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| **„Směřujeme k výuce s využitím metody CLIL na střední odborné škole“.****(2018-1-CZ01-KA101-047503)** |  |

**Integrace cizího jazyka do výuky přírodovědných a odborných předmětů CLIL**

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| --- | --- |
| **Vyučující:**  | **Ing. Jana Jonasová** |
| **Aktivita č.** | **2** |
| **Předmět:** | **Vytápění** |
| **Téma:** | **Tepené čerpadlo** |
| **Datum:** | **29.1. 2019** |
| **Forma:** | **Opakování**  |

**Ústřední vytápění**

* **Slovní zásoba na podporu rozumění dané tématiky**
* **Délka trvání integrace cizího jazyka v hodině: 15 minut**

**HEAT PUMP**

A **heat pump** is a device that transfers heat energy from a source of heat to what is called a [heat sink](https://en.wikipedia.org/wiki/Heat_sink). Heat pumps move [thermal energy](https://en.wikipedia.org/wiki/Thermal_energy) in the opposite direction of spontaneous heat transfer, by absorbing heat from a cold space and releasing it to a warmer one. A heat pump uses a small amount of external power to accomplish the work of transferring energy from the heat source to the heat sink.[[1]](https://en.wikipedia.org/wiki/Heat_pump#cite_note-1) The most common design of a heat pump involves four main components – a [condenser](https://en.wikipedia.org/wiki/Condenser_%28heat_transfer%29), an [expansion valve](https://en.wikipedia.org/wiki/Thermal_expansion_valve), an [evaporator](https://en.wikipedia.org/wiki/Evaporator) and a [compressor](https://en.wikipedia.org/wiki/Compressor). The heat transfer medium circulated through these components is called [refrigerant](https://en.wikipedia.org/wiki/Refrigerant)

**how does heat pump works**



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| TEPELNÉ ČERPADLO | HEAT PUMPS |
| KONDENZÁTOR | CONDENSER |
| VÝPARNÍK | EVAPORÁTOR |
| PROSTŘEDÍ | ENVIROMENTAL |
| TEPELNÁ ENERGIE | THERMAL ENERGY |
| ZVYŠOVAT | INCREASE |
| PROUDIT | CONDUCT |
| TRUBNÍ SYSTÉM | PIPING SYSTEM |
| NEMRZNOUCÍ KAPALINA | FROST-PROOF LIQUID  |
| PŘEDÁVAT | TRANSFER |
| ODPAŘOVAT SE | VAPORISE |
| PÁRA (CHLADIVO ) | STEAM |
| CHLADÍCÍ MEDIUM | REFRIGERANT |
| ZÍSKANÉ | GAINED |
| PŘIJÍMAT | RECEIVE |
| EXPANZNÍ VENTIL | EXPANSION VALVE |
| TÉCT  | FLOW |
| PROTO | THEREFORE |
| ROZHODUJÍCÍ  | DECISIVE |
| PŘEDAT | PASS |
| TOPNÝ OKRUH | HEATING CIRCUID |
| SPRAY - NÁDOBA | AEROSOL CAN |
| DOSTATEČNĚ | ENAUGH |
| ZVÝŠIT | RAISE |
| ČÍMŽ  | THEREBY |

KONTROLNÍ TEST: DO LEVÉHO SLOUPCE NAPIŠTE VÝRAZY V ČESKÉM JAZYCE

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| --- | --- |
|  | HEAT PUMP |
|  | CONDENSER |
|  | EVAPORÁTOR |
|  | ENVIROMENTAL |
|  | THERMAL ENERGY |
|  | INCREASE |
|  | CONDUCT |
|  | PIPING SYSTEM |
|  | FROST-PROOF LIQUID  |
|  | TRANSFER |
|  | VAPORISE |
|  | STEAM |
|  | REFRIGERANT |
|  | GAINED |
|  | RECEIVE |
|  | EXPANSION VALVE |
|  | FLOW |
|  | THEREFORE |
|  | DECISIVE |
|  | PASS |
|  | HEATING CIRCUID |
|  | AEROSOL CAN |
|  | ENAUGH |
|  | RAISE |

* https://www.youtube.com/watch?v=u2DOHl1p1kY Vaillant Heat Pumps Explained www.youtube.com Vaillant Heat Pumps Explained
* How Does a Heat Pump Cool My Home?. *Fayetteville Air Conditioning & Heating Contractor Serving Spring Lake* [online]. Copyright © 2019 Bass Air Conditioning Company [cit. 26.01.2019]. Dostupné z: <https://bass-air.com/blog/heat-pump-cool-home>