



HANGLOOSE

BLUEWATER

ADVENTURE

SCHOOLS

KS2



BLUEWATER HISTORY!

Bluewater Shopping Centre is one of the largest shopping centres in Europe today, but it was not always a place for shops and restaurants.

A long time ago, the area was a huge chalk quarry, where stone was dug out of the ground. When the quarry closed in the late 1900s, it left large holes that filled with water and became lakes surrounded by chalk cliffs.

In the 1990s, the land was redeveloped into a modern shopping and leisure centre. The designers kept the lakes and natural landscape as a feature of the site.

Bluewater opened in 1999. It includes shops, restaurants, entertainment, and green spaces, making it more than just a shopping centre.

Today, it is a popular destination for shopping, food, and days out with family and friends.

When visiting Hangloose Bluewater you will learn through adventure!

FORCES AND MOTION

ENERGY

MEASUREMENT AND MATHS

TEAMWORK

FORCES AND MOTION

Forces are all around us! We can't see them, but we can see the effects they have.

The main forces you will experience doing our activities:



Can you think of any activities you do that might use these forces?



The Earth's gravity is very strong—that's why everything falls towards the ground.

Gravity is a force that pulls objects toward the Earth.

Gravity keeps us on the ground and makes things fall when dropped.

Jumping is a fight against gravity—it pulls you back down every time.

Without gravity, we would float! That's what astronauts experience in space.

WHICH OF THESE IS AN EXAMPLE OF GRAVITY?

A – Pushing a swing to make it go higher

B– Sliding down a slide at the Aqua Park

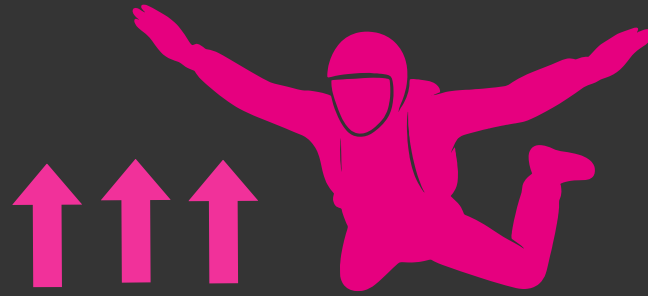
C– Pulling a rope to move a tug-of-war team

**B!**

SLIDING DOWN A SLIDE AT THE AQUA PARK

WHY?

Gravity is a force that pulls things down towards the Earth. When you slide down at the Aqua Park, gravity is pulling your body down the slide. That's why you move downwards without needing to push or pull yourself.



AIR RESISTANCE

Air resistance is a force from the air that slows moving objects down. Wind can also push objects like kites and change their direction.

Air resistance is a type of "force" that slows things down when they move.

Objects with a bigger surface area feel more air resistance — a flat paper falls slower than a crumpled one.

Parachutes work because of air resistance — they catch the air and make you fall slowly.

WHICH OF THESE IS AN EXAMPLE OF AIR RESISTANCE?

A – Sliding down the Aqua Park slide

B– Pulling yourself up a climbing wall

C– A kite flying in the wind

A large, bold, white letter 'C' followed by an exclamation mark, set against a bright pink square background.

A KITE FLYING IN THE WIND

WHY?

As the wind moves past the kite, the air pushes against it. This force helps the kite stay in the air and changes how it moves. Options A and B are not examples of air resistance because they involve different forces, such as friction or muscle strength, rather than the air pushing on an object.



FRICTION

Friction can slow things down — like shoes on the floor or sliders on a climbing wall.

Some surfaces create more friction than others — rough surfaces are “grippier,” smooth surfaces are “slippery.”

Friction is a force that happens when two surfaces rub against each other.

Friction can create heat — rubbing your hands together makes them warm.

Water and oil reduce friction — that’s why wet slides at the Aqua Park are faster!

WHICH OF THESE IS AN EXAMPLE OF FRICTION?

A – A ball falling to the ground

B– Trainers gripping the floor when you stop running

C– A swing moving higher when it is pushed



TRAINERS GRIPPING THE FLOOR WHEN YOU STOP RUNNING

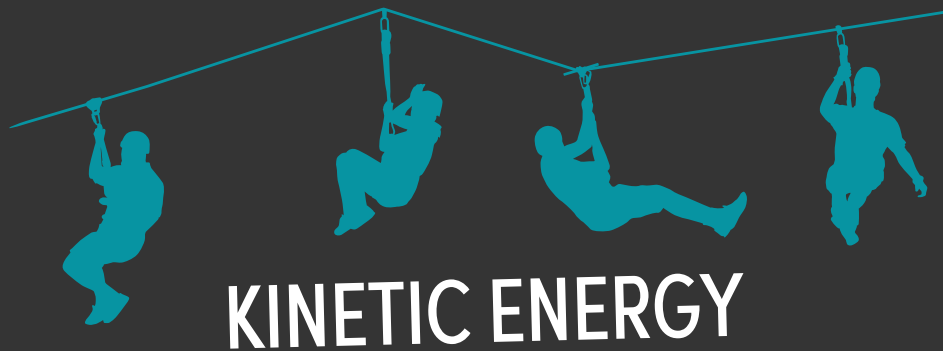
WHY?

