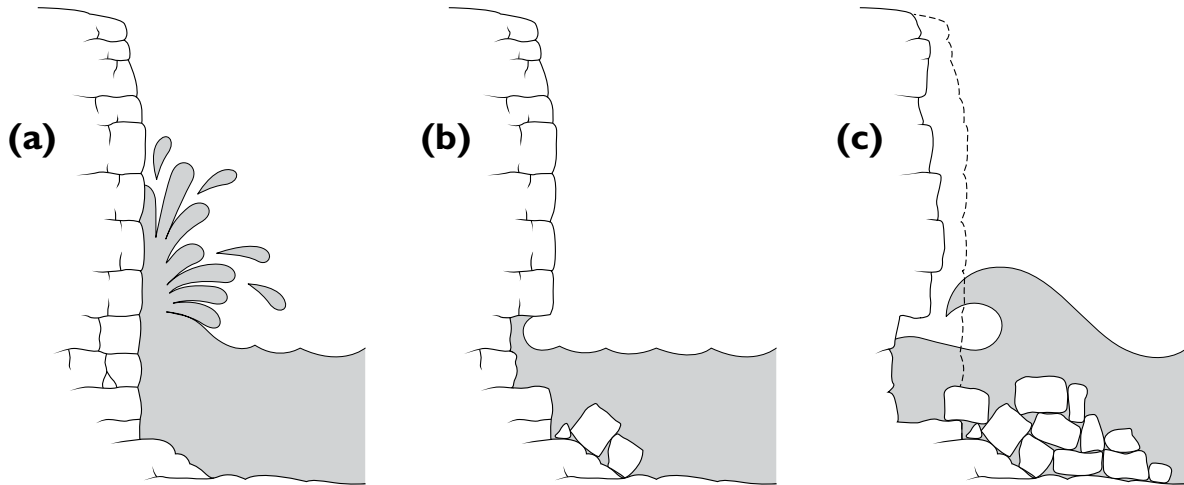


Pounding waves, crashing cliffs

Tall cliffs tend to collapse when they have been undercut.



Q1. Write a description to explain how the cliffs in the diagrams are worn back.

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Q2. What happens to the rocks that fall down in front of a cliff?

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Q3. What is the dotted line on the right hand diagram there for?

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Answers

1. **When waves break against a cliff the force of the water is like a hammer beating on the rock (a). When the wave is spent, any loosened blocks can fall out (b). Then the next wave approaches, hammering the cliff once more (c). (Note: it may take many years for waves to prise a block loose.)**
2. **They are eroded by waves before the attack on the cliff resumes.**
3. **To show where the cliff face was before the cliff collapse.**

Notes

This diagram gives a good opportunity to show how many natural features change suddenly and dramatically. It also explains why something that has stood apparently unchanged for a long time suddenly changes. As a result, there can be risks associated with steep cliffs, especially those which have been undercut. Students should be trained to avoid such places.

The amount of cliff that has collapsed gives clues as to the frequency of collapse. In places such as Lyme Regis, where the cliffs collapse each year, there is a freshly broken cliff face and cliff-foot rubble throughout the year. Areas with glacial rocks such as Scarborough are also regular sites of collapse.

Notice that in these diagrams deep water is always shown, implying that we are dealing with a cliff whose erosion takes place without the effect of a beach. In fact, most erosion takes place on the few occasions when the waves are whipped up by storm winds. As a result, many more cliff falls occur during stormy winters than in calm summers.