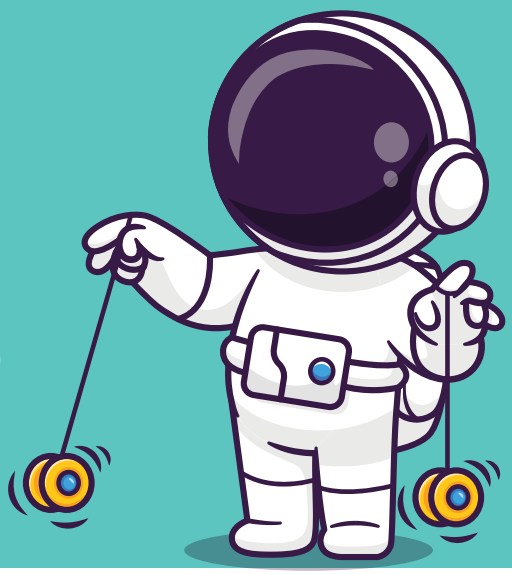
WHAT DO YO-YOS AND WATER SLIDES HAVE IN COMMON?

WHITEWATER
EST. 1980



THE MATH BEHIND THE FUN

POTENTIAL ENERGY (PE):

Energy from an object with mass, stored at a height

$$PE = mgh$$

m = mass
g = gravity
h = height

KINETIC ENERGY (KE):

nergy of an object with a mass, that is in motion

A moving object

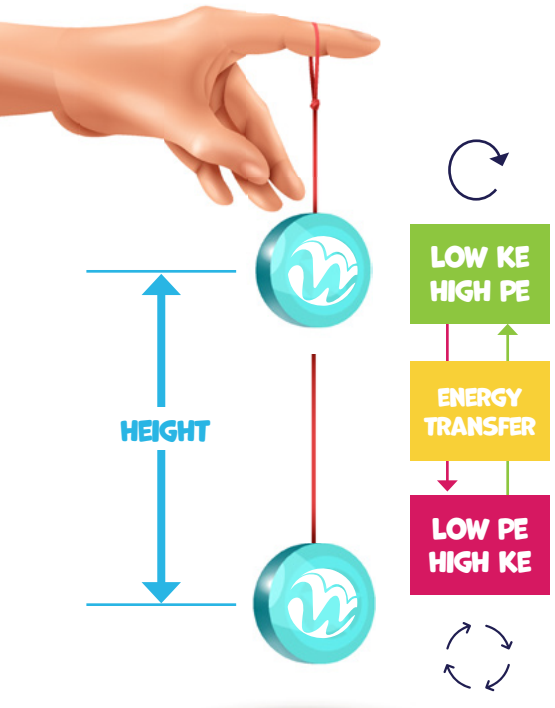
$$KE = 1/2\ mV^2$$

m = mass
V = velocity

A rotating object

$$KE = 1/2\ I\Omega^2$$

I = Inertia (~mass)
Ω = rate of spin



HOW IT ALL WORKS...

As you flick your wrist to unwind the yo-yo, you are giving it some Kinetic Energy to start, in addition to the Potential Energy it already has because it is still wound up. As it unwinds, the Kinetic Energy increases, because the yo-yo is rotating faster, in addition to a small amount of downward speed. When the string completely unwinds, the rotational speed is very high, so it now has a maximum of Kinetic Energy and no Potential Energy left.

Next, the same process works in reverse! The string starts to wind up again, raising the mass of the yo-yo back to your hand, while slowing down again. At the top when you catch it, almost everything has been converted back to potential energy! Friction will steadily remove energy though, so you still need to work at it a bit with the wrist.

Flip this over to see how the same process works in a water slide!

LET'S TALK BLASTERANGO BATTLE

MAXIMUM POWER SAVED, AND MINIMUM WATER LOST

THE LAUNCH! THE SAFEST PLUMMET YOU'LL EVER EXPERIENCE!

THE MOST DIVERSE TUBE SLIDE RACING EXPERIENCE AVAILABLE TODAY.

Much like that yo-yo, every ride needs a source of stored energy to start the fun. That can come from a high-speed conveyor, a flat blast water jet, or a simple tower. Here, the rider creates their own potential energy with each step.

THE MEGA DROP LAUNCH

The conveyor matches race timing and sets all tubes with identical velocity to help connect the racing experience. No turning back now though. This is where you let the lightning out of the bottle!

The start mega drop has 2 purposes. First, it converts the stored potential energy into raw speed with a 10-meter-high freefall-like experience. Secondly, it builds the safest possible sense of extreme anxiety as a rider looks a long way down from the start area. The mega drop has no equal.

MIND THE MID RIDE MEGA DROP

The second mega drop is much the same, with one exception. You know it's coming, and can't stop it! In addition, mega drop valleys create a critical safety element in what we call zone control. The energy state in the mega drop indicates that it will capture and safely stop riders in an emergency shut down, which then allows increased throughput because more than one tube can ride in each slide path. The water jets can also be shut down completely between riders, which creates a monumental power savings versus a system that's on all the time. A 50% reduction from peak power is absolutely possible. The nozzle designs also allow for the widest rider weight range in the industry, with minimal water loss.

BOOMERANGO FINISH

As with any slide, high energy usually indicates thrill level. This is no different, but eventually all that Potential Energy becomes Kinetic Energy that needs to be dissipated. We trade Potential for Kinetic and back again several times, most notably in the zero G wall and its associated runout lane. When it's all over, riders will safely come to a splashing finish, then immediately look for the tower entry to do it all again.