Monday 4/8/18

Pick up a notecard and write the answer for the following questions. Use your energy pyramid notes to guide you.

1 What do the arrows represent?

2 Name 2 secondary consumers.

3 Name an organism that is both a secondary and tertiary consumer.

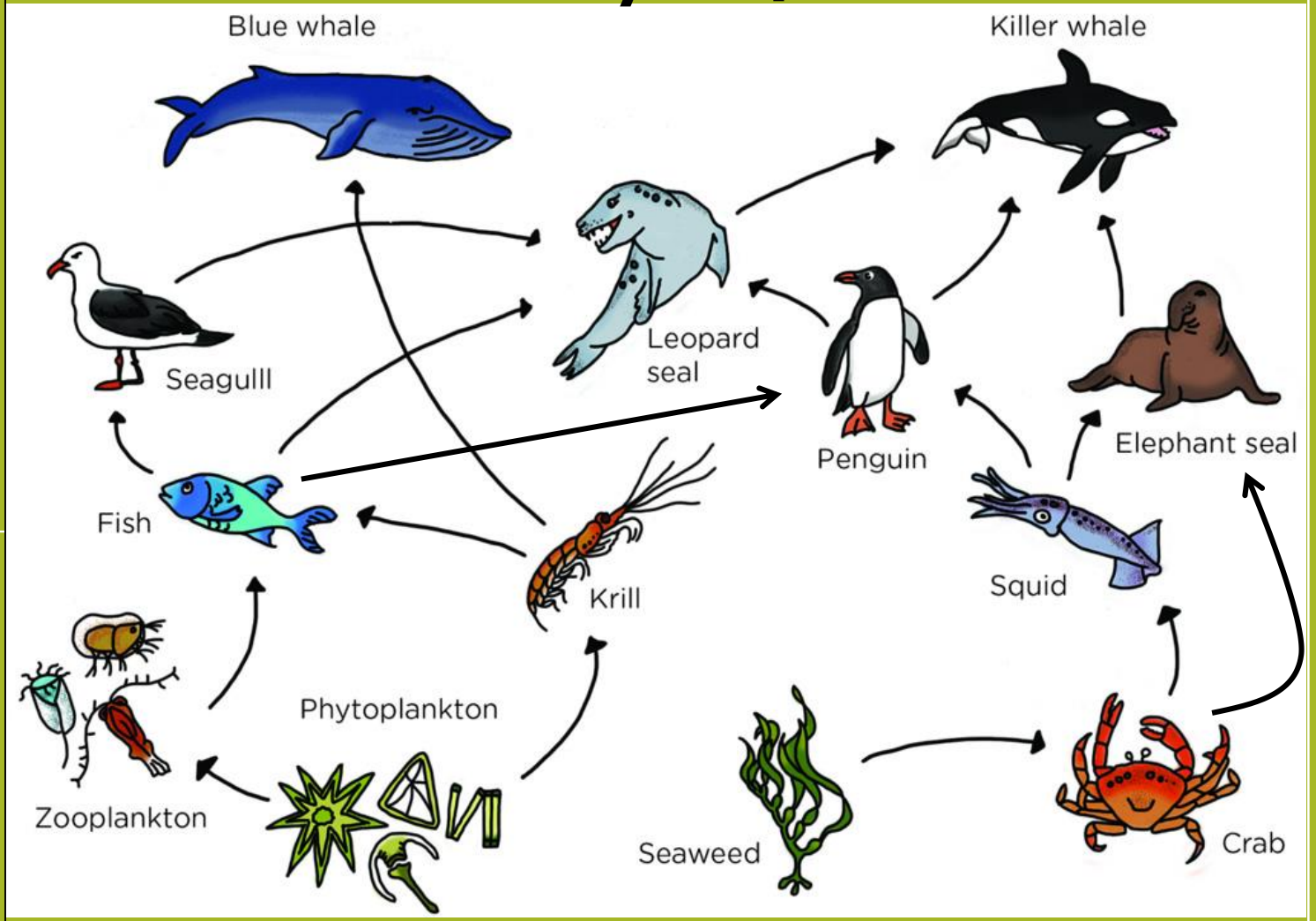
4 What trophic level is phytoplankton on?

