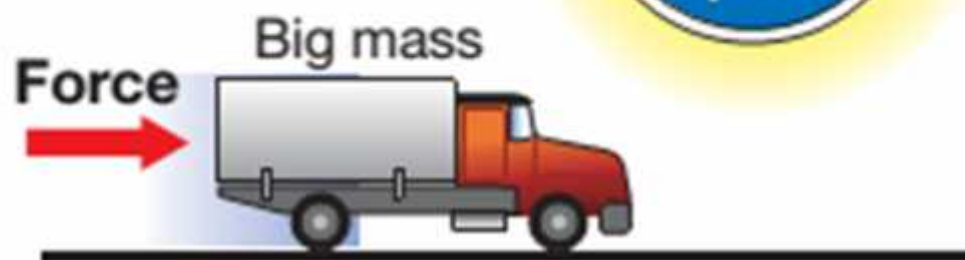


# Insih Wilujeng

Kuliah pengantar IPA S2 DikDas

The speed of the truck increases to 20 mph in 10 seconds

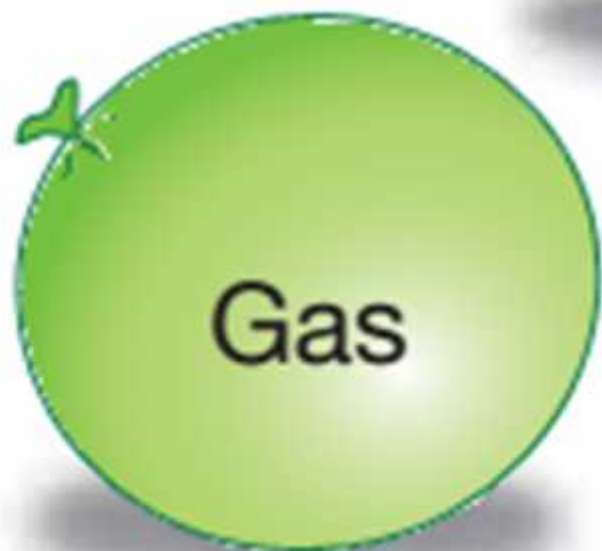


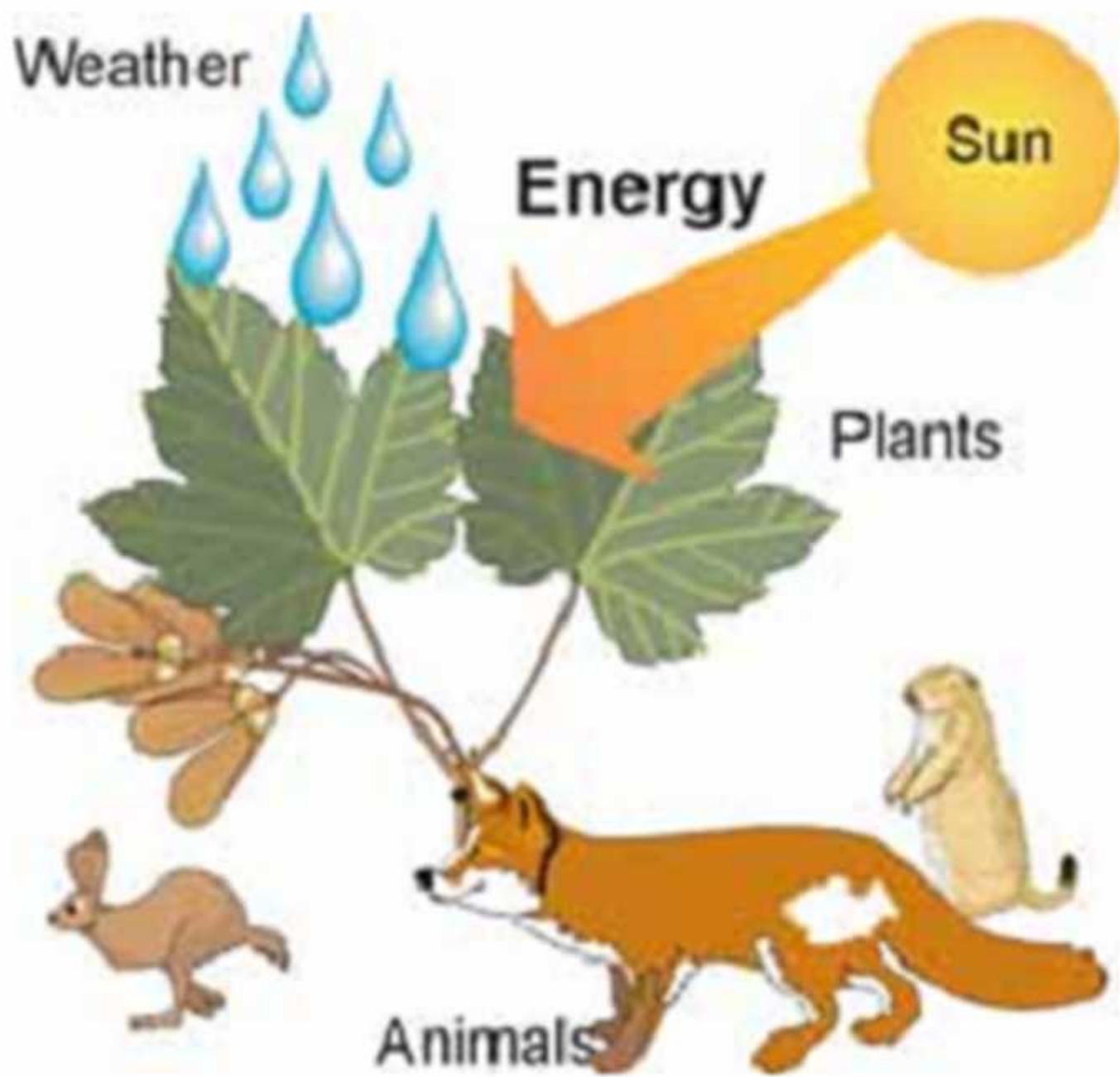
The speed of the car increases to 65 mph in 10 seconds.



