



NIKE FREE A-Z

Feet are the foundation of movement. When they're able to move, stretch and be themselves, the technology we were all born with does what it was meant to do. The advantages of natural movement should be free for all, and Nike Free unlocks them through flexibility and natural performance.

Enhanced freedom of movement helps strengthen foot muscles and increase your foot flexibility and balance. Changing the language of shoe design forever through common sense, Nike Free allows the foot to move and flex in a more natural way.

ARTICULATED LAST

According to Nike Athlete Innovation Director Tobie Hatfield, the foot sometimes gets taken for granted: *"Athletes train all other parts of their body, but we tend to forget about the foot that starts the whole process."*

When it comes to making shoes, the last tends to come first. A last is the object made in the shape of a foot for materials to wrap around during manufacturing – it's usually fixed in one place, and created to a specific size in a specific position. This last was made as an early demonstration that cutting into a solid object would make it flexible. Just as Nike Free mimics a foot's natural movement, this articulated last twists, bends and moves like a human foot too. This was a dynamic approach to creativity.

BAREFOOT RUNNING

Running used to be a means of getting from A to B – no logged times, spectators or competitors. Now it's a sport and a lifestyle. Running might have changed over the years, but the foot hasn't.

In 2001 a team from Nike visited acclaimed university track coach Vin Lananna to watch his team train. Their curiosity was piqued when they learned Lananna had his athletes running barefoot on grass as part of their training. The Nike team turned their curiosity into a challenge: could they create a shoe that mimicked the foot's barefoot motion while still protecting it?

In the months that followed, the Nike Sport Research Lab set out to understand the biomechanics of barefoot running on grass as part of a study of natural motion and a closer examination of the foot's movement. The results informed a completely different approach to performance shoe design.

Natural motion encourages a more natural run – if muscles in the foot are worked out, the foot can become stronger. Over the years, running shoes have strived to reduce weight while offering a variety of performance features. Natural motion is paramount to achieving those objectives, but even more, it's about building product by listening to the voice of the athlete. This has been Nike's obsession since the very beginning.

CUSTOMIZATION

Not every foot is the same, and certainly no two runners are alike. Enter NIKEiD, which allows you to customize your Nike Free shoes with colors and details that match your own interpretation of style. And it goes beyond aesthetics to tailor performance. For instance, you can apply the sock-like fit of the Nike Free 3.0 on a 5.0's more cushioned sole, or the dynamic Nike Flywire technology of the 5.0 on a 3.0 to get closer to a barefoot-like feel. The personalized possibilities of NIKEiD inspire runners at every level to create a custom look. World champion sprinter Allyson Felix, for example, designed two Nike Free iD shoes to commemorate racing in Athens in 2004. Her second-place finish was a big accomplishment for the then 18-year-old and is something that continues to motivate her today.

DYNAMIC FLYWIRE

Once, support came at a price. Ensuring a secure fit meant added weight, until the debut of Nike Flywire technology - ultra-light targeted support that helps keep the foot snug and secure. Inspired by the moving and flexing cables on a suspension bridge, the encased Nike Flywire technology that launched in 2008 evolved in 2012 to move freely and dynamically wrap beneath the foot. The strands tighten and relax with the foot's natural motion, locking it in where it matters and cinching down without upping the pressure. Featured in the Nike Free 5.0+ for the first time, dynamic Nike Flywire has presented natural motion with a new running partner - the ultimate support network.

EVOLUTION

What started as a breakthrough in 'less' has changed the running shoe forever. When Nike Free debuted in 2004, it was a collection of men's and women's running designs unlike any other performance shoe. Since then, the Nike Free range has expanded to a spectrum that spans across sports.

Athletes can choose a level of natural motion that suits their individual needs, whether it is a 3.0's barefoot-like feel or the extra cushioning of a 7.0. This season's Nike Free collection offers a wide range of running and athletic training shoes embracing natural motion and dynamic upper technologies to engage the foot's full range. As both the sole and upper evolve, the feet feel the benefits.

FLEXIBILITY

It took an elite group of thinkers, innovators, designers, scientists, coaches and athletes to make a shoe that flexed with the foot like never before.

