What is Explorify?

The Explorify website provides loads of free educational STEM resources. To access these resources, sign up at www.stem.org.uk/explorify

The 3 activities linked to the exhibits in the STEM Discovery Trail are:

explorify.uk/en/activities/zoom-in-zoom-out/pink-and-spongey

explorify.uk/en/activities/odd-one-out/goldilocks-planets

explorify.uk/en/activities/whats-going-on/hot-or-cold

Pupils do not have to have completed the Explorify activities in class before following the trail, but we encourage you to explore the activities when you return to the classroom.

Explorify

GLASGOW SCIENCE CENTRE

Registered Scottish charity SC030809

STEM Discovery Trail

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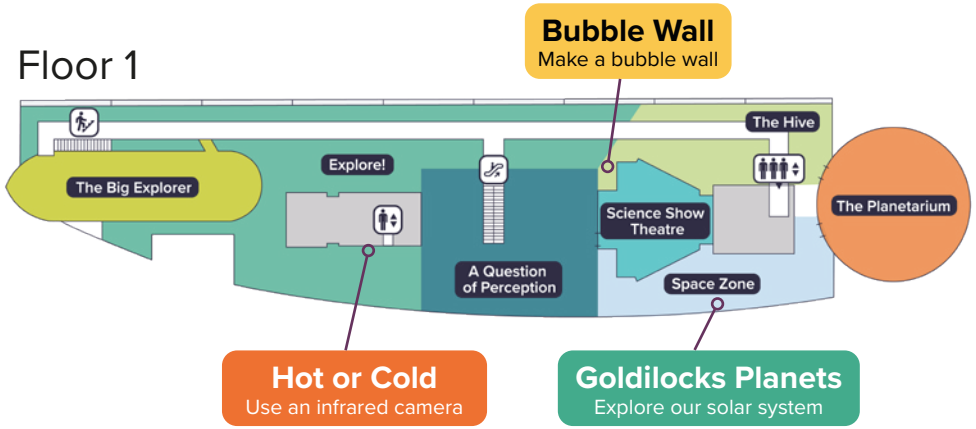
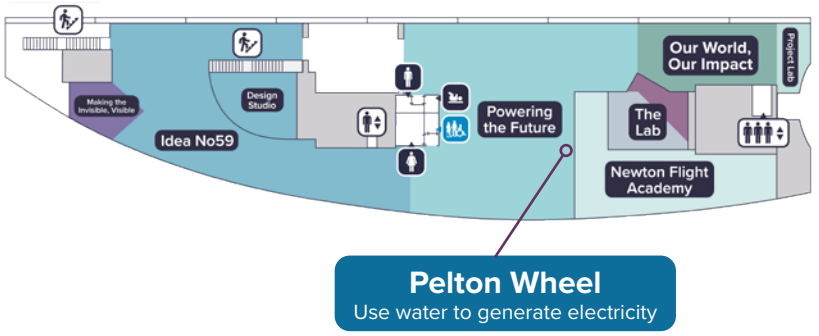
Trail Map

Floor 1



Floor 2



Floor 3

Pelton Wheel

'Pelton Wheel' exhibit on Floor 2.

Exploration Questions

Ask pupils the following questions as they explore the exhibit:

How would you describe the design of the Pelton wheel and why do you think it is designed like this?

Example answer: Buckets, cups, to catch water so it will turn when water flows through it.

What do you think the Pelton wheel is used for?

Example answer: To generate electricity.

What do you think the levers are used for?

Example answer: To move the water from the lower reservoir to the upper reservoir.

Activity

What happens when you move the levers?

Examples answer: Water moves from the lower reservoir to the upper reservoir.

What happens when you push the button?

Example answer: Water flows from the upper reservoir, turns the wheel and flows to the lower reservoir.

Pink and Spongey

'Healthy and Smokers Lungs' exhibit on Floor 3.

Exploration Questions

Ask pupils the following questions as they explore the exhibit:

What texture do you think the lungs have?

Example answers: Slimy, spongey.

What differences can you see between the two lungs?

Example answer: One lung is black, and one is pink, the pink lung looks slightly bigger.

Why do you think there are differences between the two lungs?

Example answer: The pink lung is healthy and hasn't been damaged by smoking and the black lung is unhealthy and has been damaged by smoking.

