

GECKO RUN

Vertical Action!

INGENIOUS EXTENSIONS FOR YOUR GECKO RUN



Snake

Will the balls make it through the zig-zag tunnel, or will "Snake" swallow them up? Your Gecko Run ball track just got more challenging! Will the balls make it through this trick?



Twister

You can't help but hold your breath: in the Twister, the balls whiz around in circles before they tumble onto the next track! Can you find the perfect spot for it in your Gecko Run ball track? Test the Twister in your next track and set the balls in a spin!

COOL Extras two additional tracks extend your track!

Do you have any questions?
Our customer service will be happy to help you!

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Manual

GECKO RUN

MARBLE RUN BIG BOX

SCAN QR CODE FOR FULL-COLOUR MANUAL

LANGUAGES:
English, Deutsch,
Français, Italiano,
Español, Nederlands
AND MANY MORE



or go to: www.kosmos.de/int/GeckoRun-BigBox



STEM EXPERIMENT KIT

KOSMOS



Nano ADHESIVE PADS



STARTER SET

EXTENSION TRAMPOLINE

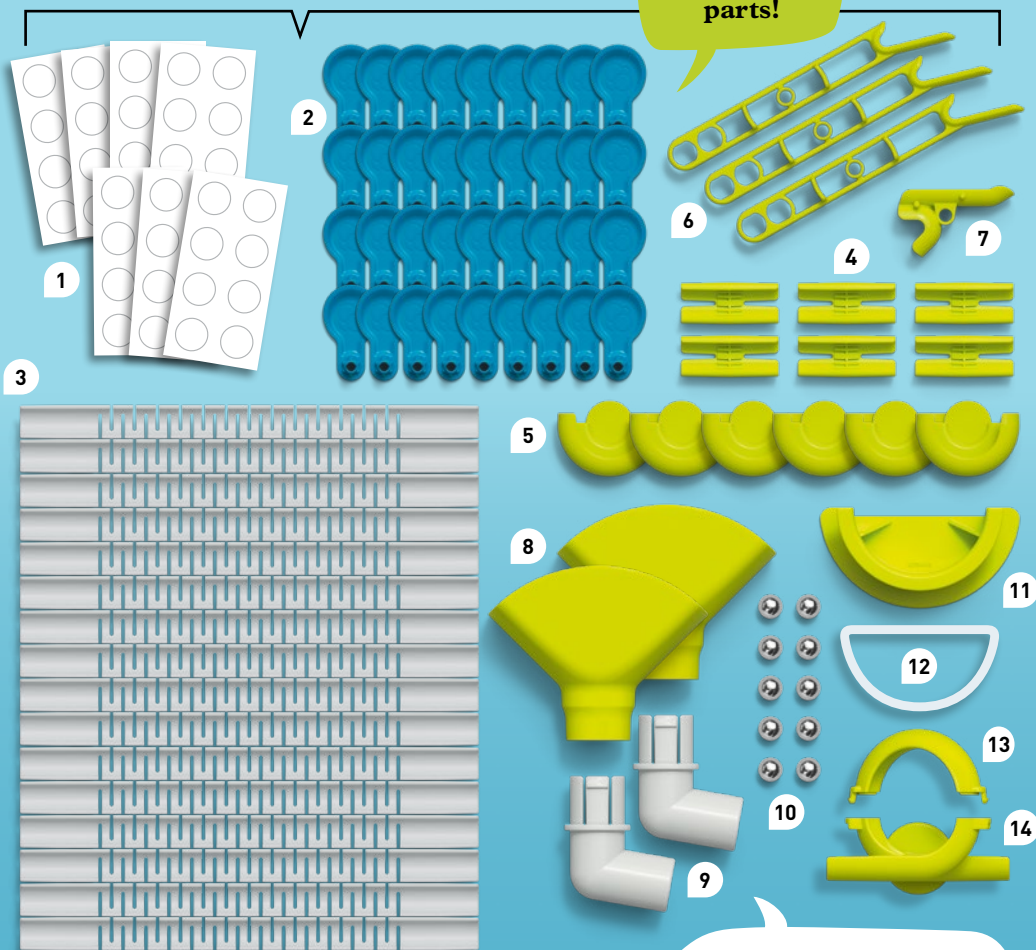
EXTENSION LOOP



2 EXTRA TRICKS AND ADDITIONAL PARTS FOR FREE!



Your marble run set includes the following parts:



Wow!
So many parts!

