

# Workshop Gears

## What's it all about ?

The aim of this workshop is to enable children and teenagers to assemble a pocket tellurium, a system representing the moon revolving around the Earth as it orbits the Sun. The workshop teaches them about gear transmission and gear ratios.

A game of patience and fine-tuning, this workshop invites children not only to follow step-by-step assembly instructions, but also to reproduce some of the meticulous gestures of the watchmaker's daily routine (making chamfers, squaring a hole, managing friction, achieving horizontality, etc.). This workshop covers both watchmaking techniques and astronomy, and is suitable for young people aged 13 and over. **Participants leave with the tellurium they've built.**

## How does it work?

A watch mechanism is made up of numerous wheels, almost all of which have a different number of teeth. Most are round, but there are also oblongs and many others. Each wheel has a precise number of teeth to account for a specific action : the passing of hours, the passing of minutes, the passing of days, months, lunations, and so on. When a wheel completes a full revolution on itself, its neighbor may have completed only a third of its rotation if it has more teeth; on the contrary, if the third wheel has fewer teeth, it will complete more revolutions than the first in the same time span. These effects are called gear ratios. This diversity of rotation rates makes it possible to simultaneously indicate different functions: the hour, the minute, the lunation, etc. A tellurium uses gears to indicate the cycles of years and lunations.

## Why is this theme so important to watchmaking ?

Gear ratios are the basis of watchmaking mechanics. It's these rotational ratios that are their basis. As for the tellurium, it reflects the importance of observing the movement of the planets around the sun. These rotations play a key role in the history of timekeeping. As repetitive movements, astral trajectories have long served as a reference, and then as a basis for checking and setting clocks for several centuries.

## Practical infos

### Who is this workshop for?

Children from 13

### Where does it take place?

At the MIH, in the Hall des pas perdus

### When can you take part?

This workshop is available at any time on request from the museum secretariat, who will be happy to answer your questions on +41 32 967.68.61, or by e-mail at

[info@mih.ch](mailto:info@mih.ch)

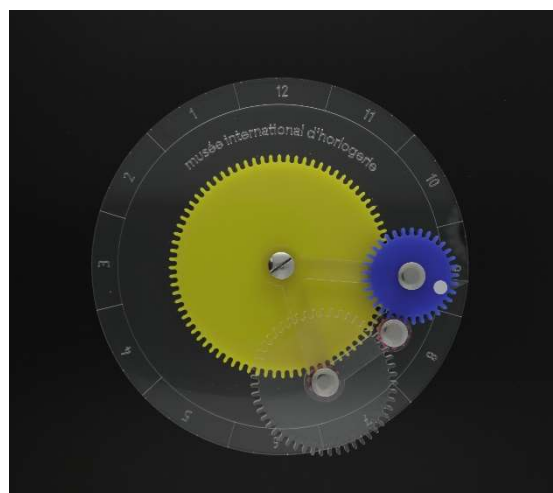
**Workshops are regularly organized on fixed dates during the school vacations. Check our [agenda](#)!**

### How much does it cost?

CHF 10.- per child

(Minimum CHF 80.-)

(Schools in La Chaux-de-Fonds : subject to agreement)



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