## Some of the many kinds of matter in a car







**What time  
is it?**



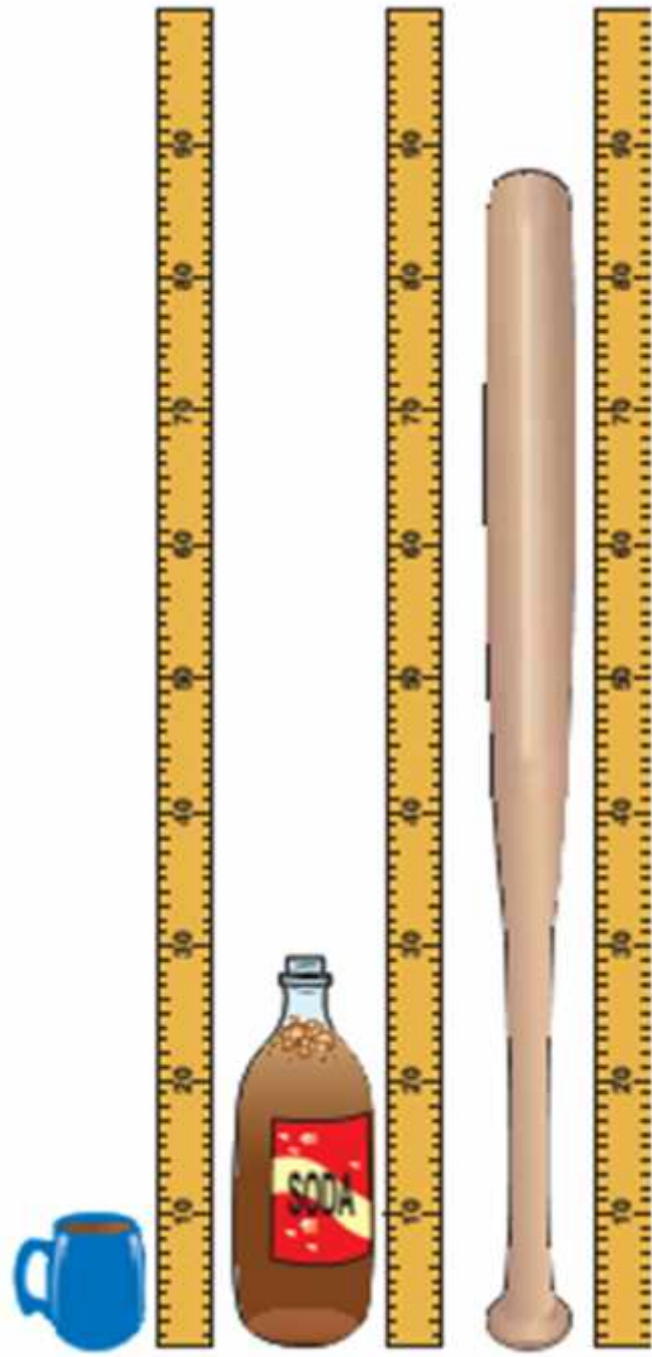
3:00 PM (Eastern time) May 21, 2004



**How much time?**

3:44:25

3 hours, 44 minutes, 25 seconds



$\frac{1 \text{ cm}}{0.01 \text{ m}}$	$\frac{1 \text{ cm}}{0.394 \text{ in}}$	$\frac{1 \text{ cm}}{10 \text{ mm}}$
$\frac{1 \text{ inch}}{0.0254 \text{ m}}$	$\frac{1 \text{ inch}}{2.54 \text{ cm}}$	$\frac{1 \text{ inch}}{25.4 \text{ mm}}$
$\frac{1 \text{ foot}}{0.305 \text{ m}}$	$\frac{1 \text{ foot}}{12 \text{ in}}$	$\frac{1 \text{ foot}}{30.5 \text{ cm}}$
$\frac{1 \text{ m}}{3.28 \text{ ft}}$	$\frac{1 \text{ m}}{39.4 \text{ in}}$	$\frac{1 \text{ m}}{100 \text{ cm}}$
$\frac{1 \text{ km}}{0.622 \text{ mi}}$	$\frac{1 \text{ km}}{1,000 \text{ m}}$	$\frac{1 \text{ km}}{3,280 \text{ ft}}$
$\frac{1 \text{ mile}}{1.61 \text{ km}}$	$\frac{1 \text{ mile}}{1,609 \text{ m}}$	$\frac{1 \text{ mile}}{5,280 \text{ ft}}$