Mimicking the natural motion of barefoot running became the subject of extensive studies in the Nike Sport Research Lab - flexibility was a key to promoting a full range of motion. That meant freeing the foot - allowing it to move naturally from toe to ankle.

Flexibility in a running or training shoe was nothing new - footwear like the Nike Sock Racer, Air Presto and Air Kukini had laid the groundwork for natural motion with forward-thinking flex grooves. But the true breakthrough was yet to come: rather than making flexibility an element of the design, what happens when the entire design is led by it?

The challenge to create a sole that became an extension of the foot, rather than a platform to rely on for protection, led to the unparalleled articulation of the Nike Free's flexible sole - foldable, tactile, movable and natural in its movement.

Transtarsal midfoot grooves on running soles enhance midfoot flexibility. For training shoes, multi-directional innovations like DiamondFLX expand that range of motion. Each Nike Free shoe flexes to make your feet do the work and, as a result, you engage and help strengthen foot muscles that are often ignored. That's why flex appeals.

GRIP

Grip doesn't necessitate heavy rubber spikes and other precautionary excess. Though it's tempting to have a safety blanket of high-traction additions, Nike Free running shoes' midsoles are able to double as outsoles thanks to the midsole's material being durable enough to contact the ground. Where necessary, strategically placed solid rubber pods help ensure added traction in areas of extreme wear without sacrificing flexibility. And because the traditional outsole can be eliminated, the shoe is lighter, too.

HOT KNIFING

Think of hot knifing as a hot knife moving through butter. Except this time, it's a Phylite midsole and a more sophisticated technology slicing through with exacting precision. The hot knifing process offers the ability to cut sipes very precisely - creating, for example, curved patterns like the diagonal, transtarsal hot-knifed sipes through the arch. These help ensure a natural midfoot movement as the foot transitions in stride - one of the key additions to Nike Free sole patterns.

INFLUENCE

Nike Running Footwear Design Director Rob Dolan has seen the full impact of this innovation: *"Nike Free has an incredible influence on the way we build performance footwear today - specifically in running where you can see its influence across the entire line."*

By inspecting what happens when athletes are not wearing anything on the foot, the athletic shoe was redefined. For a long time, the solutions to athletic needs on a shoe were additions, but this was a story based on subtraction. Nike Free's emphasis on flexibility and mimicking natural motion changed everything. Those sleek, siped-sole looks planted a seed in the industry. Now training, tennis and even basketball shoes work with notions of natural motion.

JUST WHAT YOU NEED

"Everything you need is already inside." Bill Bowerman

Just what you need. No more, no less. Coach Bowerman put athletes first and as co-founder of Nike, his approach is imbued in every product. A true performance pioneer, he created his own rules and his own approach to how shoes should be made. Few realized that this hard-headed, straight-talking approach to footwear was the right way. Determined to get the very best out of his athletes, Bowerman obsessed over every gram and

calculated the impact of excess weight over distance.

Fewer barriers meant a natural, unhindered run and ultimately, a win. In his quest for reduction, Bowerman literally shaved away grams from shoes at his home workshop, custom-creating designs for his athletes as he observed a need for cushioning, flex and a sock-like fit decades before they became a norm.

The legendary coach was a part-time scientist and inventor who was known to ponder that the ideal track spike was a bare foot with a nail through it – thankfully, things never went that far, but working to that ideal, he strived for the ultimate in natural performance. That philosophy connects to everything Nike does in the field of performance. What would Bowerman have made of Nike Free? He would have been impressed. Then the inevitable question would arise – how could we make it lighter? Because Bowerman knew, more than anybody, that There Is No Finish Line.

KITCHEN

The Innovation Kitchen's occupants are elite thinkers and creators, and this space – at the heart of Nike's headquarters – is where they pave the way for the future of sports. Just as Nike co-founder Bill Bowerman pioneered the traction of the Waffle sole using Barbara Bowerman's waffle iron, that homespun approach is amplified here. Nike Free took form through progressive technologies as well as time spent with a block of foam and a knife to perfect the siping. Ideas come from everywhere, but the Innovation Kitchen is where they take form.

