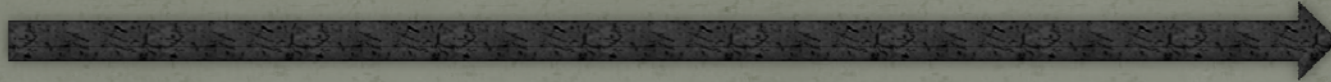


State of Matter Changes

We know that we can change matter from one state to another.

What are those state of matter changes called?

add energy



sublimation

melting

evaporation

vaporization

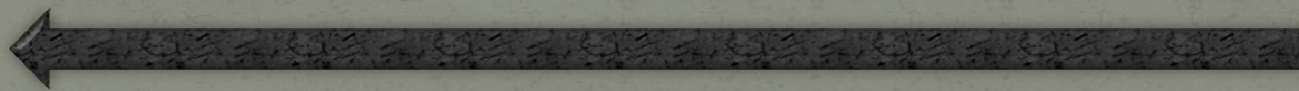
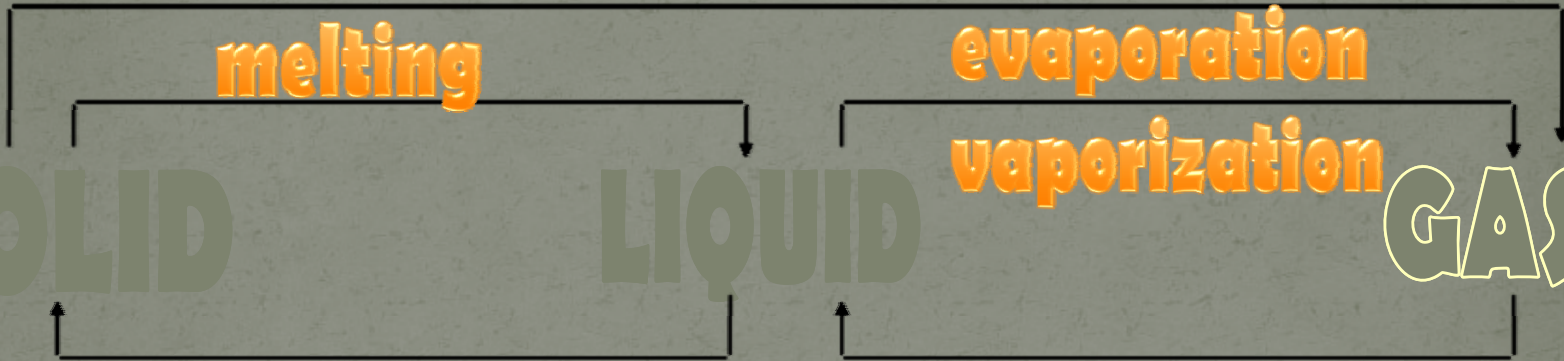
SOLID

