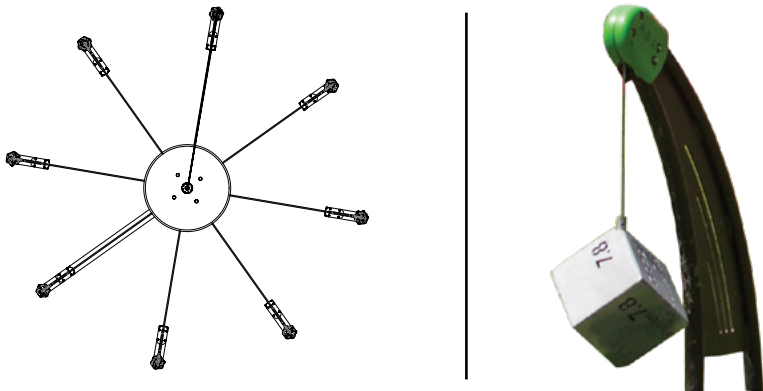
Area 63.7 Sq m | 685 Sq ft

Overall Height 0.8 m | 2.62 ft

Safety area (diameter) 9 m | 29.52 ft

### Laws of Physics

- Specific weight
- Centre of mass
- Balance
- Tension





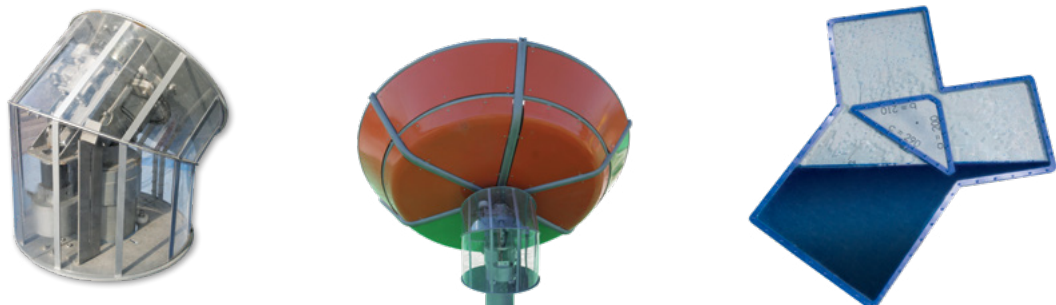
# Pythagoras Treadmill

## 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

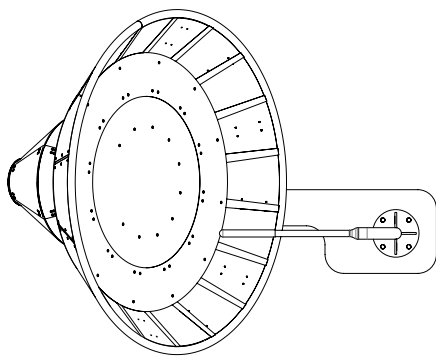
Accommodates	1	Overall Weight	400 Kg   880 lbs
Area	19 Sq m   204.4 Sq ft	Overall Height	1.8 m   5.90 ft
Safety area (diameter)	5 m   16.4 ft		