What technologies have emerged from the Innovation Kitchen's experiments and what was Bowerman actually like as a mentor? Tobie Hatfield knows. *[CAPTION TO THE VIDEO]*

LIGHTWEIGHT PLUS

When it comes to performance shoes, lightweight is important – and so are support, natural motion and performance. Designers strive for lightweight at the right weight, searching for the perfect combination of lightweight plus performance to make the foot forget it's even wearing anything and perform as it's meant to. Nike Free has been engineered to strike the ideal balance between form and function, so it's about what's necessary rather than what's superfluous.

LIGHTWEIGHT PLUS LOW PROFILE

Because Phylite is durable enough to work as an outsole as well as a midsole, weight is significantly reduced.

LIGHTWEIGHT PLUS BREATHABILITY

Engineered mesh on the upper of the Nike Free 3.0 is zonally structured, so it's open where ventilation is needed and closed where support is a priority.

LIGHTWEIGHT PLUS SUPPORT

Dynamic Nike Flywire on the Nike Free 5.0+ wraps the midfoot and arch of the foot with a fit that moves naturally with the foot and locks it down but weighs practically nothing.

LIGHTWEIGHT PLUS COMFORT

The tongue-wrap fit of the Nike Free 4.0 is made from a lightweight textured sandwich

mesh that fits like a sock for enhanced comfort.

LIGHTWEIGHT PLUS NO-SEW

No-sew overlays on the upper help provide stitch-free minimalism that also aids comfort.

MUSCLES

It's easy to take the foot for granted. You work your entire body – chest, arms, legs – but the feet can be neglected. There's a lot of work to do there too, because feet have relied on a shoe for too long. The good news is, wearing Nike Free has shown to increase certain muscles' strength in the foot and ankle. Take, for example, muscles like the *flexor hallucis* and *flexor digitorum*, that contribute to the movement of the *metatarsalphalangeal* joint. Push off is the active part of the step cycle where the foot and ankle generate the force to propel the body upwards and forwards – this is where the *metatarsalphalangeal* joint extends. When those muscles are worked through natural motion, they get stronger. Your balance gets better and foot flexibility improves too. Lazy feet finish last.

NATURAL MOTION

Natural motion is the innate ability that gives athletes the capacity to reach their full potential. By moving naturally, you're free to perform at your best. Coach Vin Lananna believed this was common sense and a truth – how do you make that truth into a shoe?

At the Nike Sport Research Lab, Lananna's approach became tested insights that investigated the foot's biomechanics through new motion studies. By learning more about the foot's movement, researchers were able to identify the benefits of natural motion running.

Natural motion running with Nike Free can strengthen foot muscles, increase foot flexibility and improve balance. And it's not just about running – it's about letting the foot do what it was intended to do, whether training, jumping, practicing or playing. That's why a notion that became a fact, which became a new norm, now informs almost every Nike shoe.

ORIGINAL

Coach Vin Lananna and his athletes' commitment to barefoot training was the key insight in Nike Free's development. As a result of Lananna's faith in the foot as it was meant to be, 'less shoe, more you' became a driving force at a design level.

Lead innovator Tobie Hatfield knew what was needed – unparalleled movement. Support and weight had been addressed in Nike shoes from the very beginning. Nike co-founder – and Hatfield's mentor – Bill Bowerman had reinforced the need to serve the needs of the athlete since the late 1960s.

With a need for movement, a siped midsole made sense. Painstakingly cutting into a solid block of foam by hand, for hours on end, in order to create the perfect level of flexibility, released the material's tension and led to another revelation. Applied to a shoe upper, it changed the fit, too. Continuing this handmade mission, the tactical placement of deep and shallow cuts led to more than 11 prototypes, patterned in line with the Nike Sport Research Lab's findings.

In 2004, the Nike Free 5.0 was born – pitched halfway between a barefoot-like feel and a standard running shoe. Nike Phylite – an ultra-light blend of rubber and Phylon – was created for the project that was tough enough to let the midsole act as an outsole, too. Making a sole by hand was one thing, but manufacturing it was something else.