Trainers gripping the floor is an example of friction. Friction is a force that happens when two surfaces touch and rub against each other. In this case, friction between your shoes and the ground helps you slow down and stop when you are running.

ENERGY!

Energy helps us move, climb, swing and splash!

We can see different types of energy in action during Hangloose activities.



POTENTIAL
ENERGY



ENERGY
TRANSFERS





KINETIC ENERGY

= MOVEMENT!



WHAT IS IT?



Kinetic energy is the energy an object has when it is moving.
The faster something moves, the more kinetic energy it has.



HOW IT WORKS

When an object starts moving, it gains kinetic energy.

When it stops, it loses kinetic energy (it changes into other forms like heat or sound).

WHAT AFFECTS KINETIC ENERGY?

Speed: Faster objects have more kinetic energy.

Mass (how heavy something is): Heavier moving objects have more kinetic energy.

EVERYDAY EXAMPLES!

A moving car

A rolling football

A falling raindrop

A running child

POTENTIAL ENERGY

= STORED ENERGY



WHAT IS IT?

Potential energy is stored energy.
It is energy an object has because of its position or shape.
It is energy that is "waiting to be used".





HOW IT WORKS

When an object is released, its potential energy changes into other energy, usually kinetic energy.

For example, a ball at the top of a hill rolls down and its potential energy turns into kinetic energy.

WHAT AFFECTS KINETIC ENERGY?

Height: The higher an object is, the more potential energy it has.

Shape/stretching: The more it is stretched or compressed, the more energy it stores.

Mass: Heavier objects store more potential energy when raised.

EVERYDAY EXAMPLES!

A book on a high shelf

A stretched rubber band

A drawn-back bow

A child at the top of a
slide

ENERGY TRANSFERS



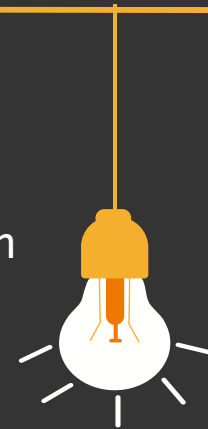
= ENERGY CHANGING FROM ONE
FORM TO ANOTHER



WHAT IS IT?

Energy transfers happen when energy moves from one place to another.

Energy can also change form during a transfer



HOW ENERGY CHANGES

Energy is never lost, it just changes form.
Some energy is often transferred as heat or sound.



EVERYDAY EXAMPLES!

A lamp transfers electrical energy into light and heat.

A toaster transfers electrical energy into heat.

A moving car transfers chemical energy (fuel) into kinetic energy.

A falling object transfers potential energy into kinetic energy.

KINETIC OR POTENTIAL?

Ziplining across a
course

Ready to jump on
a high platform

stretched safety
rope before
movement starts

Freefalling on the
big swing

Standing on the
edge of a zipline
platform

WHAT ENERGY TRANSFERS COULD HAPPEN ON:

GIANT SWING

ZIPLINE

CLIMBING WALL

KINETIC OR POTENTIAL?

Kinetic: Ziplining
across a course

Potential: Ready
to jump on a high
platform

Potential:
Stretched safety
rope before
movement starts

Kinetic:
Freefalling on the
big swing

Potential:
Standing on the
edge of a zipline
platform

WHAT ENERGY TRANSFERS COULD HAPPEN ON:

Big swing: chemical energy (body) → potential → kinetic

Zipline: potential energy at height → kinetic energy as you travel

Climbing wall: chemical energy → movement + heat (muscles working)

MEASUREMENTS AND MATHS

At Hangloose Adventure, we use measurement, calculation, and data handling to explore real-life maths in activities like England's longest zipline and Europe's biggest swing.

DISTANCE AND CONVERSION



We measure distance in metres (m) and sometimes convert to kilometres (km). $1 \text{ km} = 1000 \text{ m}$

Our Zipline is 720m long, what is that in km?



MEASUREMENTS AND MATHS

At Hangloose Adventure, we use measurement, calculation, and data handling to explore real-life maths in activities like England's longest zipline and Europe's biggest swing.