### Laws of Physics

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

### Alternative Energy

Kinetic energy



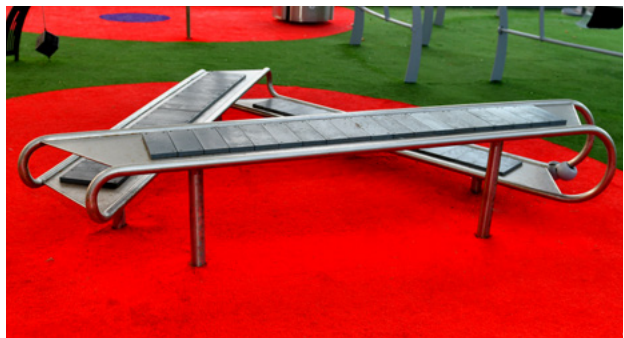


# Mobius Bench

## 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

Accommodates 1 – 8

Area 11 Sq m | 118.4 Sq ft

Safety area (diameter) 5 m | 16.4 ft

Overall Weight 250 Kg | 550 lbs

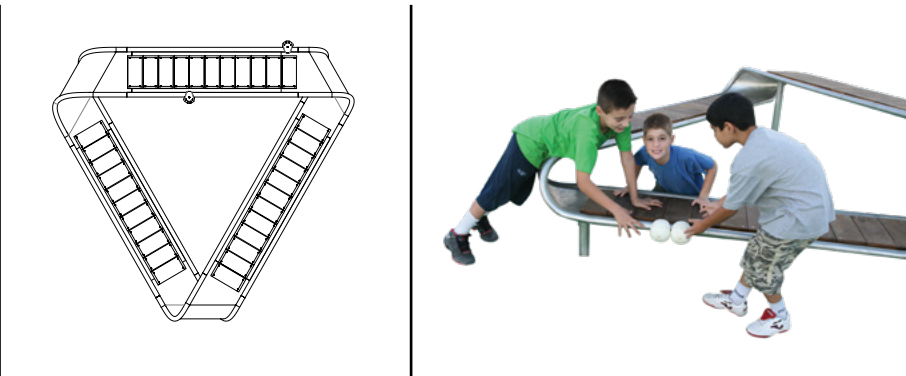
Overall Height 0.6 m | 1.94 ft

### Laws of Physics

- Thermodynamics
- Mobius ring

### Alternative Energy

The recycling logo





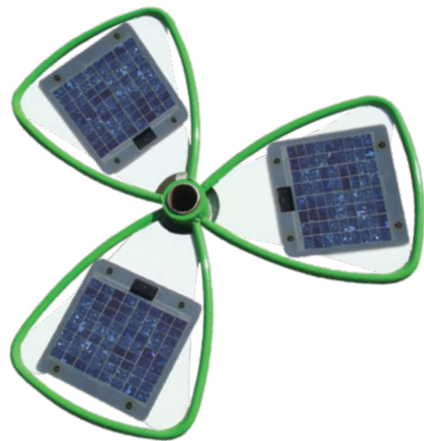
# What Goes Around Comes Around

## Interactive recycling centre for waste gregation 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. that the bench is indeed one-sided.



### Specification

Accommodates	1 - 6
Area	0.8 Sq m   8.6 Sq ft
Safety area (diameter)	3 m   9.8 ft
Overall Weight	200 Kg   440 lbs
Overall Height	2.6 m   8.53 ft

### Laws of Physics

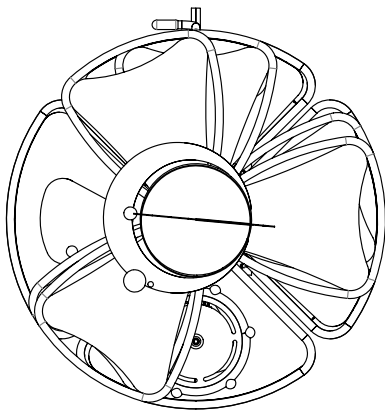
- Vacuum - shrinks the bottles

### Alternative Energy

- 4 recycling bins
- Crushing cans to reduce space

### Our Planet and Universe

- Time it takes material to dispose





# Talking Sign

A special Sign Post that describes the nature of the playground and welcomes the visitors to the wonderful world of game facilities, which are based on scientific laws and sustainability laws for the preservation of the environment. The sign detects approaching people and gives the visitor an introduction to the science playground. The system is based on solar sower.

## Sign Posts

One or more sign posts can be added to each product. Sign posts provide short operating guideline, relevant laws of physics and othe trivia and enriching content.

Sign posts are equipped with an audio device to narrate the next 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.



# Music Sprinklers

## Pedal on bicycles and see how pedaling causes the sprinklers on the columns to turn around and play sounds

Pedal on bicycles and see how pedaling causes the sprinklers on the columns to turn around and play sounds. The pedaling process creates kinetic energy that is converted to electrical energy by which the rotation of the sprinkler is created. At the top of each sprinkler page is a musical instrument that symbolizes the sound produced, and a solar panel is installed on the side column. Solar energy is converted into electrical energy and through it the audio system is activated. Each pair of bicycles produces a sound of musical instruments and together plays a symphony of a well-known song. Pedal and find out what song you can play, the applause will come at the end.

### Specification

Accommodates	1 - 5	Overall Weight	2000 Kg   4,400 lbs
Area	89.1 Sq m   958.5 Sq ft	Overall Height	5 m   16.4 ft
Safety area (diameter)	89.1 m   958.5 ft		







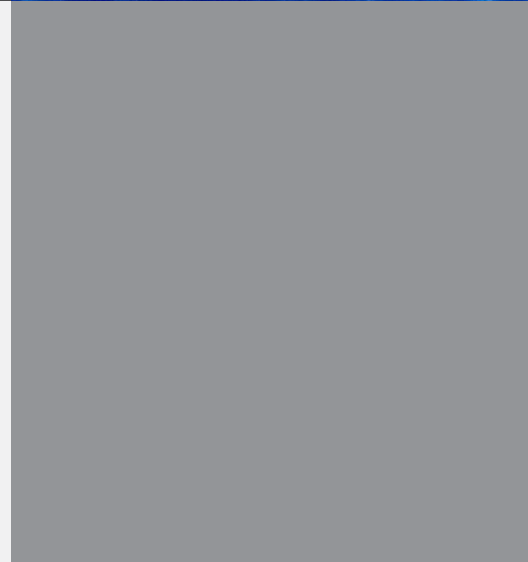
"I must point out how pleased we are with this unique concept that forwards science education while having fun"



# ABA

Playing into the Future

## OUR PARKS



"The company lives up to the highest standards and has kept up with it's level of service and availability over the years"



"An unforgettable experience for children and families"



"The many residents that visit our park daily enjoy playing and learning together, parents and children alike"



"The park brings in many residents who come to enjoy a fun experience combined with available science education opportunity"



# ABA



## Playing into the Future



+972-543041345



+972-543041345



[info@aba-scienceplay.com](mailto:info@aba-scienceplay.com)



Hatsoref 11 Ashkelon Israel 7878041



[m.facebook.com/ABA-Scienceplay/](https://m.facebook.com/ABA-Scienceplay/)



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