**What makes these two cups of coffee different?**



Hot coffee  
70 °C



Cold coffee  
21 °C

**More  
energy**



Hot coffee  
70 °C

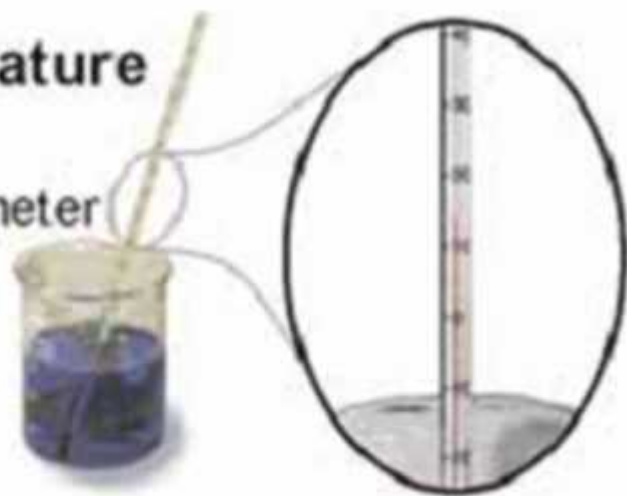
**Less  
energy**



Cold coffee  
21 °C

## Temperature

Thermometer

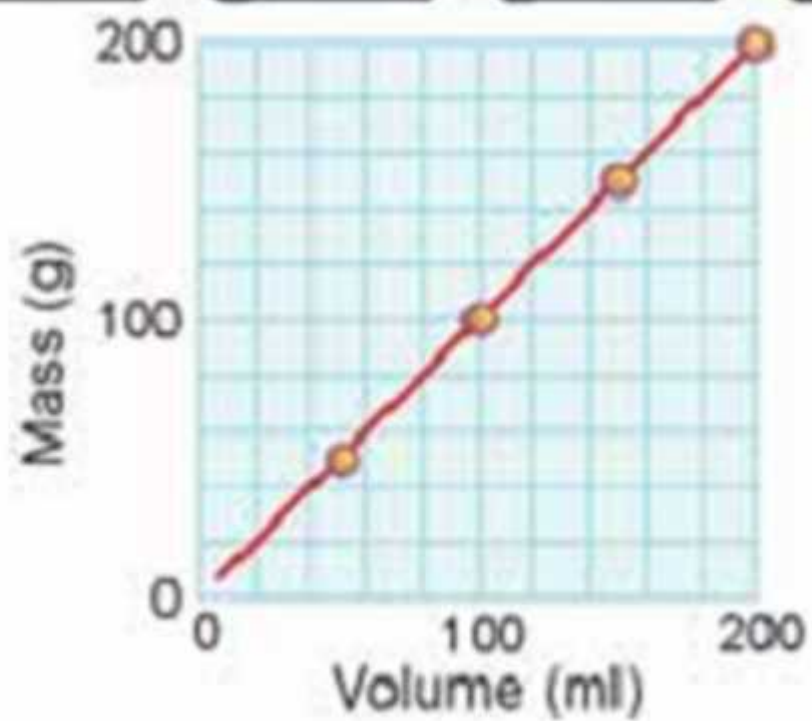
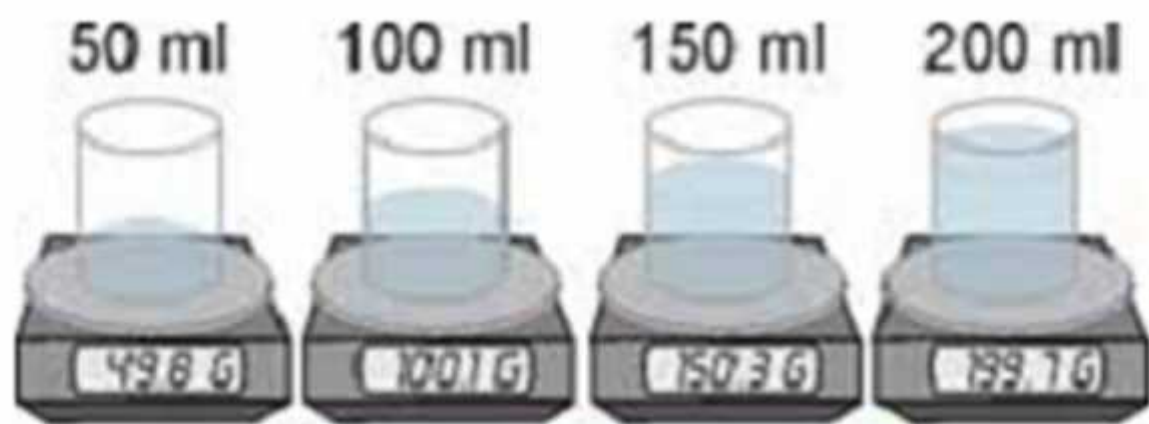


