Good practices
INTER_511BCD_EN

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Description of the problem / exercise: **Time of Poly-Universe**

Imagine that in the Atomic World time passes very fast compared to us, on Earth just as we perceive it, and in the Galactic World time passes very slowly compared to our Earthly world.

The timekeeping structure (Figure 1) of the Poly-Universe is essentially similar to conventional timekeeping clocks. The only difference is that the smallest index of our poly-dimensional clock does not stop at the second.

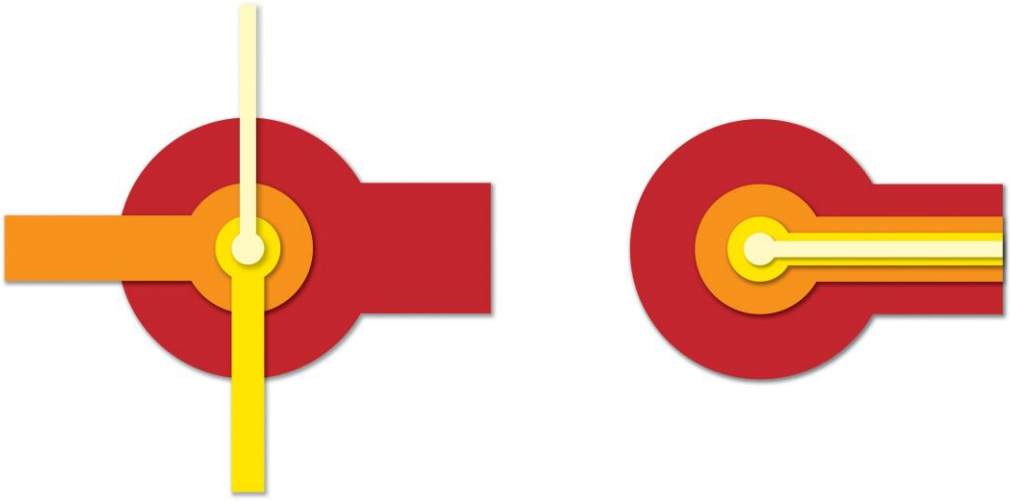

Figure 1: SAXON, Kelöretil 2018, 50×50 cm, acrylic, wood kinetic work

Questions:

1. How many indicators should the clock of the Poly-Universe have if we were to measure the relative time of all the possible intervals of the material world at once?
2. At what speed would the smallest pointer rotate relative to the largest?
3. Build such clocks from colored paper, within physical boundaries, write on the indicators which range you measure time on!

- *Why this exercise is good:* A child's imagination can even reach the limits of the material world seamlessly, and in this exercise through time they can glimpse the fleeting world of the smallest particles of matter and the movement of the largest clusters of matter.
- *Which level is recommended*: Subject teacher, secondary school, upper primary school

- *School subject(s)*: Physics, techniques, creative art, play, mathematics
- *Comments:* https://www.youtube.com/watch?v=i93Z7zljQ7I&ab_channel=HarryEvett

Symbol	Name	Value in decimal	Value in normal numbers
–	tenth of a second	0,1 s	10^{-1} s
–	hundredths of a second	0,01 s	10^{-2} s
ms	millisecond (millisecond)	0,001 s	10^{-3} s
µs	microsecond (millionth of a second)	0,000 001 s	10^{-6} s
ns	nanosecond	0,000 000 001 s	10^{-9} s
ps	picosecond	0,000 000 000 001 s	10^{-12} s
fs	femtosecond	0,000 000 000 000 001 s	10^{-15} s
as	attosecond	0,000 000 000 000 000 001 s	10^{-18} s