

Question 33 (Answer: C)

- Trophic level 1 is the producer, level 2 the herbivore, level 3 the carnivore.
- So the transfer from level 1 to level 2 is plant to herbivore, not herbivore to carnivore.
- The herbivore-to-carnivore step is between levels 2 and 3.

Question 38 (Answer: A)

- A herbivore eats the producer – the plant.
- The producer is trophic level 1, so the herbivore is level 2.
- The organism that eats the producer is the primary consumer.

4(a)(i)	grasshopper / marmot ;
4(a)(ii)	grass → grasshopper → marmots / (corsac) fox → (steppe) eagle ;
4(a)(iii)	<i>any two from:</i> <i>idea that</i> energy is lost between each trophic level ; named example of energy loss ; if less energy available then less biomass can be supported ;
4(b)(i)	<i>any three from:</i> 1 little genetic variation ; 2 increased risk of, genetic / inherited, disease ; 3 <u>inbreeding / inbred</u> ; 4 decreased heterozygosity / greater chance that an organism may be homozygous (recessive) ; 5 less likely to adapt to changes in the, environment / AW ; 6 increased susceptibility to (transmissible) disease ; 7 AVP ;
4(b)(ii)	<i>any four from:</i> 1 (named) protection of habitat ; 2 ref to legislation protecting species / banning hunting ; 3 monitoring / tracking / named example of monitoring ; 4 education / awareness campaigns ; 5 provision of (named), food / nutrients / veterinary care ; 6 removal of predators ; 7 removal of invasive species ;
4(c)	X – fertilisation ; Y – mitosis / cell division ; Z – implantation ;

Question 35 (Answer: B)

- A primary consumer eats the producers; a secondary consumer eats the primary consumers.
- So find the producers first – the kelp, algae and diatom.
- Then count how many species eat the animals that eat those producers.

Question 36 (Answer: C)

- The zebra is much larger than the insects, and the insects far outnumber the zebra.
- So a pyramid of *numbers* is inverted at the bottom – one zebra supporting many insects.
- A pyramid of *biomass* is the right way up, because the single zebra has far more mass than all the insects.

Question 36 (Answer: A)

- Decomposers feed on dead material and waste from any organism.
- That includes dead producers, dead herbivores and dead carnivores.
- So all three trophic levels can supply energy to decomposers.