## Volume

Graduated  
cylinder

Syringe

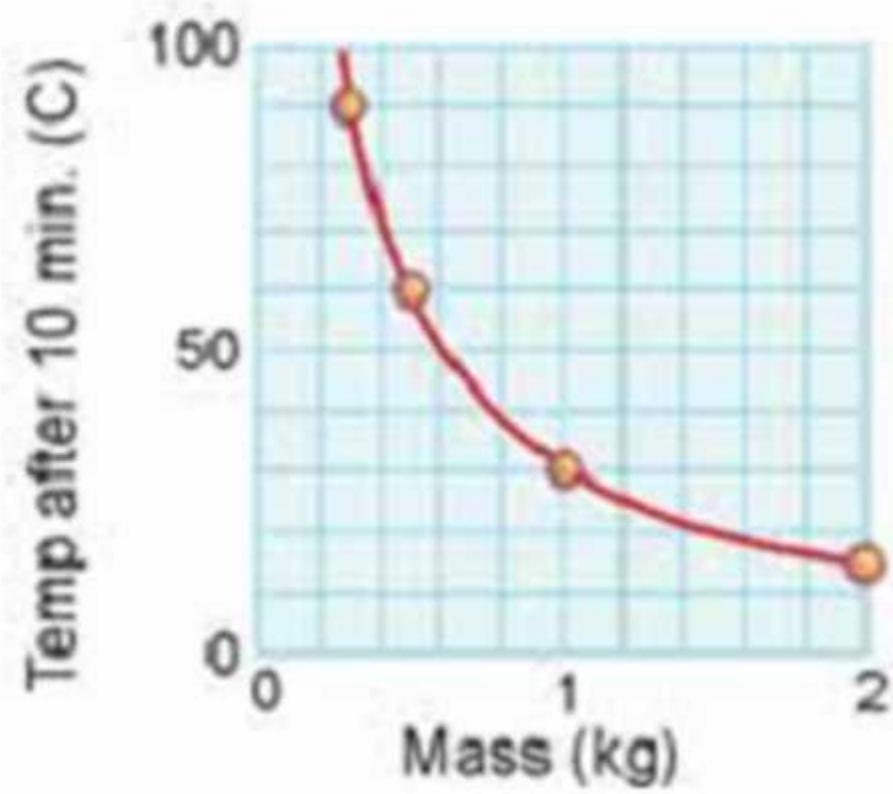




1 kg water



2 kg water



# APA MAKNANYA?

Bunch of  
bananas  
**1 kilogram**



Cat  
**5 kilograms**

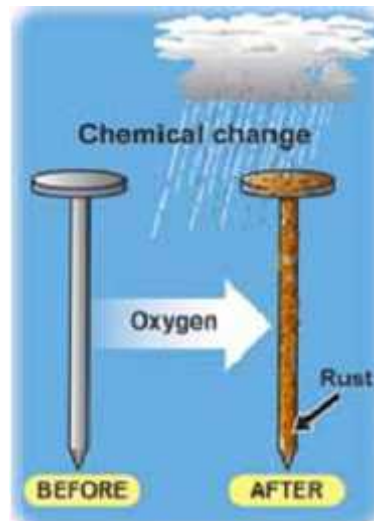


Person  
**55 kilograms**

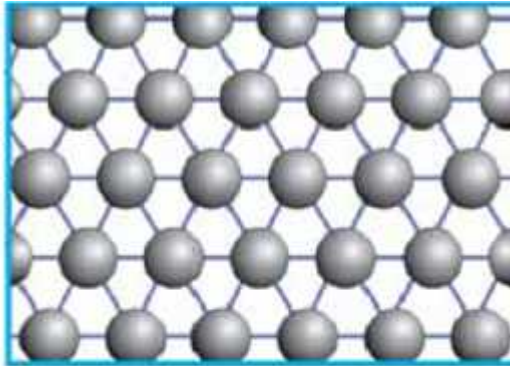


Motorcycle  
**200 kilograms**

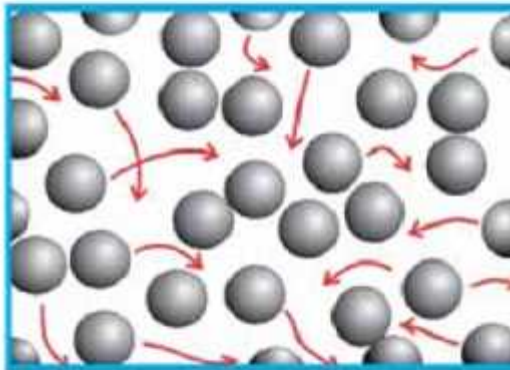