— You can reorder balls, nano-adhesive pads and the trampoline rubber via the service area at kosmos.de.

Checklist:

✓ No.	Description	Quantity	Item no.
1	Sheet with nano-adhesive pads	7	726192
2	Adapter	36	726603
3	Track	16	726605
4	Track Bridge	6	726606
5	Track Turn	6	726607
6	Lever	3	726608
7	Switch	1	726609

✓ No.	Description	Quantity	Item no.
8	Funnel	2	726610
9	Funnel tube	2	726611
10	Ball	10	726604
11	Trampoline base	1	726643
12	Trampoline rubber	1	726644
13	Loop top section	1	726660
14	Loop bottom section	1	726647

Marking of packaging materials:



kosmos.de/disposal

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Manual for „Gecko Run – Big Box“, Art.Nr. 7617318

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ADDITIONAL INFO CAN BE FOUND ON THE
 "CHECK IT OUT" PAGE 17- 18





WARNING!

Not suitable for children under three years. Small parts and small balls. Choking hazard. Keep the packaging and instructions as they contain important information.

Instructions for using your Gecko Run and the nano-adhesive pads

The heart of this new type of ball track is the fascinating nano-adhesive pads. These are covered on one side with microscopic suction cups that allow the ball track to be securely attached to vertical surfaces. Just like large suction cups, they only adhere to smooth surfaces, leave no traces when removed and can be used over and over again.

The nano-adhesive pads adhere best to glass surfaces such as glass doors or windows, but you can also attach the track to other surfaces as long as their surface is smooth enough (tiles, plastics, wood and imitation wood, glossy painted surfaces, metal, etc.). Try it out!

Before you use Gecko Run for the first time, you need to attach the nano-adhesive pads to the adapters and some of the tricks. You can find out how to do this on pages 6 and 7.

Before you start building a track, make sure that your installation surface is clean, dry and free of grease. This will ensure that the pads can develop their full adhesive power.

Dismantle the track after use and store its parts in the product packaging to ensure they remain clean and retain their functionality.

The longer the pads remain on a surface, the greater their adhesion. If the pads have been attached to a surface for a while, you may not be able to remove them easily on your own. In this case, ask an adult to help you.

Good to know

If the nano-surfaces of the nano-adhesive pads gets dirty or dusty, you can clean them with a dry, lint-free cloth.

If a nano-adhesive pad suffers major damage, you can remove it and stick a new one on the same spot. You can reorder adhesive pads in the service area at kosmos.de.



Dear parents!

Children want to marvel, understand and create something new. They want to try everything out and explore things by themselves. They want to know more!

The Gecko Run ball track system is ideal for this, as it can be set up and converted quickly and easily. However, before using it for the first time, you should discuss the following points with your child.

Important information for parents

— The Gecko Run ball track can be attached to virtually any smooth vertical surface; glass surfaces work particularly well. Together with your child, discover which surfaces the nano-adhesive pads adhere to best – and agree on which surfaces in your home the Gecko Run ball track can be safely set up. When making your selection, bear in mind that hazards can arise due to open windows or doors, sliding doors that slide over each other, surfaces that are susceptible to breakage or are not securely fastened, and surfaces that are high up.

Only use the Gecko Run on closed windows and doors; all glass surfaces must be made of safety glass.

Playing surfaces must be firmly attached to the wall and stable when pulling on the pads (be careful with mirrors – these could be loosened from their mounts when pulling off the nano-adhesive pads).

Only build tracks within the child's reach; never climb on furniture to build the track.

The playing surface should be clean, dry and free of grease. This will ensure that the nano-adhesive pads can develop their full adhesive power.

The runs must always be built and set up so that the metal balls do not hit breakable walls, dent metal walls/wood or cause defects.

The flooring and surrounding furnishings must be able to withstand impacts from falling balls. If necessary, place a rug, blanket or towel underneath the track – this will also prevent the balls from rolling away.

Set up the track away from pets, babies and toddlers.

Before playing and experimenting for the first time, the nano-adhesive pads must be affixed to the adapters and some of the tricks (see pages 6 and 7). Help your child to apply the pads cleanly and with the correct adhesive side.

In the case of sliding doors that slide over each other (e.g. on cupboards or patio doors), make sure that the Gecko Run track is attached to the outer door so that the track parts are not damaged when the doors are moved.



— THE PARTS OF YOUR BALL TRACK

Adapter

— Use this to attach the tracks and some of the tricks to your vertical playing surface.