Decades after a waffle iron inspired Bill Bowerman, ice-cube trays inspired molds created by the Innovation Kitchen team, while laser cutting was the solution for applying razor-thin sipe patterns that complemented the bigger grooves.

The first Nike Free shoe was a hit, an innovation ahead of its time. Other models followed; common sense, years of study and faith in flexibility birthed a modern classic.

PHILOSOPHY

From the new fabrics and featherweight foams to precision patterning, there's a common thread in all these pioneering technologies: a three-word philosophy that's as relevant now as it was in the beginning – serve the athlete. Bill Bowerman co-founded Nike on this principle, experimenting in his home kitchen with footwear innovations ahead of their time. Today, the philosophy is just as strong: the voice of the athlete influences everything. Even the most advanced concepts are built on this simple ethos.

QUESTIONS

HOW SHOULD I START WEARING NIKE FREE?

Nike Free lets the muscles in your feet put in the work they're naturally meant to do. You wouldn't go into the gym and try to lift the biggest weights straight away, so ease into wearing the shoes gradually for a more enjoyable experience.

WHAT NIKE FREE SPECTRUM NUMBER SHOULD I WEAR?

That depends on what kind of sport you're engaging in and whether you've worn Nike Free footwear before. The spectrum number determines how close your foot is to the ground. Everybody has different support and cushioning needs, but Nike Free 5.0+ is a good place to start if you're a newcomer. For training, try the Nike Free Trainer 5.0 or the Nike Free TR Breathe, also a 5.0 on the spectrum.

WHAT'S NEW ABOUT NIKE FREE RUNNING SHOES THIS YEAR?

The midsoles reflect years of research and design around natural motion, and they remain the same on each style as 2012. New this year are upper innovation updates unique to each style that help provide the right amount of support without added weight.

WHAT ARE THE BENEFITS OF TRAINING WITH NIKE FREE?

Nike Free allows the foot to move and flex in a more natural way. Enhanced freedom of movement helps strengthen foot muscles and increases your foot flexibility and balance.

CAN I WEAR RUNNING SHOES FOR TRAINING OR TRAINING SHOES FOR RUNNING?

Nike Free running shoes have been engineered with full-length flexibility for running, with die-cut uppers that are designed for forward motion. Nike Free training shoes are made for lateral work with multi-directional movement – their laser-cut uppers and special siping patterns are designed to perform in to those demands. Crossover is possible, but it's best to pick the correct version for your workout.

RUNNING

Running is an ever-escalating movement, based on movement. It can be your own personal meditative zone or it can be the ultimate social activity, with crews united by unforgettable shared experiences and emotions.

Everything looks different at a different pavement pace – the lights, the shadows and even the way the world sounds. There are new meanings and new symbols all around you that only a runner can see. Signs become finishing lines, and the world has a new dynamic. As you move, you improve – you find a newfound freedom in a liberated landscape.

Now you're an improved being, intent on defeating your own achievements. No gym fees squandered. The movement continues.

SPECTRUM

What's with all those numbers? It's easy – Nike Free started with exhaustive research, but knowing your 3.0 from your 7.0 is simple. The Nike Free spectrum runs from zero to 10. Lower numbers offer a more barefoot-like feel and higher numbers mean greater support, with a higher heel-to-toe offset.

No matter how low you go, some level of protection and multi-surface traction is always present. A great starting position is 5.0, pitched halfway between barefoot and a standard shoe. But if your training is ultra aggressive, 7.0, with its enhanced cushioning, will suit your needs. No mathematical skills needed – just common sense and knowing what you want from your workout.

TRAINING

This is where it gets intense. Athletes of all levels understand training is key to reaching their potential. It's also an area where Nike Free takes some unique forms to benefit athletes across many different workout styles. The common denominator for training is maximizing the foot's 360-degree, multi-directional movement.

For women, natural motion allows the foot to move freely when athletes are working out the six core moves – a push, pull, squat, lunge, bend and a twist. Nike Free technology allows the foot to work naturally during even the most rigorous sessions. Female athletes have the options of several training shoes along the Nike Free spectrum. At 3.0, the Nike Free Advantage is resilient but durable, with superior zoned breathability and unique use of color. For athletes looking for a 5.0, the Nike Free TR Breathe offers enhanced support and cushioning with natural motion performance.