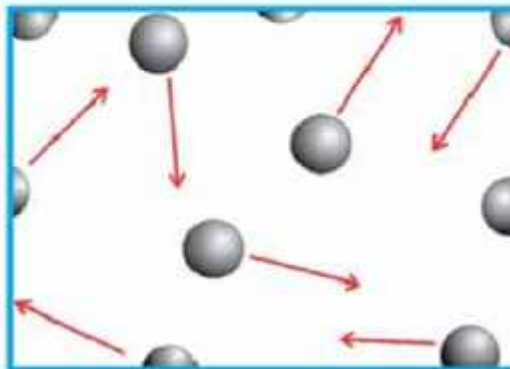




**Solid**



**Liquid**



Potential energy



Kinetic energy

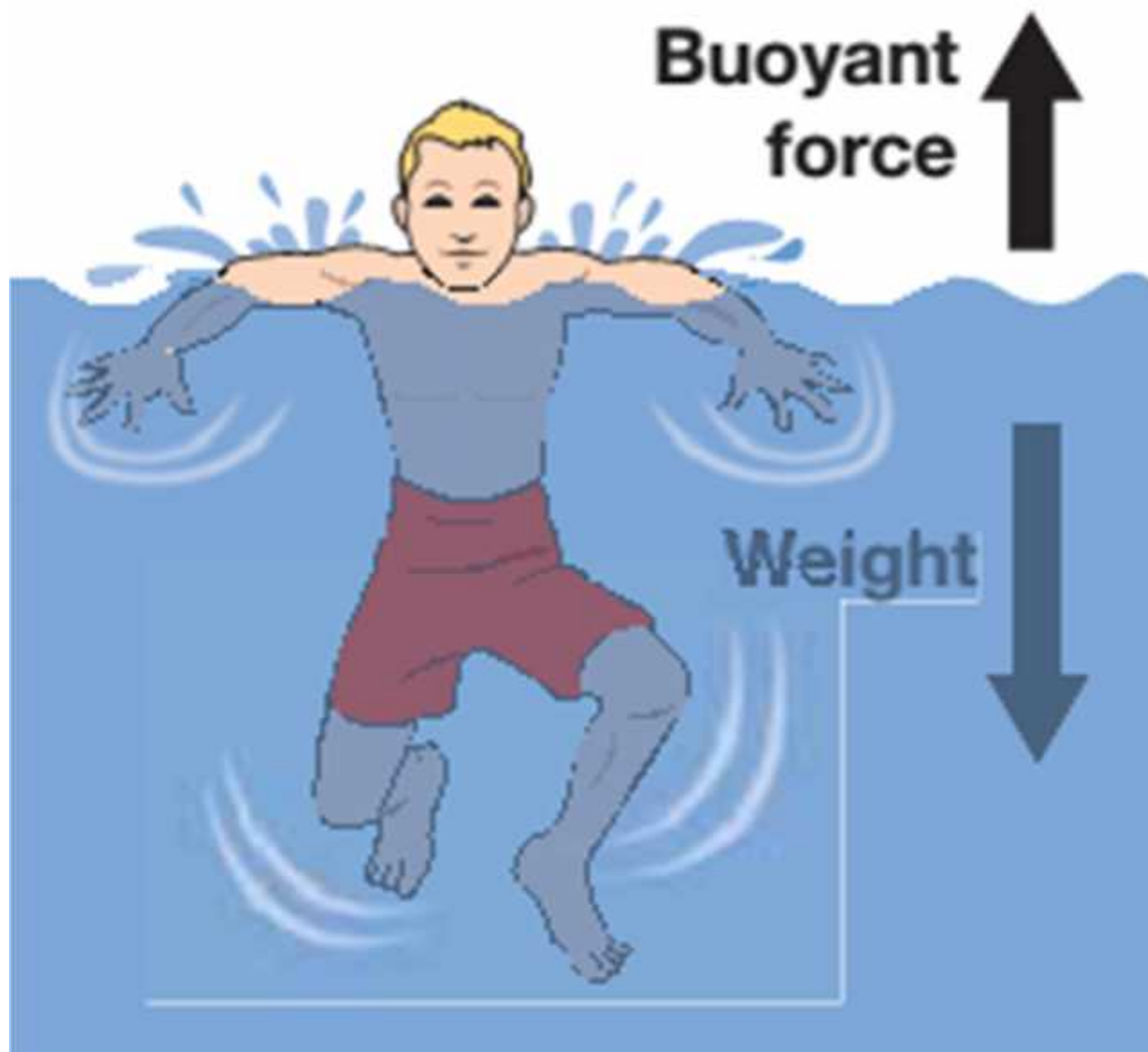


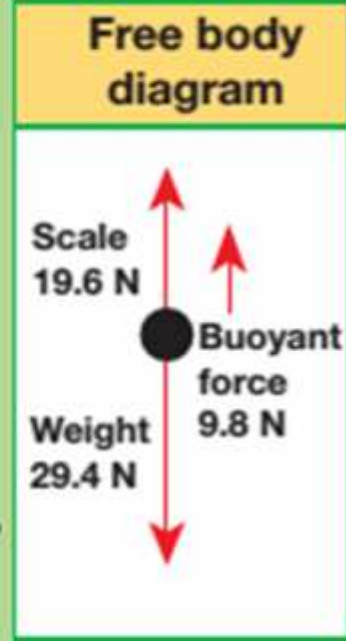
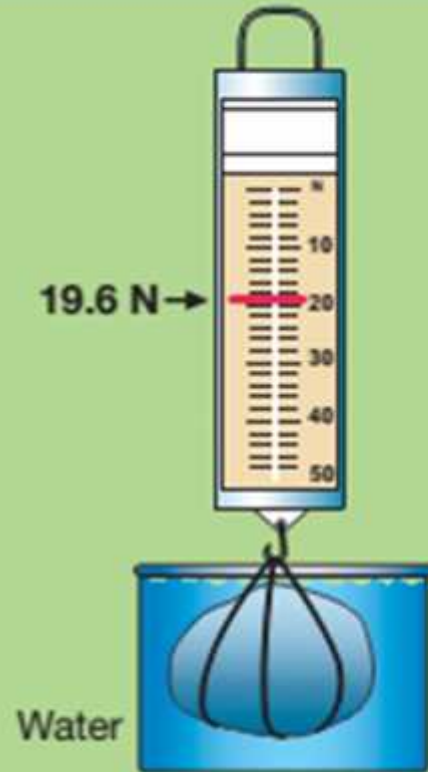
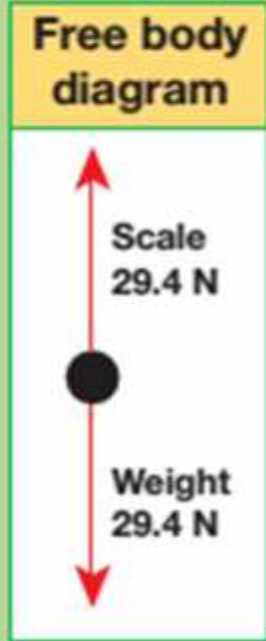
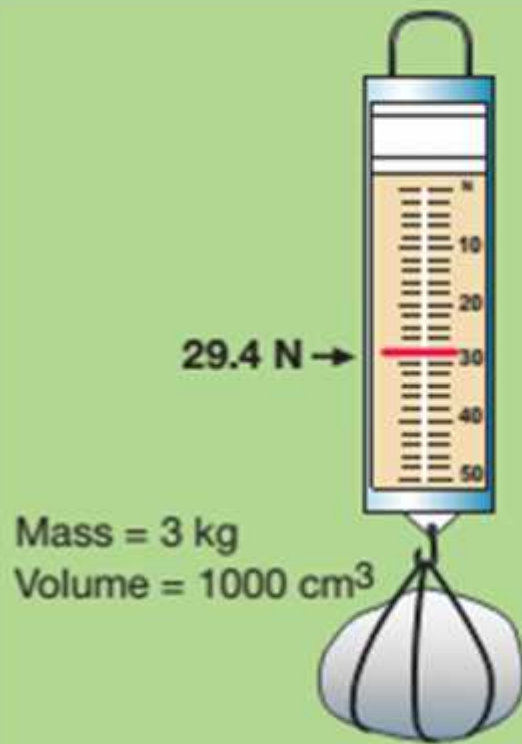
Room air  
21 °C

Heat

Ice  
cream  
-5 °C

A diagram illustrating heat transfer. In the center is a soft-serve ice cream cone with a light-colored scoop and a brown wafer cone. The text "Ice cream -5 °C" is written on the scoop. Surrounding the ice cream are eight arrows pointing inward from all directions. One arrow at the top is labeled "Heat" in orange text. In the top-left corner, the text "Room air 21 °C" is displayed. The background is a light blue gradient.









