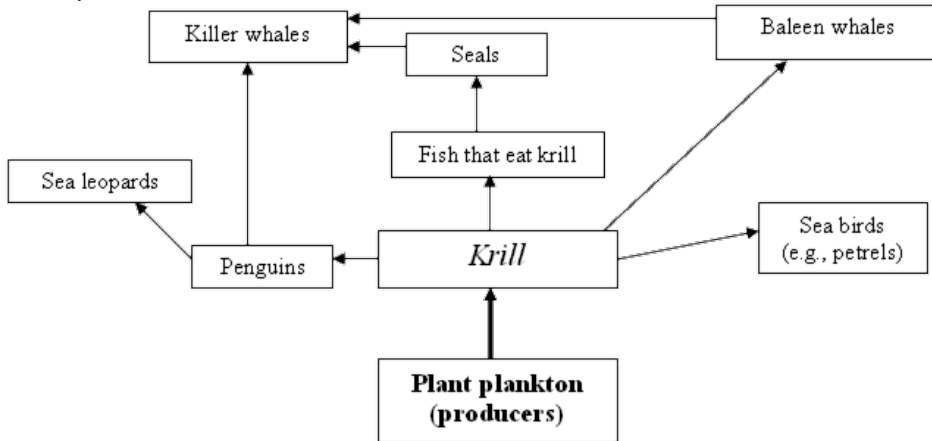


Feeding relationships in the Southern Ocean

This task is about reading and interpreting food webs.

There are lots of living things in the cold waters of the Southern Ocean around Antarctica. Key feeding relationships there are shown in the food web below.



Interpret the food web to answer the following questions:

a) What part do *producers* play in a food web?

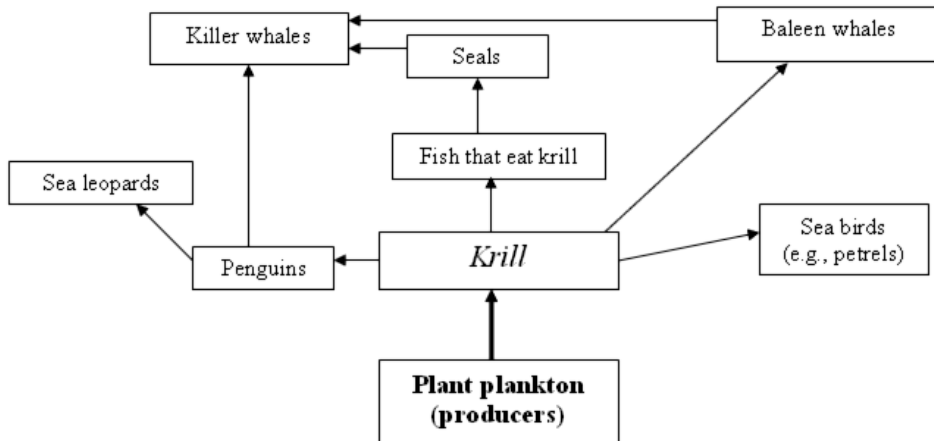
b) Plant plankton are tiny, but there are millions of them. They shelter and breed under the edges of the floating ice sheets. Their numbers are highest during the long daylight hours of late summer. Why would this be a good time for them to breed?

c) Numbers of plant plankton in the Southern Ocean are falling because the ice sheets are melting as global warming increases sea temperatures. Explain what would be likely to happen to krill numbers in this situation.

d) What do the arrows on the food web represent?

e) Krill are small shrimp-like animals that can live up to 5 years – if they can avoid their many predators. Scientists say that the numbers of krill in the Southern Ocean have dropped by as much as 80% since the 1970's.

On the food web, mark a cross on all the arrows where you think falling krill numbers will have a negative effect on other animals.



f) Penguin population numbers are also falling sharply. Scientists are worried and they blame global warming.

i) Do you think this is justified? *Select one*

Yes

No

ii) Why or why not?