TIME AND UNITS

We measure how long activities take in seconds (s) and minutes (min).
We can convert between them ($1 \text{ min} = 60 \text{ s}$).

Which is longer? a 2 minute long Zipline ride, or 180 seconds on the Swing?



MEASUREMENTS AND MATHS

At Hangloose Adventure, we use measurement, calculation, and data handling to explore real-life maths in activities like England's longest zipline and Europe's biggest swing.

SPEED (CALCULATION)

We can calculate speed using:

$$\text{SPEED} = \text{DISTANCE} \div \text{TIME}$$



This helps compare how fast people travel on the zipline or swing.

A rider travels on England's longest zipline, which is 720 metres long.

It takes them 30 seconds to reach the end.

What is their speed in metres per second?

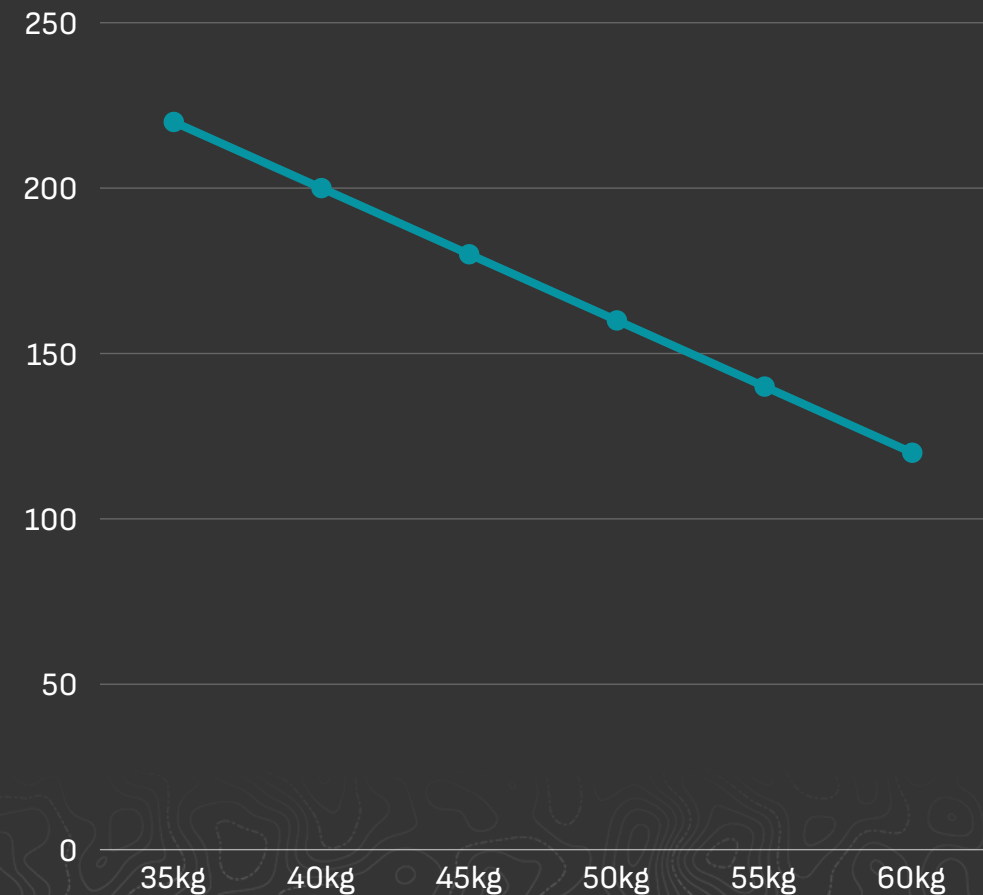


MEASUREMENTS AND MATHS

We can plot data on a graph to compare information and look for trends (patterns).

For example, the graph to the right shows how heavy someone is and how long it might take them to complete the zipline at Hangloose Adventure in seconds.

What is the trend? Describe what you notice.



TEAMWORK!

Teamwork is when people work together to achieve a goal.

Everyone in the team has a role to play.

Good teamwork helps tasks get done safely, quickly, and successfully.

KEY SKILLS IN TEAM WORK



COMMUNICATION

Talking and listening to
others clearly



COOPERATION

Working together, not
against each other



PROBLEM SOLVING

Finding solutions as a
group



ENCOURAGEMENT

Supporting teammates

USING TEAMWORK AT HANGLOOSE

When at Hangloose Adventure, you can use teamwork to have a great day out! Here are some ways you can do this:

- Encouraging each other before going on activities like the zipline or swing
- Listening carefully to instructors as a group
- Helping teammates who feel nervous or unsure
- Working together to follow safety instructions
- Celebrating each other's achievements after completing an activity

BUT... Most importantly

HAVE FUN!!