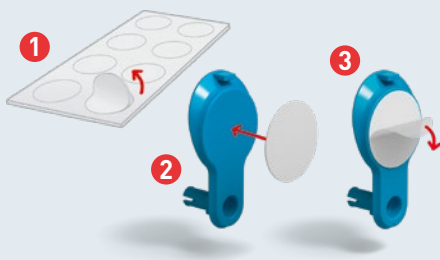


Nano-adhesive pads

— The pads have a normal sticky side and an amazingly powerful adhesive side with a nanostructure (see p. 4).

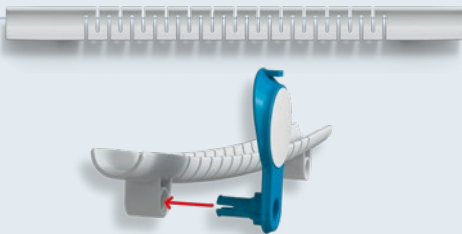
To prepare the adapters for use:

1. Pull a pad from the sheet.
2. Stick the pad onto the adapter.
3. Remove the thin foil from the nano-adhesive side.



Track

— The special design makes the tracks bendable – this gives you lots of freedom when building a track. They are attached to your playing surface using the adapters. Be sure to push the adapters all the way into the receptacles on the tracks.



Track bridge

— This component lets you make one long track section out of two shorter ones. Use it to bridge window frames or connect two play areas.



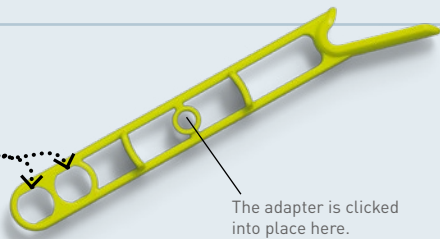
Track turn

— This element is a true all-rounder. It serves as a 180-degree bend, a ball store and a ball-catcher at the end of your track. Stick a nano-adhesive pad on the back of the turn to prepare it. For more tips and tricks see pages 9, 10 and 14.



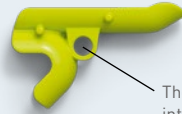
Lever

— This trick can catch a ball and pass it on immediately (provided that you have pressed a ball into the rear slot on the lever). If two balls are stuck, it can collect both balls and then pass them on. For more information on using the lever, see page 10.



Switch

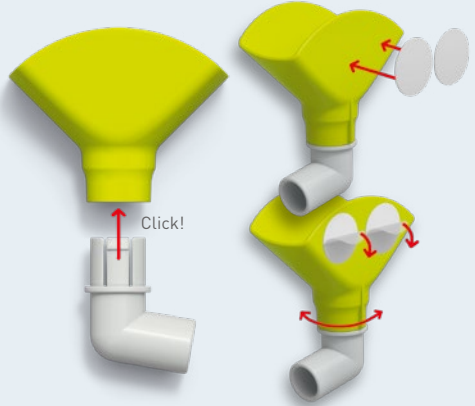
— This trick is a rocker switch that alternates your ball in one direction or the other. For more information about this trick, see pages 11 and 15.



The adapter is clicked into place here.

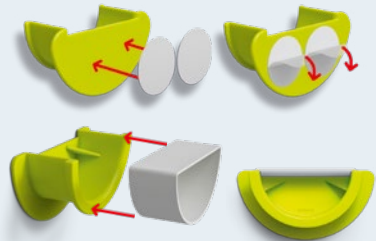
Funnel

— With this element you can recapture balls. It consists of two parts that you will need to click together the first time you use it. The outlet of the funnel is then freely rotatable so that it can forward the balls in different directions. In addition, two nano-adhesive pads should be attached to the back of the funnel.



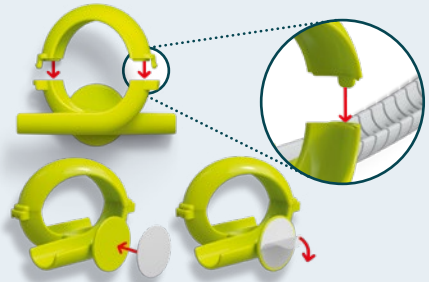
Trampoline

— The trampoline makes the balls bounce and fly. To prepare it, you need to apply two nano-adhesive pads to the back of the trampoline and pull the white trampoline tape onto the frame. For more information, see page 15.



Loop

— The loop brings even more action to your Gecko Run ball track. To prepare it, click the upper and lower loop sections together as shown and stick a nano-adhesive pad on the back of the loop. For more info see page 11.



