Scientific Museum Tour with Let's Science!

IBSA Foundation for scientific research proudly presents the Science Museum Tour. This innovative project gives secondary school classes the opportunity to attend workshops in museums free of charge. Pupils can experience science in a different, hands-on way and benefit on several levels.

Workshop offered

Cartoonmuseum, Basel

- *Face drawing for dummies:* Cartoons are made of sparse but secure lines. How do you draw heroes and heroines full of character with just a few lines? How does a head become a lovable friend, a brave superheroine, and a fearless cowboy? The workshop reveals the secrets of character representation in comics and cartoons and encourages people to write their own characters on paper. No age limit. Duration: 90 minutes. Curriculum 21 reference: Artistic Design, points 1 and 2. 1 workshop (up to 16 people), 2 workshops (from 17 people). Dates: Tue. to Sun. 11 a.m. to 5 p.m.

Museum of Anatomy, Basel

- *Blood vessel preservation (corrosion technique):* Under the expert guidance of a taxidermist, the participants will learn exciting facts about a particularly fascinating anatomical taxidermation technique: using plastic to make the blood vessels visible on a pig's kidney and experience for themselves how a work of art is created. For young people aged 12 and over.
  Duration: 90 minutes. Curriculum 21 reference: Nature and Technology, Understanding Body Functions. Up to 15 people per workshop. Dates: Mon. to Fr. 9:15 a.m. to 5 pm.

Museum of Communication, Bern

- *Data on the web – a look behind the click:* What happens to my data on the Internet? How much is my attention worth? What is big data? And where does AI get its intelligence from? In this workshop, we're going to look where most people tend to look the other way. We're going to scratch the glittering surface of the Internet and take a critical look behind the click. Young people examine their own behavior and consider possible future scenarios. Cycle 3 and upper secondary education.
  Duration: 90 minutes. Curriculum 21 reference: Media and Informatics module 1/Media. Groups of 25 or more participants will be divided. To visit the museum before or after the workshop, allow at least 1½ hours – ideally 2-3 hours. Dates: Tue. to Sun. 10 a.m. to 5 p.m.

Kulturama – Museum of Mankind, Zürich

- *Right in the middle of the heart:* How is our heart constructed? What is its function? How does the heart develop during pregnancy? And where does the heart symbol come from? Original specimens from different mammals and models illustrate the structure and function of the heart. An examination of the symbol, which is ubiquitous in language and image, takes place. The individual's heart rate and blood pressure are measured, and the heart tones of different animals are compared. Cycle 3/Secondary School I.
  Duration: 120 minutes. Curriculum 21 reference: NT 7, Understanding the Functions of the Body. Dates: Bookable from Tue. to Fri. in the morning from 10 am to 12 pm or in the afternoon from 1 pm, the museum closes at 5 pm and on Wednesday at 8 pm.

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- *From the fertilized egg to the baby:* Using real specimens and models, we explain what happens in the womb during pregnancy, why we humans are born prematurely, or what we need to look out for when we hold a baby. In the second part, you will deal with further questions independently. How is a due date calculated? How long do pregnancies last in the animal world? How well can the strapped-on pregnancy simulator cope with everyday situations? A short film about pregnancy and childbirth rounds off the event. Cycle 3/Secondary School I.
  Duration: 120 minutes. Curriculum 21 reference: NT 7, Understanding the Functions of the Body. Dates: Bookable from Tue. to Fri. in the morning from 10 am to 12 pm or in the afternoon from 1 pm, the museum closes at 5 pm and on Wednesday at 8 pm.

- *Bones and skeletons:* Over 200 individual bones form the human skeleton and enable us to walk, stand or dance. But how are bones moved? Bones protect, support, and move, bones live and heal. What is the function of our spine? What are bones made of and how are they structured? Basic material for our skeleton or an ingredient in many foods - we encounter bones everywhere! Cycle 3/Secondary School I
  Duration: 120 minutes. Curriculum 21 reference: NT 7, Understanding bodily functions. Dates: Bookable from Tue. to Fri. in the morning from 10 am to 12 pm or in the afternoon from 1 pm, the museum closes at 5 pm, on Wednesday at 8 pm.

