

Unit 5 Moving sand

1. Whole class instruction

Objective: To introduce children to the idea that the breaking waves move sand along a beach. That is, there is more going on than you might suppose when you paddle your feet!



1.1. Go to video 341

“When you paddle in the surf, have you ever looked to see what is happening...”

- ▶ Look at the video and get children to follow through what is said. Most people don't think about processes, so this is an excellent opportunity to show that processes are at work everywhere.

Watch video 341

1.2. Go to Coast Book page 28

“What is the sand doing as it moves between our toes?”

- ▶ If you look at the top diagram with children, they can see that the sand moves at an angle up the beach (swash).
- ▶ Show the video several times and then prepare to so it as a group demonstration.
- ▶ Show children pictures of groynes and say that this is what happens when we stop sand moving naturally on the beach. It all piles up on one side and get pulled away from the other.

You can hear swash and backwash on the video of Chesil Beach because there the beach is made of pebbles and the beach is very steep, so the pebbles all move very noisily.

2a. Group exploration

2.1. Watch longshore drift in action

- ▶ Make sure children understand how you can model an action with something that is easier to work with. We are going to use a piece of board and a ping-pong ball. The board represents the beach and the ping-pong ball represents a piece

Board propped up at an angle of about 5 degrees (very gentle).

of sand caught up in the waves.

- Imagine your hand is a wave. You roll the ping-pong up the slope at an angle (sort of like bowls). It goes up the board for a bit and then rolls back down under gravity. But it does not return to the same place. It has moved along the beach. Get everyone in the class to have a go.



2b. Literacy activity

2.1. Make nature into poems

- First, watch a video like Chesil Beach. Then say we are going to try to make words that sound like what we have just heard. As the wave comes in get the class to say out loud as they breathe in 'swaaaaaash, keeping the aaa for as long as the wave moves forward. Then they breathe out, saying backwaaaaaaaash for as long as it goes out. And repeat. Now they know what they are trying to create in terms of writing.

Can children make up a poem that suggests the rhythm of the waves and surf.

The waves swaaaaaaaash in...

Cross-curricular with science. Wave motion is pushes and pulls (push of wave front driven by winds, pull by gravity after the wave is spent).

3. Plenary session

- Get children to say what they think they have learned and present it perhaps on the whiteboard or in their own books.

4. Further work/homework

- More able children can investigate more groynes and sand spits, by finding examples along the coast from the Great Seaside books.