Ball

— In your set you will find ten precision steel balls with a diameter of 12.7 mm.

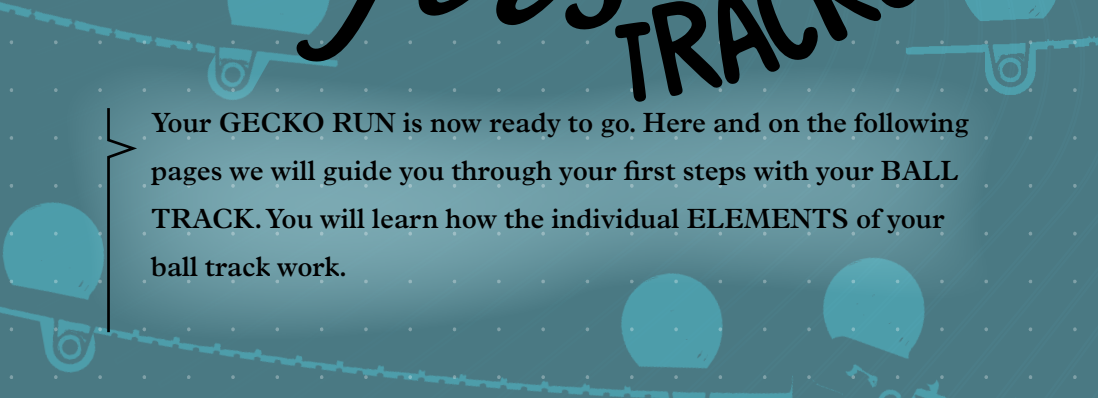




Cool ...
— Now here
we go!



YOUR *first* TRACKS!



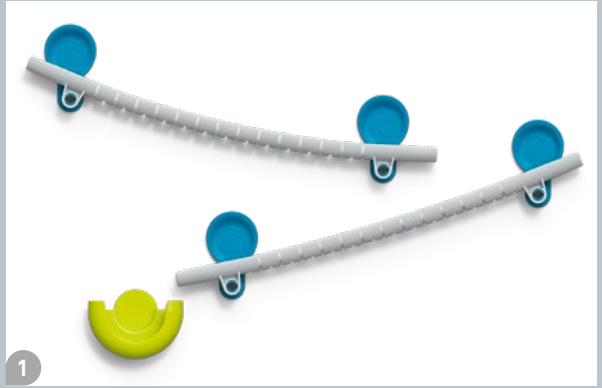
Your GECKO RUN is now ready to go. Here and on the following pages we will guide you through your first steps with your BALL TRACK. You will learn how the individual ELEMENTS of your ball track work.

— YOUR FIRST TRACKS

1. We will start very simply with two pieces of track and a track turn as the catcher.

 **TIP**

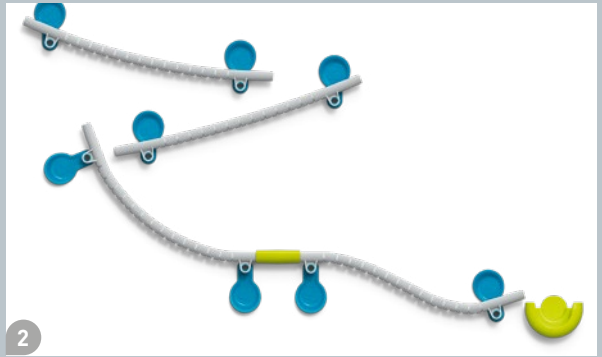
TO MAKE IT EASY TO REMOVE THE ADAPTERS FROM THE PLAYING SURFACE, THEY HAVE A SMALL LIP – USE YOUR FINGER OR THUMB TO PRISE THE ADAPTER OFF.



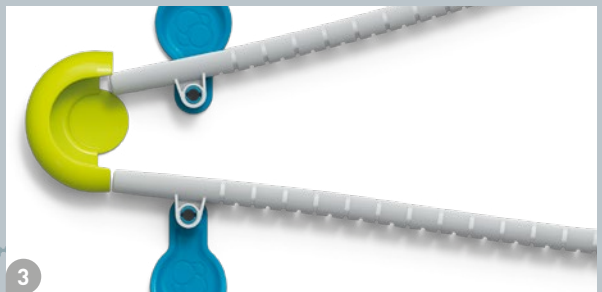
2. Now add two track sections to your track. Exploit the flexibility of the track sections and use a track bridge.

