

Problem-based Learning

- A Teaching tool - group exploration of problems involving “self discovery”
- Problem statement + information
 - Interim solutions
- Research/new information (Learning issues)
 - Revised Solutions
- Tutors help group keep rules only



Suggested Procedure

1. Consider problem statement
2. Define the problem
3. List possible approaches, solutions
4. Consider additional information
5. Repeat steps 3, 4
6. Decide on final conclusions

The Goat Antelopes

Order Artiodactyla, Family Bovidae, 2 Sub-families, Caprinae and Panthalopinae



Photo: M. Festa-Bianchet

Taxonomy

- 27 species (5 endangered – incl. Markhor; 8 others vulnerable)
- Several subgroups



Goats



Mt. Goat, Chamois



Musk Ox, Takin



Sheep, Chiru



Distribution

- N. America: 4 spp.
 - Bighorn, Thinhorn, Mt. Goat, Musk Ox
- Himalayas: 9 spp.
 - Goral, Takin, Blue Sheep, Ibex, Urial
 - Himalayan Tahr,
 - Markhor, Argali,
 - Chiru
- Europe: 10 spp.



Ecology

- Small to medium-sized (20-350 Kg.) browsing and grazing ungulates
- Alpine meadows and sub-alpine forests
- Most spp. are highly sociable
 - Sexes often not together
- Horns
 - Sharp and dangerous – defence
 - Large and showy – male combat

Conservation Status

- Some species secure
- Threatened for several reasons:
- Competition with domestics (Goats, Sheep)
- Overkill by hunters
 - Meat trade
 - Trophy hunting
- Diseases of domestics



Markhor

- 2 sub-species (straight, spiral-horned)
- Name means “snake-killer”
- Range: Turkmenistan to N. India
- Sparse woodlands and mountain slopes
- The world’s largest goat
 - Males to 100 kg
 - Females to 40 kg
 - Horns (to 60 cm): trophies, used in TCM



Photo: K. Kutundisz