

Homework: crossword contest: in teams of 3-4 students prepare a list of ten words, related to lighting, and their clues to insert in a crossword scheme (use building a tool from internet, ex. <https://worksheets.theteacherscorner.net/make-your-own/crossword/> or <https://www.education.com/worksheet-generator/reading/crossword-puzzle/> or <https://www.puzzle-maker.com/CW/>). You'd better arrive with everything ready in your USB key drive to avoid time wasting.

Solutions of the Tasks

Task 1_1 Through, nutshell, photon, duality, being, wavelengh, way, nanometres, spectrum, span, c.

Task 1_3 A-8, B-10, C-3, D-1, E-9, F-4, G-2, H-7, I-5, L-6.

Task 2_1

Word	Material/substance	Device/component	Property/action
Sodium, glow, bulb, gallium, filament, oxigene, mercury, incandescent, LED, fluorescent, tungsten, electrode, ultraviolet, tube.	Sodium, gallium, oxigene, mercury, tungsten,	Bulb, filament, LED, electrode, tube	Glow, incandescent, fluorescent, ultraviolet, evaporate

Task 2_4 left to right: LED, fluorescent, halogen, HID, carbon arc, cold catode.

Test 2 F, T, both, F, h, F, Ra, F, F, all.

Task 3_1 Y (contolling is also this), luminance on the task and prevent glare, N (horizontal and vertical), give ambient to the space/ attract the customer, good horizontal and vertical illuminance.

Protecting, lamps, connection, luminous flux.

Task 3_4 1 Reflection, absorption and transmission; 2 angle of incidence, spectral composition, type of surface; 3 light hittig a smooth surface; 4 absoption and trasmission; reflectin elements used in luminaires or other devices; 5 irregular reflective surfaces; 6 optical fiber; 7 it is converted into heat.

Test 3 T, T, protect, T, refraction, F, T, T, F, intensity.

Final Test Example

1. ***Describe briefly the meaning of the parametres: Luminous Flux, Illuminance and Luminous Intensity.***

2. ***Consider both fluorescent and LED lamps. Which:***

- ***Are more costly;***
- ***have higher efficiency;***
- ***have a longer lifetime;***
- ***are more technologically complex.***

3. ***Fill the numbered gaps of the following text with proper words:***

1 **Direct lighting** luminaires distribute 90 to 100 percent of the emitted light in the general direction of the surface to be illuminated. The term generally refers to light emitted in a **2** **downward** direction. Troffers and downlights are two types of direct lighting luminaires.

Semi-direct lighting luminaires distribute 60 to 90 percent of the emitted light downward and the balance **3** **upward**. The shadows generated by semi-direct lighting are **4** **diffused** and do not cause discomfort. Semi-direct lighting is employed in applications where strong light is not necessary e.g., stairways, corridors, and storage areas.

4. ***What are photometric distribution curves and how are they represented?***

5. ***Tick the correct answer:***

<i>Sr represents the unit of Solid Angle</i>	<i>T</i>	<i>F</i>
<i>The greater the Ra is, the better the vision is</i>	<i>T</i>	<i>F</i>
<i>Flux distribution is strongly dependent on the light fixture installed</i>	<i>T</i>	<i>F</i>
<i>Light distribution has to be symmetrical always.</i>	<i>T</i>	<i>F</i>

NB. You have 45 minutes to complete the task. Write your answers on this paper.