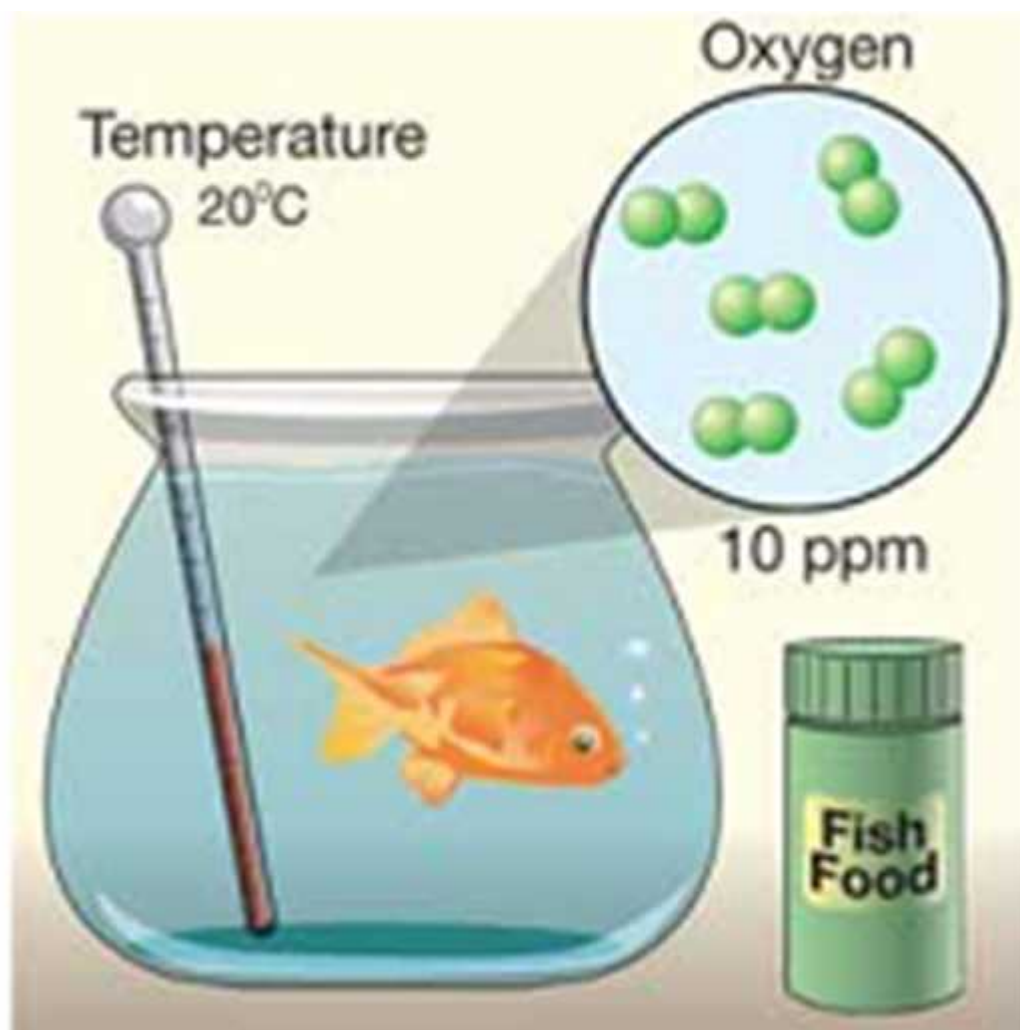
Living things respond to their environment.

Living things use energy.

Living things are able to reproduce.

Living things grow and develop.

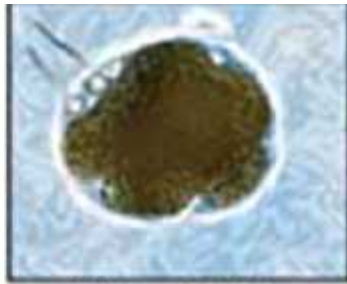
Living things are made of cells.







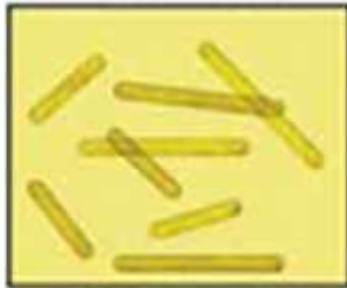
Euglenoids



Water Molds



Didinium



Chrysophytes



Magnified view

Yeast

Mushrooms

Toad stools

