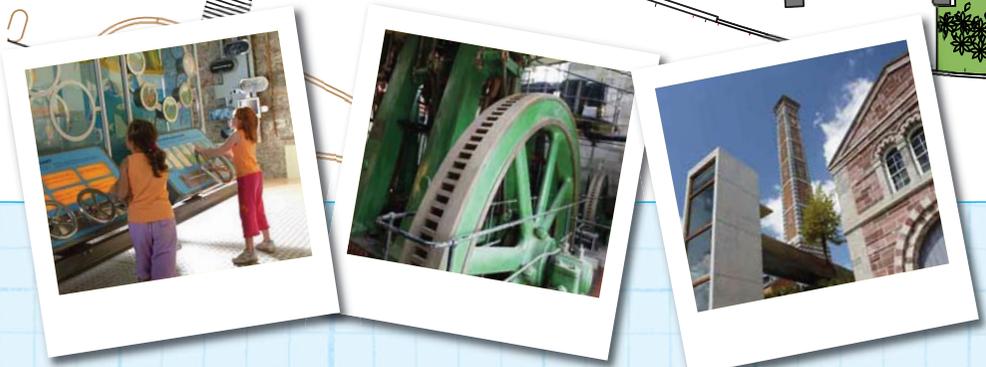
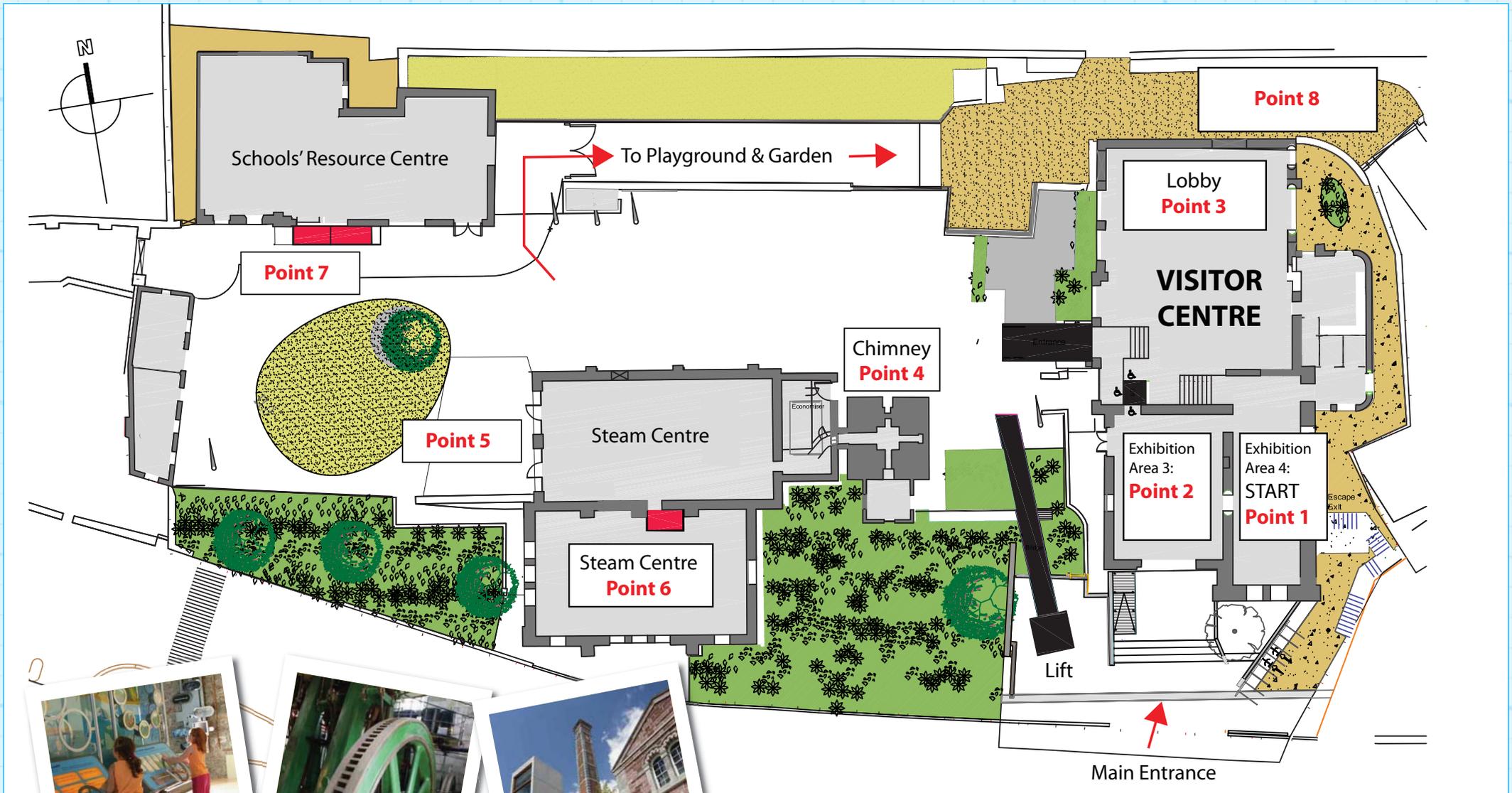