5 What might happen to this ecosystem if the leopard seals were all killed?

6 Name two apex (top) predators.

7 What important organism is MISSING from the food web?

8 Name one organism that received 1% of the original energy.



ECOLOGICAL RELATIONSHIPS

Identify and explain symbiotic and other relationships.

https://www.youtube.com/watch?v=GdCoAkpa2ts (1:08)

Symbiosis – living together

- Symbiotic Relationships – different species living together where at least one benefits from the relationship.

Mutualism

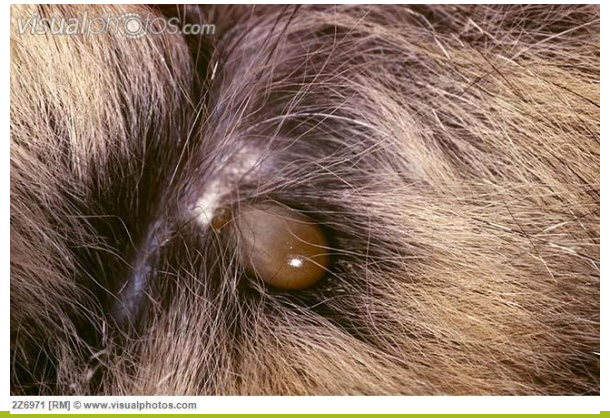
- Mutualism – BOTH species benefit
  - Example –
    - Bee and flower – bee gets nectar and flower spreads pollen, both benefit
    - Pilot fish and shark – fish cleans shark's teeth, both benefit

Commensalism

- Commensalism – ONE species benefits, the other is neither helped nor harmed
  - Example –
    - Bird nesting in tree, bird benefits and tree is neither helped nor harmed
    - Barnacle and whale – barnacle gets a free ride and ability to find more food, the whale is neither helped nor harmed

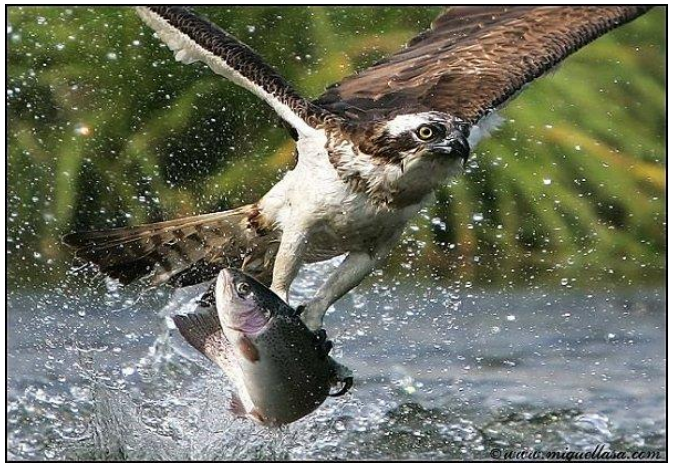
Parasitism

- Parasitism – one species benefits the other is harmed
  - Example –
    - Tick on a deer, tick gets food (blood) and deer loses blood becoming susceptible to disease
    - Mosquito on human, mosquito gets food and human loses blood and may get ill



Other relationships -

- Predation – one organism eats another.
- Competition – organisms compete for resources, can be between same species or different species.



Symbiotic Relationships

- Ocean symbiotic relationships
- https://www.youtube.com/watch?v=fzIDEoippf4 (10:16)
- https://www.youtube.com/watch?v=xudYUvcal58 (2:33 – oxpecker)
- RARE commensalism https://www.youtube.com/watch?v=7Wm91B8h07s (1:18)
- Dresser (Decorator) crab – sponge crab
- https://www.youtube.com/watch?v=OwQcv7TyX04 (3:37)

What happens when non-native species are introduced into an ecosystem?

- Invasive species
- https://www.youtube.com/watch?v=yqLkSHlf5DE
- https://www.youtube.com/watch?v=spTWwqVP_2s&t=47s

- No predators!
- Compete with native species!

POPULATIONS

Factors affecting Populations – these limit the size of a population: starvation, flooding, disease, predation, hunting, etc.

- Density Dependent Limiting Factors – DEPEND on the population. These would not occur if the population were not there. Predation, disease, hunting, starvation
- Density Independent Limiting Factors – Occur whether the population exists or not. These would happen anyway. Fire, tornado, pollution, flood

Carrying Capacity – the number of species an area can support. (Dynamic Equilibrium)

- Predators help maintain carrying capacity. Available resources limit it.