OCEAN OBSERVATORY SCOTLAND

FLAME SHELL BEDS - ANSWERS

1. What is the scientific name of the flame shell?
   - ***The scientific name of the flame shell is Limaria hians.***
2. What physical feature makes flame shells easy to recognise underwater?
   - ***Flame shells are easy to recognise because of their bright orange, flame-like tentacles that wave in the water like flickering flames.***
3. Where do flame shells live on the seabed, and how do they protect themselves?
   - ***Flame shells live hidden on the seabed inside nests made from shells, stones, and other materials, which help protect them from predators and strong water movement.***
4. Explain one way flame shell beds help stabilise the seabed.
   - **Flame shell beds help stabilise the seabed by trapping sediments within their nests, which prevents the seabed from being washed away by currents.**
5. Why are flame shell beds described as "healthy habitats"?
   - **They are described as healthy habitats because they provide homes for many different species, including seaweeds, sponges, and fish such as cod and saithe.**
6. What did the Loch Fyne study reveal about biodiversity in flame shell beds?
   - ***The Loch Fyne study found that just six flame shell nest complexes supported 19 species of algae and 265 species of invertebrates, showing very high biodiversity.***
7. What causes the flame shell's bright orange colour?
   - ***The flame shell's bright orange colour is caused by carotenoids, which are natural pigments found in large amounts in their bodies.***
8. Name two locations in Scotland where flame shell beds are found.
   - ***Flame shell beds are found in places such as Loch Alsh, Loch Sunart, and Scapa Flow on Scotland's west coast.***
9. Describe two human activities that threaten flame shell beds.
   - **Bottom trawling and scallop dredging threaten flame shell beds by damaging their shells and destroying the seabed habitats they create. Pollution and poor water quality are also major threats.**
10. Why can damage to flame shell beds have long-lasting effects on the marine ecosystem?
    - ***Damage can have long-lasting effects because flame shell beds can take more than 100 years to recover after a single dredging event, and their loss disrupts food webs and habitats for many other species.***