 **TIP**

ALWAYS BUILD YOUR TRACKS FROM THE TOP DOWN AND TEST EACH NEW ELEMENT TO CHECK WHETHER THE BALL RUNS SMOOTHLY ALONG THE TRACK.



3. Now you can use the track turn not only as a ball catcher, but also as a fast 180-degree turn.



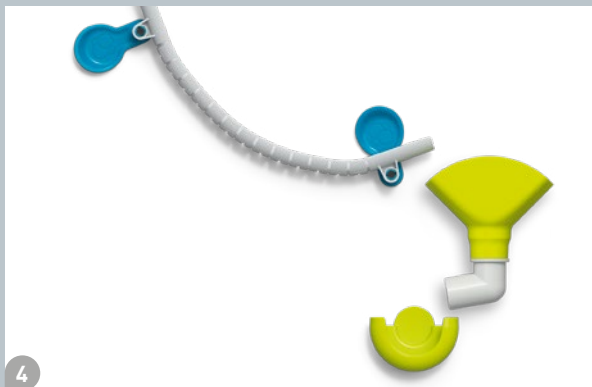


4. Now test the funnel.

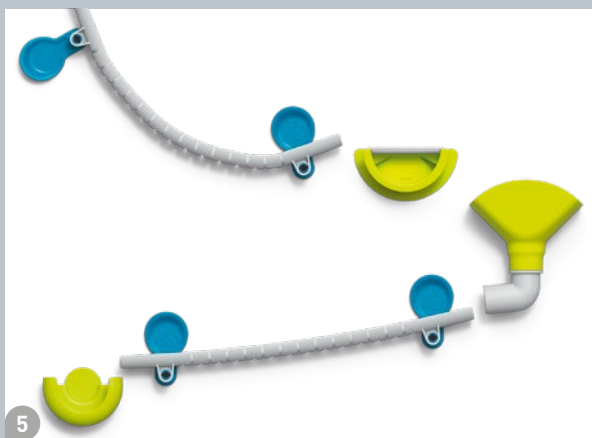


TIP

PRESS THE FUNNEL FIRMLY AGAINST YOUR
PLAYING SURFACE - THIS WILL ENSURE
IT CAN WITHSTAND HARDER IMPACTS
FROM THE BALLS.



5. The combination of a trampoline and funnel is particularly fun.
Get started!

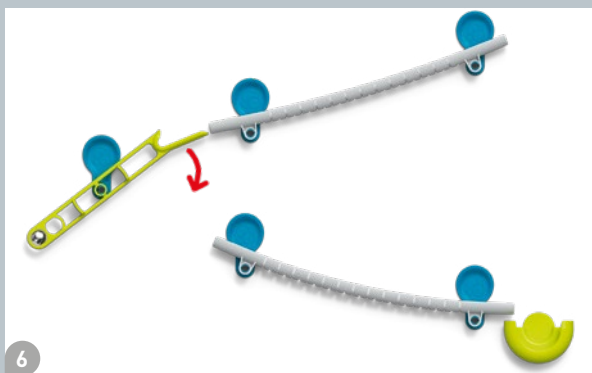


6. Now it's the lever's turn.
Remember to click at least
one ball into the slots as
a counterweight.

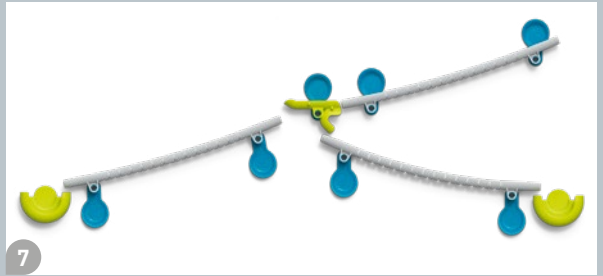


TIP

TO USE THE LEVER AS SHOWN, THE
CORRESPONDING ADAPTER MUST BE
MOUNTED AS VERTICALLY AS POSSIBLE.

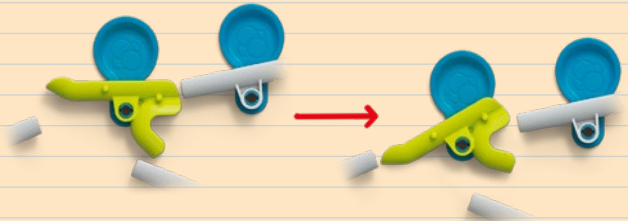


7. The switch distributes the balls alternately in one direction and then the other. This splits the path into two branches. Depending on the speed of your ball when it hits the switch, it may react slightly differently. Therefore, familiarise yourself with its characteristics.