LIQUID

GAS

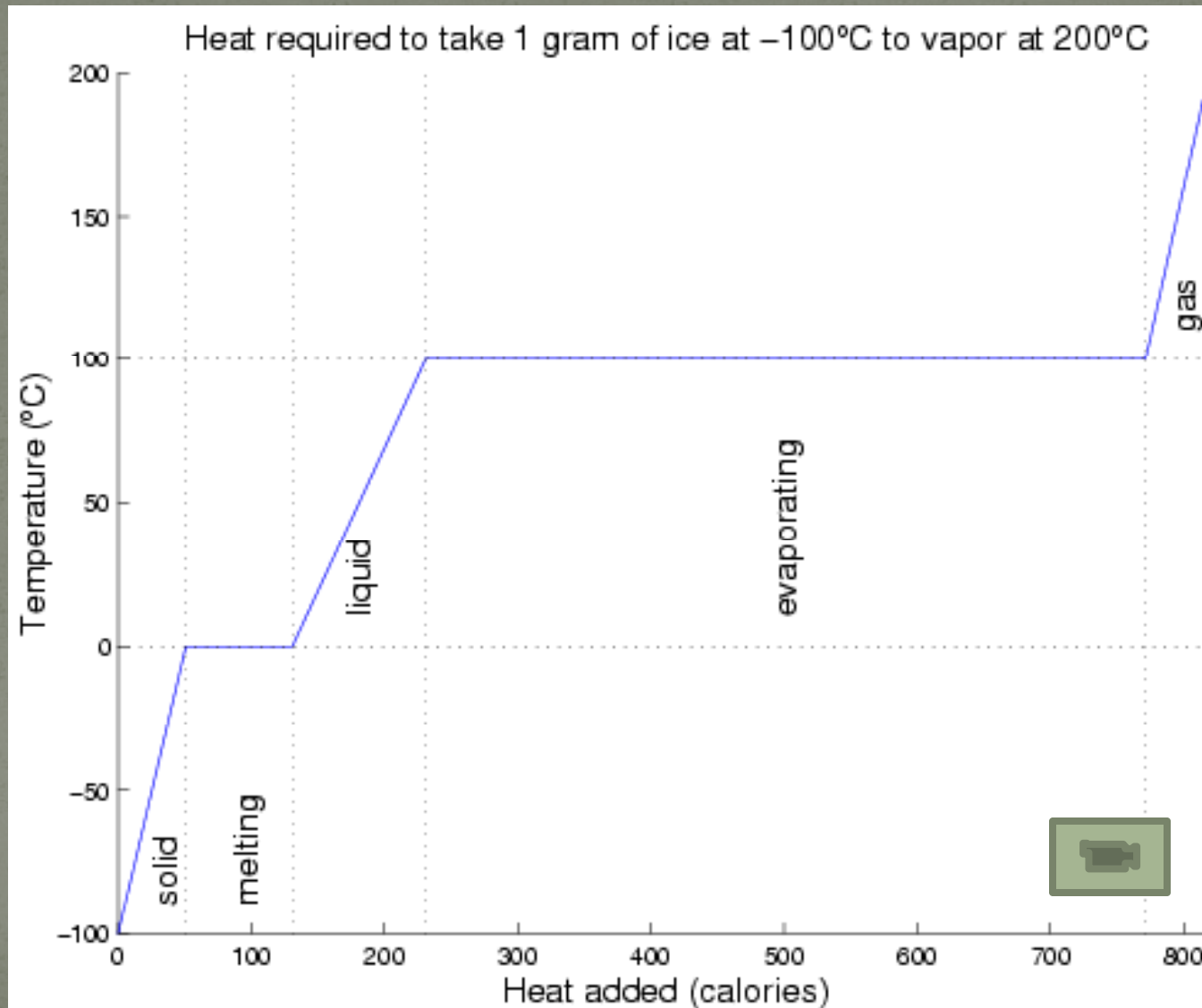
freezing

condensation



lose energy

the Phase Diagram of Water



Definitions for FLASHCARDS

The process of turning a liquid to a gas **BELOW** the boiling point.

= evaporation

Definitions for FLASHCARDS

The process of turning a liquid to a gas **AT** the boiling point.

= vaporization

Definitions for FLASHCARDS

The process of turning a liquid to a solid.

= freezing

Definitions for FLASHCARDS

The process of turning a gas to a liquid.

= condensation

Definitions for FLASHCARDS

The process of turning a solid to a liquid.

= melting

Definitions for FLASHCARDS

The process of turning a solid to a gas.

= sublimation

Now let's put it all together...

If you combine what you know about the individual states of matter with what you know about state changes... you can come up with a definition that explains what is going on at the molecular level of a state change.

Challenge: Write the molecular definition for each state change.

Definitions for FLASHCARDS

Molecules which have been nearly rigid gain enough energy to move freely and randomly and escape the attractive forces (bonds) between them.

= sublimation

Definitions for FLASHCARDS

Rapidly and randomly moving molecules gain even more energy which allows them to escape the attractive forces between them at the boiling point.

= vaporization

Definitions for FLASHCARDS

Rapidly and randomly moving molecules gain energy below the boiling point which allows them to escape the attractive forces between them.

= evaporation

Definitions for FLASHCARDS

Molecules which have been nearly rigid gain enough energy to move freely and randomly, but are not able to escape the attractive forces between them.

= melting

Definitions for FLASHCARDS

Rapidly moving molecules lose energy and they no longer can resist the attractive forces between them, but are able to move freely and randomly.

= condensation

Definitions for FLASHCARDS

Molecules which have been moving freely but not able to escape the attractive forces between them lose energy and become nearly rigid and vibrate in place.

= freezing