- *How we learn:* We learn throughout our lives. Consciously or unconsciously, on purpose or by chance, by example or practice or from mistakes. a2+ b2 = c2. The capital of France is Paris. Tears trigger compassion and smiles have a sympathetic effect. We can walk on two legs without losing our balance. Chocolate tastes good, but too much causes nausea. But how exactly does this learning process work? What happens in our brain? What tools and techniques help us to learn? Cycle 3/Secondary School I
  Duration: 120 minutes. Curriculum 21 reference: NT 7, Understanding bodily functions. Dates: Bookable from Tue. to Fri. in the morning from 10 am to 12 pm or in the afternoon from 1 pm, the museum closes at 5pm, on Wednesday at 8 pm.

- *Our senses:* They are as vital as oxygen and food. They make life and experience possible, thanks to them we can act and react. Touch, sight, hearing, taste and smell shape our consciousness and give our surroundings a face. The sensory organs begin to develop during pregnancy. The rapid development of the first months in the womb culminates in a flood of sensory impressions - birth. After that, the senses function in the new world. They quickly become accustomed, stimulate our brain, and drive it to peak performance. Cycle 3/Secondary School I
  Duration: 120 minutes. Curriculum 21 reference: NT 6, Exploring senses and signals, NT 7, Understanding bodily functions. Dates: Bookable from Tue. to Fri. in the morning from 10 am to 12 noon or in the afternoon from 1 pm, the museum closes at 5 pm, on Wednesday at 8 pm.

Mühlerama, Museum of Food Culture, Zürich

- *Sugar is everywhere - a sweet treat?* However, too much of it can sour our lives. What are the consequences of eating or drinking too much sugar? How do I know where sugar is contained? How do I know if I am eating too much sugar? We learn how to check foods for their sugar content and get to know some of the more than 60 sugars and sweeteners that we consume every day, usually without realizing it. Of course, we also have a taste: The pupils bake a snack bar and produce an individually sweetened iced tea. Cycle 3 to 7th school year, 8th, and 9th school year on request.
  Duration: 3 hours. Curriculum 21 reference: Nature and technology, 7/understanding bodily functions. Class size: max. 25 children and 2 accompanying adults. Dates: Tue. to Fri. from 2 to 5 pm.

Technorama, Winterthur

- *Radioactivity in everyday life - Natural radiation:* Radioactivity is not only found in nuclear power plants, but also in foods such as mushrooms and diet salt, in normal rose fertilizer and, of course, in the air. The decay of certain atomic nuclei, which produces radiation, is part of our everyday lives and takes place in every household. This workshop is all about testing various objects and substances for radioactivity. We use the Geiger counter to detect radiation and investigate where it comes from and how we can protect ourselves from it. This workshop is intended as an introduction to the topic of radioactivity and focuses on radioactivity in everyday life. Ages: 12, 13 ,14, 15+.
  Duration: 45 minutes. Curriculum 21 reference: Subject area curricula, NT.2.1.1c, Subject area curricula, NT.1.1. Dates: Mon. to Fri. from 10 am to 5 pm.

- *The nature of light - wave-particle duality:* What is light? And how does this light get from A to B? In everyday life, we usually think of rays, but most of us have also heard of light waves and photons. Which of these terms is correct? The experiments in this workshop show that all three ideas are correct. Light has the properties of both waves and particles, which always propagate in the form of rays. Age: 15+
  Duration: 180 minutes. Curriculum 21 reference: Nature and Technology, 1, 2, 3, 4 and 5. Necessary prior knowledge: Diffraction and interference at slits and gratings, energy of a charge in an electric field (E=q*U), concepts of "wavelength" and "frequency". Dates: Mon. to Fri. from 10 am to 5 pm.
  Alternatively, younger classes can visit the newly designed exhibition Electricity and Magnets. This is also about the topic of (electromagnetic) waves and what they do. In the exhibition, you can try out various experiments on the subject: Electrify your body and visualize your heart currents. Get creative by building three-dimensional luminous circuits and design fascinating magnetic sculptures. Or use electromagnets to make millions of iron particles dance to your tune.