★ Tip

TO USE THIS TRICK, YOU WILL ALSO NEED TO HANG THE ADAPTER VERTICALLY. ALSO, MAKE SURE THAT THE SWITCH IS TILTED ALL THE WAY TOWARDS THE LOWER CATCHER WHEN ATTACHING IT.

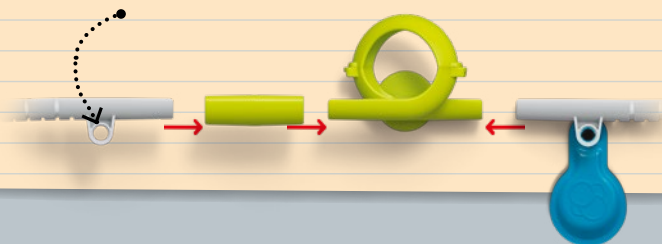


8. With the loop test track, you can develop a feeling for the characteristics and the momentum that your ball needs to pass through the loop.



★ Tip

YOU MUST CONNECT THE LEFT EXIT FROM THE LOOP TO A TRACK USING THE TRACK BRIDGE. THE ADJACENT ADAPTER RECEPTACLE ON THIS TRACK DOES NOT REQUIRE AN ADAPTER.





Wow ...
— Now build
a big track!

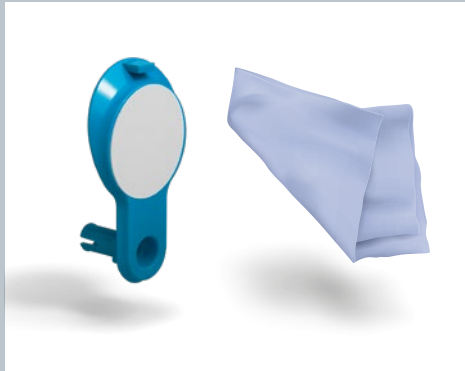
Tips AND TRICKS

Now that you are familiar with **ALL THE PARTS** of your set, you can build your **VERY OWN TRACKS**. On the following pages you will find further **TIPS** and exciting **CHALLENGES** on your way to becoming a **GECKO RUN PRO**.

— TIPS AND TRICKS

The playing surface

The nano-adhesive pads can hold your track on many **materials** as long as they have a smooth surface. Explore your home with your parents in search of the perfect play area.



The nano-adhesive pads

If your pads are no longer sticking very well, check whether dust has settled on them. If this is the case, you should clean them with a dry, **lint-free cloth** (e.g. a microfibre cloth). If a pad has lost its adhesion, you can remove it from the adapter and attach a new one.

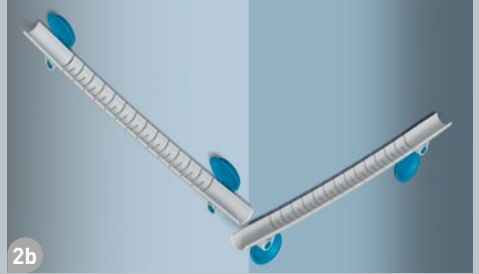
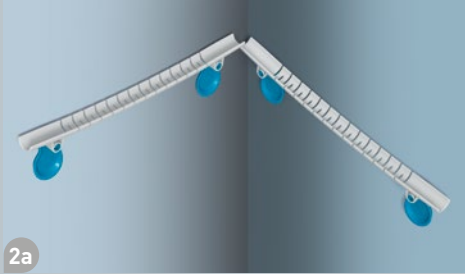
The track

1. Since the tracks are so bendable, you can also turn a section of track into **a bend**.

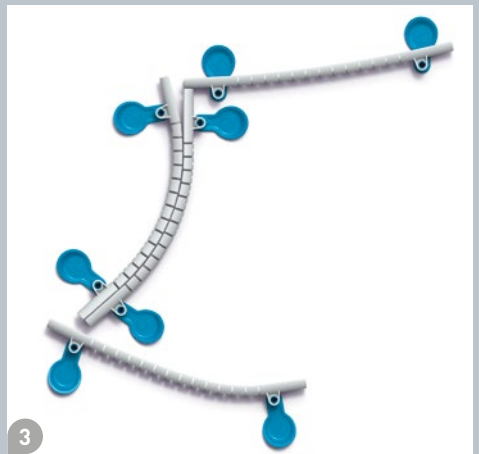




2. This way you can run the ball around corners with the tracks. Position the tracks as shown below. Make sure the ball doesn't have much momentum so that it falls into the second track.

