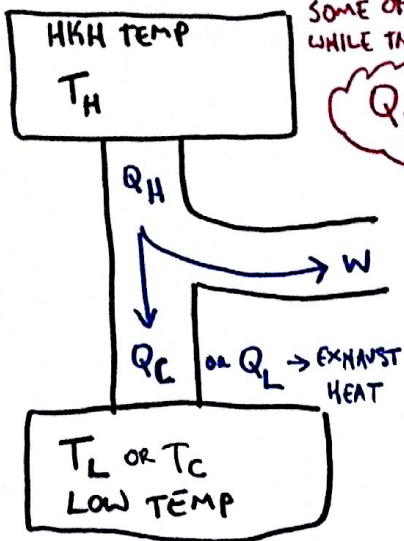


HEAT ENGINES - TAKES HEAT AND ~~TURNED~~ TURNS IT INTO USEFUL WORK

HEAT FLOWS FROM HIGH TEMP TO LOW TEMP
 SOME OF THAT HEAT IS TURNED INTO WORK
 WHILE THE REST GOES TO THE COLD TEMP / EXHAUST



$$Q_H = W + Q_L$$

EFFICIENCY OF THE ENGINE

$$e = \frac{W}{Q_H} \times 100\%$$

SYSTEMS

CAN YOU GET A 100% EFFICIENT HEAT ENGINE?

NO!!! SOME OF Q_H HAS TO GO TO Q_L IF THAT IS THE CASE $Q_H > W$

SPECIAL SCIENTIST NAMED CARNOT COMES WITH THE IDEAL HEAT ENGINE
 MAXIMUM EFFICIENCY DEPENDS ONLY ON OPERATING TEMPERATURES

~~CAR~~ CARNOT EFFICIENCY
 MAXIMUM EFFICIENCY

$$e = \frac{T_H - T_C}{T_H} \times 100\%$$

SYSTEMS