Activity

Ask pupils to inflate each of the lungs using the bags and then ask them the following questions:

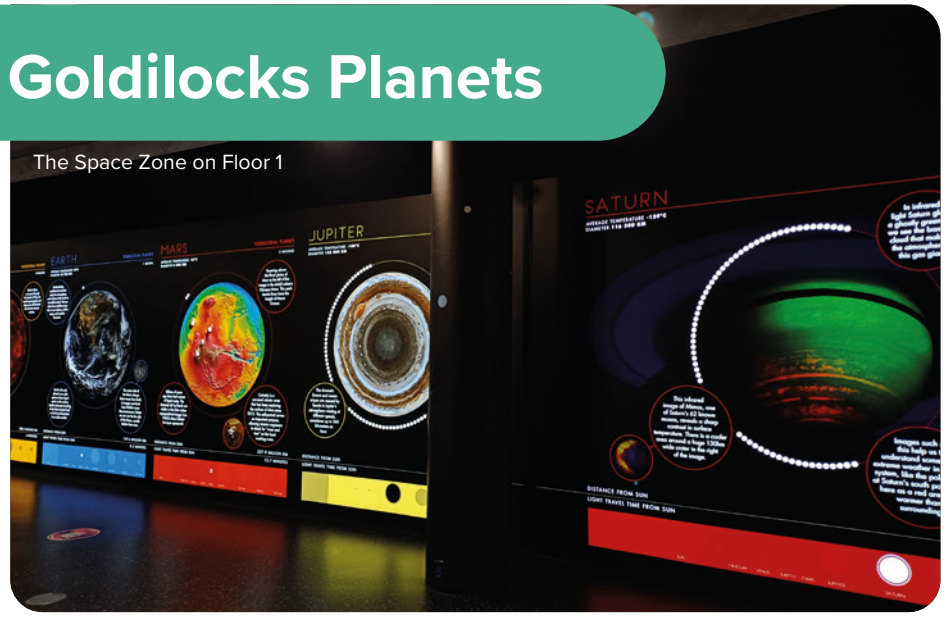
Which lung inflated the most?

Example answer: The healthy, pink lung on the right.

Why do you think the pink lung inflated more than the blackened lung?

Example answers: It is healthier, it has more air sacs, it has not been damaged by the chemicals in cigarettes.

Goldilocks Planets



The Space Zone on Floor 1

Exploration Questions

Ask pupils the following questions as they explore the exhibit:

Which planet has the most known moons?

Answer: Saturn with 274 moons.

Which planet is the largest?

Answer: Jupiter, 11 times wider than Earth.

What do you think makes Earth different from all the other planets in the solar system?

Example answer: Earth has liquid water on its surface which can support life.

Bubble Wall

‘Bubble Wall’ exhibit on Floor 1.

Exploration Questions

Ask pupils the following questions as they explore the exhibit:

What do you think the liquid in the reservoir is?

Example answers: Soap, washing-up liquid, water.

What shape of bubble do you think you can make with the exhibit?

Example answers: Square, flat.

What colours can you see in the bubble?

Example answer: All the colours of the rainbow.

Activity

What happens when you touch the bubble with a dry finger?

Examples answer: It bursts.

What happens when you touch the bubble after you have dipped your finger in the soap mixture?

Example answer: It doesn’t burst, it’s less likely to burst.

Why do you think the bubble eventually bursts?

Example answer: Bubbles have a very thin wall that can be disrupted by being touched or by the movement of air around them.

Hot or Cold?

‘Thermal Imaging Camera’ exhibit on Floor 1.

Exploration Questions

Ask pupils the following questions as they explore the exhibit:

What do you think the screen is showing?

Example answer: Hot and cold parts of the body, thermal image, infrared image.

How do you know which parts of the body are hot and which are cold?

Example answer: Hot parts of the body are red/orange and cold parts of the body are green/blue.

Looking at the image on the screen, which parts of your body do you think are cold?

Example answers: Hands, fingers, feet.

Looking at the image on the screen, which parts of your body do you think are hot?

Example answers: Face, neck, head.

Activity

Ask pupils to move their body for 30 seconds then ask pupils the following questions:

What changes do you notice in the colour of your body on the thermal image?

Example answer: More body parts are red/orange compared to before movement.

Why do you think there was a change in the colour of your body on the thermal image after movement?

Example answer: Your body parts were warmer as moving around generates heat in your body.