

WORKSHEET

for
high
schools

Hello, I'm Aurel. This is a quiz assessing the knowledge you will or have already gained here. Aurelium is divided into 6 sections distinguished by colours. Look around the hall and find a map showing these sections. It will help you to navigate between the exhibits while looking for the correct answers.



1

Can we build a good functioning battery out of two same-metal electrodes?

If yes, why? _____

If not, why? _____

2

What is perpetuum mobile?
How is it possible that we have a working perpetuum mobile exhibit?

3

Levitation of the UFO in our centre is possible thanks to the superposition of the two forces acting on the UFO at the same time. These forces are:

4

Hydraulic press multiplies our:

- speed
- force
- power

according to Pascal's law.

Explain your answer and using your own words describe the basic idea behind this principle.

5

Which colour of the visible spectrum corresponds to the 650 nm wavelength?

Which exhibit allows us to determine this?

7

A wooden disc or plastic ball moves at the edge of the horizontal plane

- faster
- with the same speed
- slower

compared to the centre of the plate.

6

What unit do we use to measure colour temperature?

The orange light is:

- warm
- cool

8

In the exhibit Centre of gravity, if we move a cylindrical body close to the vertical rod, the rod's position

will change (how?).

If we move it towards the end-stop, the rod's position will change(how?)

9

Circle the correct answer: Foam aluminium is:

- LIGHTER/HEAVIER** than regular aluminium
- CONDUCTIVE/NON-CONDUCTIVE** material
- REACTS/DOESN'T REACT** to the presence of a magnet

10

Which exhibits demonstrate energy harvesting from sustainable sources?



11



What is a biosignal and how is the information from the environment perceived by the brain?



Continue to the next page

How it is going?
Did you find all the exhibits?
My tip:
You can find some information
on the information panels



In a right-angled triangle, the square of the hypotenuse side (the longest side) is equal to the sum of squares of the two other sides.

Name this principle and draw its explanation.

12

13

What type of an internal combustion engine has 40% efficiency? Using your own words explain what a combustion engine efficiency is.

14

The shape of bubbles ascending in the glass barrel depends on the specific property of liquids – viscosity. Viscosity describes the internal friction of a moving liquid. In the following statement, circle the correct answer: Oil is:

more equally less viscous

than water.

15

A solar cell works on the principle of (what) effect, so it directly converts(type of energy) to(type of energy).

17

Thermovision displays temperatures of the environment or object surface. Temperatures around

20°C will be displayed as colours.

30 °C will be displayed as colours.

16

When we release a ring in the "black hole", its trajectory will be spiral. Its (physical quantity) will gradually increase because the radius of the ring's trajectory gradually

increases / decreases.

18

In the Van de Graaff generator, turning the outer crank will (add a verb) metal globe.

From this globe we then can generate and/or transfer electrostatic (add a noun)

19

Choose the correct answer: The Bridge Tension Exhibit

SHOW DOESN'T SHOW

our actual weight. Explain why.

20

What units are used to measure sound frequency? People can hear sound frequencies between

..... to of these units.

The results based on your points:

20 - 18

You are a future scientist

17 - 15

You enjoy science, you are curious and like to learn

14 - 10

You don't quite get in now, but next time you'll surely improve

9 - 0

You may not be a future scientist but you are definitely talented in some other area

Bonus question:

21

Do you know which famous person is sitting next to Aurel Stodola on our photo wall banner?



Take a picture and share



centrumvedy



aurelium_zcv