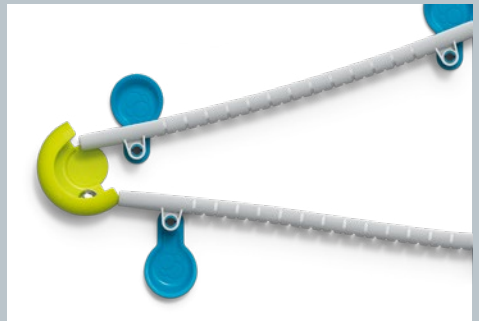


3. If you mirror two tracks as shown in Figure 3, they form a tube. This lets you add very steep sections to your run without the ball jumping off track.



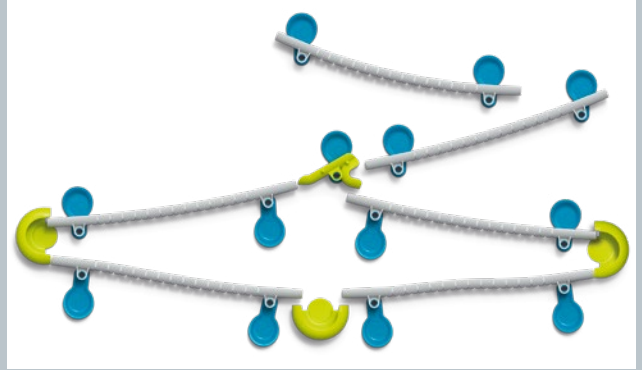
The track turn

As shown in the picture, you can also use your track turn as a ball collector that will first collect a few balls before releasing them one by one.



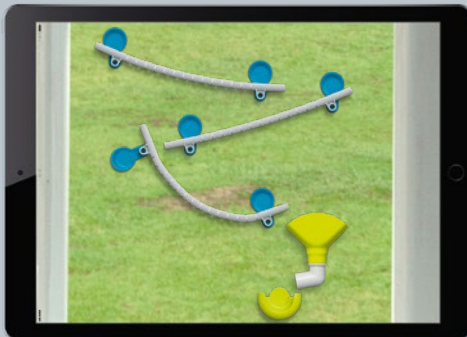
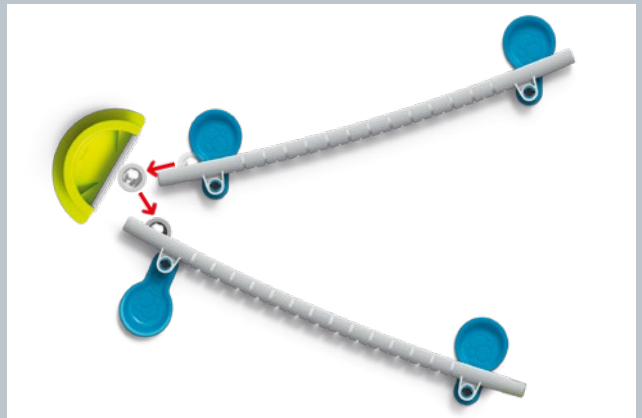
The switch

The switch splits your run into two different paths. If you don't have much space on your playing surface or if your components are running low, you can reunite the divided track under the switch.



The trampoline

The trampoline does not always have to be placed straight. It also works diagonally or hanging upside down. If you hang it up like in the picture, it will transfer the ball to the lower track.



Slow-motion videos

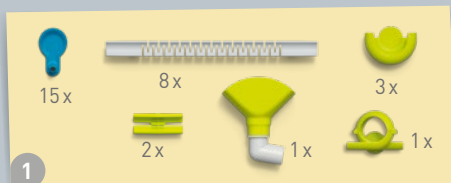
A slow-motion video not only adds a whole new level of drama to your track, but can also help you spot problem areas if your ball keeps falling off track and you can't see the cause with the naked eye.



In this chapter we will give you a few tasks for your Gecko Run. When attempting these you can compete alone or against friends and family.

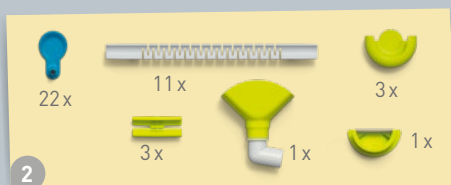
1. Challenge:

Use the components shown to build a track through which the ball travels as fast as possible and arrives at the destination, i.e. the track turn / catcher. Three times in a row!



