

# Rat Biological Facts

## Physiological Data:

Body temperature.....	35.9-37.5°C (96.6-99.5°F)
Heart beats/ min.....	250-600
Breathing rate/ min .....	66-114
Weight, adult male.....	300-400 grams
Weight, adult female.....	250-300 grams
Birth weight.....	5-6 grams
Sexual maturity.....	40-65 days
Estrous cycle frequency .....	4-5 days
Duration of estrus .....	13-15 hours
Time of ovulation.....	2-3 hours after estrus onset (spontaneous)
Gestation period.....	20-22 days
Litter size.....	8-14 pups
Eyes open.....	10-12 days
Weaning age.....	21 days
Breeding life.....	8 months
Mating .....	pair (monogamous) or
.....	harem (polygamous); one male, 2 females
Life span.....	2.5-3 years
Water consumption .....	24-60 ml/ day
Food consumption.....	15-30 g/ day (Rats require hard foods to wear down teeth)

## Organ System Norms:

### • Cardiovascular

o Arterial blood pressure

□ Mean systolic ..... 116 mm Hg

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- Mean diastolic..... 90 mm Hg
- o Heart rate ..... 250-600 beats/min
- o Cardiac output..... 50 ml/min
- o Blood volume..... 5.43 ml/100 gm body wt.

## • Respiratory

- o Respiratory rate..... 66-114/min
- o Tidal volume..... 1.5 ml
- o Alveolar surface area (400 gm rat) ..... 7.5 m<sup>2</sup>

## • Renal

- o Urine volume/24 hr..... 5.5 ml/100 body wt.
- o Na<sup>+</sup> excretion/24 hr ..... 1.63 mEq/100 gm body wt.
- o K<sup>+</sup> excretion/24 hr..... 0.83 mEq/100 gm body wt.
- o Urine osmolarity ..... 1658 mOsm/kg H<sub>2</sub>O
- o Urine pH..... 7.3-8.5
- o Urine specific gravity ..... 1.04-1.07