# Engineering Trail



Lifetime Lab  
AT OLD CORK WATERWORKS



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# Engineering Trail

## Point 1

Watch the video in the lobby and fill in the blank. The Lee Road Waterworks successfully provided \_\_\_\_\_ to the Cork city until 1960s.

## Point 2

Some materials take a long time to degrade into the soil and are bad for the environment. Do the 'biodegradable test' and find out what takes 400 years to degrade.

Chemical engineers have developed fuel called biodiesel from household waste to run our cars. Kiki tells her story about how biodiesel is used very commonly in her country. Where is she from?

## Point 3

Explore the presentation of Water Cycle. Evaporation takes place when water rises into the sky and comes together to form clouds. What step in the cycle does evaporation take place?

Structural engineers use trusses (which are triangular units connected at joints) to construct a stable roof for a building. How many trusses can you count in the Exhibition Area 3?

Come out into the reception area and touch the floor. Can you feel that it's warm? Engineers construct heat pumps which go down to the mantle of the earth and capture heat. This form of energy is called geothermal energy. What are the two Greek words that the word 'geothermal' comes from?

## Point 4

Come out of the building and look at the tall chimney on your left. A structural engineer designed the building using different material to ensure its safety and durability. Name the 2 types of rocks that were used.

## Point 5

Engineers continuously create and develop new products to improve our lives. Look at the time-line showing the development of steam engines at the Lee Road Waterworks. What type of engine was installed in 1869?

Look out at the river from this point. Civil engineers constructed dams over river to generate hydroelectricity. River Lee has two hydroelectric power stations, at Carrigdrahid and Inniscarra. How much electricity do they generate in a year?

## Point 6

Going into the Steam Centre, notice the glass drawer on the left hand side. You'll see miniature replicas of the engines that were made over the years. Who made Compound Horizontal Engine?

The mechanical engineers of Lee Road Waterworks developed gantry cranes to transport coal. What weight could the gantry crane lift?

Watch the video in the Steam Centre. The engine in this room was built in the same place where the Titanic was built. Name this place.

## Point 7

The 'weighbridge' was used to weigh coal. This was done by weighing the cart when it was loaded and empty and finding the difference. Here's a chance for you to be an engineer and use your math skills! If a cart was 4200kg when it came to the site and 1200kg when leaving. What is the weight of the coal?

## Point 8

Archimedes' Law of Lever states "that similar weight can be balanced at equal distances". Fill in the blank.

The \_\_\_\_\_ on the playground puts this law into practice.

Engineers have re-used materials to create new products which helps the environment. Look down at the playground's safety matting. Fill in the blanks to find out what material it is made of.

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