

INSIGHT Mars school activities from primary school to University

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A panel of school activities , for teachers from primary school to university, focused on geology, seismology, geodesy, physics and astronomy.

Key-Words : Mars , Geodesy , Space mission, International cooperation, seismology, meteorology, sensors, softwares, data, journey, signal, practical activities, scale model .

INSIGHT is an international mission to Mars, lead by NASA and in cooperation with some International labs, such as IPGP-PARIS, CNES, ETHZ Zurich or DLR, Imperial College, The Max Planck Institute and JPL. INSIGHT (Interior Exploration using Seismic Investigations, Geodesy and Heat Transport) is a discovery program that will place a single lander on Mars and other sensors, such as a seismometer, a heat flow probe, sensors that will provide precise measurements of planetary rotation (named RISE).

The main payload will be the seismometer called SEIS, that will be the first seismometer (after Viking fail) to record signal with a very deep precision. The goal of this mission is to investigate the dynamics of martian tectonic activity and understand all the processes that shaped the Red Planet.

In the poster we will show all the practical activities done with pupils in France and other countries, and others ideas we plan to develop.

This work has been done by a french team of teachers, in international cooperation with others teachers (with UK, USA, Switzerland ...) and can be found on this website : <https://insight.oca.eu/fr/accueil>

In our poster we will detail all the activities based on this mission.

All activities and softwares are structured according to those topics :

- Topic Telluric : seismology and meteorology activities are provided
- Topic Data: use of synthetic data from Mars and Blind Test with students to discover events on Mars !
- Topic Journey: activities on orbitology shows how INSIGHT will join Mars in 2018 .
- Topic Sensor: many sensors such as accelerometers, piezoelectric cells, pressure sensors are used with pupils to understand and analyse collected data.
- Topic Signal: pupils can understand with a software how the signal is transferred from Mars to Earth !

Practical activities are used in our school in France in various courses, but also in primary schools and at university. We work with geology teachers, physics and chemistry teachers, but also mathematics and history teachers.