

# Intro-Frage: Feuer

1) What heat transport mechanism is present when lighting a fire?

- (a) conduction.
- (b) convection.
- (c) radiation.
- (d) conduction and convection.
- (e) conduction, convection, and radiation.

2) If you sit next to a fire, what is the main heat transport mechanism that warms you up?

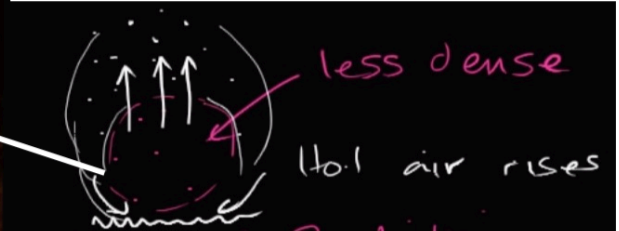
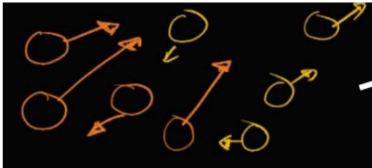


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1) What heat transport mechanism is present when lighting a fire?

Electromagnetic radiation from acceleration of charged particles. Light from the fire and heat



Combustion reaction creates energy: kinetic energy is transferred to neighbouring molecules by collisions

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2) If you sit next to a fire, what is the main process which warms you up?

- Air is a poor thermal conductor -> Not much heat from the campfire via conduction. Ignore if you sit 1-2 metres away.
- The thermal radiation from the fire spreads out in all directions and reaches you. This thermal radiation is mostly in the form of infrared waves and visible light.
- The campfire heat transferred via convection shoots straight up into the sky and never reaches you (i.e. hot air billows upwards)

Almost 100% of the heat that you receive from the fire is transferred through thermal radiation.

→ This is why the side of your body facing the fire gets hot while the side facing away from the fire stays cold (you are in the shadow).

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