For men, Nike Training combines natural motion design and barefoot-like feel with resilient cushioning, lateral support and aggressive rubber nodes for multi-surface traction. The rigors of multi-sport training are intense, so playing on the foot's natural biomechanics while maintaining stability is essential. The Nike Free Trainer 5.0's Chinese finger trap inspired woven upper is soft and pliable, but anchored underneath with Dynamic-Fit technology for an adaptable lockdown fit.

Delivering Nike Free's core benefits across different disciplines, this is a completely different approach to Nike Training design, and one that pairs versatility with performance.

UPPER

Sometimes the foot just needs a hug. Nike Free soles are engineered for natural motion, but the uppers of each shoe are equally integral; striving for a sock-like, weightless feel that's protective but allows for great range of motion and flexibility.

New upper innovations like engineered mesh in the Nike Free 3.0 help ensure breathability where needed and tightens up in key areas where support is integral, while the full booty fit is snug and supportive.

In the Nike Free 4.0, a large mesh midfoot panel increases airflow, with a tongue wrap and no-sew construction for superior stitch-free comfort.

The Nike Free 5.0+'s dynamic Nike Flywire technology pairs up with a textured sandwich mesh inner sleeve and wrapped tongue for a glove-like fit, ultimate feel and stability. More or less, less is more.

VICTORY

"They don't give you gold medals for beating somebody. They give you gold medals for beating everybody." Michael Johnson

It's the euphoric, cork-popping photo finish that makes everything worthwhile. Without an audience, it's the personal best annihilated and a new standard set. Victory is about challenging yourself then achieving your goal and superseding any of your expectations. It's something that can't be bought, traded or synthesized. It's the feeling of pure joy. The spirit of victory drives everything we do.

WHY?

Why should you care about Nike Free? There are technologies that protect, bounce and do crazy stuff with the impact of a human body. So why opt to strip it down?

Because it's not a sacrifice - it's a gain.

From Stanford University's fields to the Nike Sport Research Lab and Innovation Kitchen in Beaverton, Oregon, and a network of global academic research facilities, research and development on Nike Free was comprehensive - all to research and create a shoe that broke the mold and required a completely new one. It led to countless wear tests, trial and errors and athlete research. All for the sake of your feet.

The bottom line from that effort? Running with Nike Free encourages natural motion, which can help build stronger foot muscles, increased foot flexibility and better balance. Who doesn't want that?

This is the combination of barefoot-like feel with protection - proven improvement twinned with good looks, because everybody wants a good-looking shoe, too.

X-FACTOR

You can't serve the athlete through guesswork. It takes athletic insights from the people who do it for a living - the people who breathe, sweat and exist for sports. Athletes are

at the heart of every Nike product. They work closely with teams of experts in innovation, science and sports. Pros like Allyson Felix, Gabby Douglas and Dathan Ritzenhein each use the Nike Free system as part of their training programs – an essential tool in their arsenal for warm up, cool downs, recovery or strength workouts. Embodied in every shoe is that X-factor to ensure innovations are put through the most rigorous tests possible to deliver benefits like nothing else.

YOU

Inspiration comes from the elite athlete. Their triumphs and struggles move us, but it's not all about the full-timers with the careful training schedule, championships and endorsements. What started with the world's greatest performers and prospects is made for you. Whatever the gender, the style, the body type or the end goal, Nike Free has the potential to become your ultimate running or training partner. Everybody has an innate athlete waiting to be freed. Bill Bowerman put it a little more succinctly: *"If you have a body, you are an athlete."*

ZERO

Everything starts at zero. It's something we compete against — even when we're running or training solo — and it's the foundation of freedom as the bare foot on the Nike Free spectrum. Zero is natural motion in its purest, untethered form. Just as the race starts with zero, performance starts with the foot — the beginning of the kinematic chain that controls the human body's movement. In many ways, Nike Free was a full circle back to the origins of Nike in Bill Bowerman's workshop, yet it's also the future of performance footwear. Zero is the start as well as the finish.