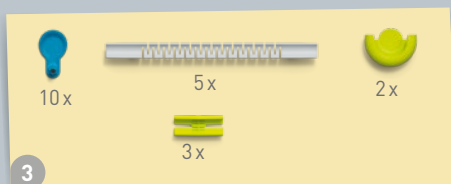
2. Challenge:

Use the components shown to build a track on which the ball travels for as long as possible. The destination is once again the track turn / catcher.



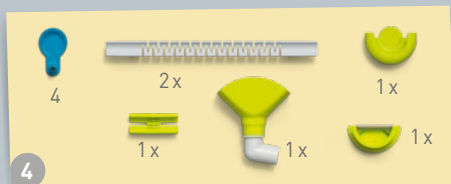
3. Challenge:

Use the parts shown to build a route that covers as much height as possible without the ball jumping off the track.



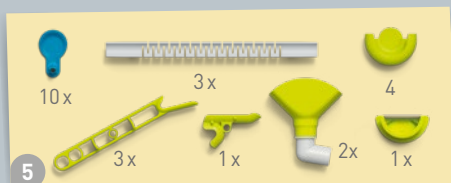
4. Challenge:

Build a jump for the balls using the components shown. Use the trampoline, the funnel and the track turn as a catcher. How far can your ball fly?



5. Challenge:

Build a run that only includes three pieces of track and otherwise consists only of tricks.



You can find out more about your Gecko Run ball track at: www.kosmos.de/GeckoRun



CHECK IT OUT

The subtle difference

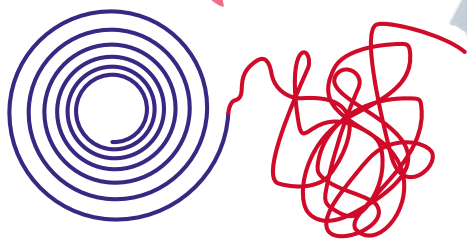
— You may have noticed something rather odd while playing and experimenting with your Gecko Run: you set up an exciting track and the ball goes through it perfectly a few times. But on the next attempt, the ball suddenly jumps off the track or gets stuck somewhere.

This happens frequently on tracks that challenge the laws of physics.

This strange phenomenon can be explained with the help of chaos theory.



— It's not always obvious when a system enters an apparently chaotic state.



CHAOS THEORY

— In principle, your ball follows physical laws that are identical at all times. Therefore, your ball should take an identical path each time. However, you may have set up your track to be very dependent on ideal starting conditions. In other words, by how you put the ball onto the track. Tiny differences in positioning can result in the ball hitting the trick slightly differently – these deviations can then be exacerbated by changing conditions until the ball eventually bounces off the track.

THE BUTTERFLY EFFECT

— You may have heard of the butterfly effect. This refers to the claim that the flap of a butterfly's wings in Brazil can trigger a tornado in Texas.

This is not meant to be taken literally, but rather as an example of how minute changes in a system (like a breath of air from a flap of wings) can have an enormous effect. In fact, this phenomenon is especially apparent in weather patterns, which is why it's almost impossible to reliably predict the weather for more than one week.



— Tiny changes in a system can have a major impact.



— The countless hairs on a gecko's foot can only be seen clearly under a microscope.

Animals that STICK

— Thanks to the ingenious pads, your ball track can hang like a gecko on vertical walls. But do you know which animals have similar abilities?



GECKOS, INSECTS AND SPIDERS

— These animals have countless microscopic hairs on their legs that increase the contact surface with the wall many times over. This creates physical adhesive forces (referred to simply as adhesion), which ensure that the wall and the animal's feet attract each other. By the way, the same forces act when you bring cling film into contact with a smooth surface.

— The remora has suction cups on its head. This allows it to hitch a lift from larger sea creatures without moving under its own power.

FISH, OCTOPUSES AND BATS

— Many animals – especially aquatic ones – attach themselves to surfaces using suction cups. However, unlike the animals mentioned above, there are no adhesion forces at work here. Their suction cups create a vacuum that makes them adhere to surfaces. You probably know that octopuses use suction cups, but did you know that there are also sharks and bats with suction cups?



— Ingenious: an octopus tentacle is not only incredibly mobile, it can also hold onto pretty much anything thanks to its numerous suction cups.

