Put everything away except for a sheet of paper (and pen/pencil)

Hurry! The clock’s ticking!
Quiz 2:

1a) True/False: Condors today rely heavily on seafood

1b) How were Pleistocene condor diets different?

2) What are the 3-types of photosynthesis? **Circle** the one that evolved first. **Put a square around** the one common among grasses.

3) Draw a simple food web that includes [Sun], [Heterotrophs], [Autotrophs], [Hemiparasites]. Arrows should point in the dominant direction(s) of energy flow.
Exam I.

Wednesday Feb. 15

Material:
  Cain chapters 1,3,5,6
  Levin paper
  Chamberlain paper
  Kocher summary
  Class notes!

Part multiple choice
Part other: short answer, matching, etc.
Over 30 years of trophy hunting, the average body weight of rams decreased...

...and the average length of their horns decreased.
(A) Directional selection

Finches hatched in 1976, the year before the drought

![Histogram showing beak size distribution in 1976.]

Finches hatched in 1978, the year after the drought

![Histogram showing beak size distribution in 1978.]

ECOLOGY 3e, Figure 6.6 (Part 1)
(B) Stabilizing selection

![Diagram showing stabilizing selection with bar graph and images of gall and insect.](image)

- **Graph Description:**
  - **X-axis:** Gall diameter (mm)
  - **Y-axis:** Percentage of galls
  - **Colors:**
    - Green: Before selection
    - Blue: After selection

**Legend:**
- Green: Before selection
- Blue: After selection

**Caption:**
ECOLOGY 3e, Figure 6.6 (Part 2)
(C) Disruptive selection

The graph shows the number of birds in relation to their lower mandible width (mm). The orange bars represent individuals that died, and the green bars represent individuals that survived. The distribution of mandible widths is skewed, indicating disruptive selection, where both extreme and intermediate phenotypes are favored, leading to a decrease in the population size of the intermediate phenotypes.
The initial frequency of the A allele is 50% in all populations.

By generation 20, genetic drift had led to the fixation of the A allele in 7 populations...

...and to its loss in 5 other populations.
Females that reproduced (blue curve) died at a higher rate than females that did not reproduce (red curve).

Foraging cost
Predation cost
Increasing

Genetic difference

0

Parental species

Daughter species

Time
Walrus (1 living species)

Gomphotoria pugnax (extinct)

Sea lions (15 living species)

True seals (18 living species)

Allodesmus (extinct)

Puijila darwini (extinct)

Mustelids (weasel family; 56 living species)
The “Big Five” mass extinctions are highlighted with red dots.
Lystrosaurus