Sea Watch Investigator Assembly

A whole school introduction to an 'Ocean Odyssey' themed week.

Outline – Science week plays an important part in the Primary Curriculum and children's enjoyment of practical science activities. To celebrate our oceans and the biodiversity of life an 'Ocean Odyssey' range of activities for all Key Stages has been developed, beginning with a whole school assembly. *(See the Ocean Odyssey link for all activities and resources.)*

Whole School Assembly activities

1. Begin with an introduction to the themed science day/week. (*If you have CD of whale song or DVD such as The BBC's The Blue Planet, this could be played when the children are coming into the Hall.)* Using an inflatable globe, throw it to chosen children and ask if they can find the name of an ocean or sea; shout it out to the rest of the children.

2. Ask 10 children to come to the front. Tell them that 70% of the world is covered by our oceans and seas, that is 7 out of the 10 children. Move them to demonstrate this. That is why Earth is sometimes referred to as 'The Blue Planet.'

3. Ask children which animals they know that live in the oceans. Focus on whales and explain that we are going to think about these special creatures today.

4. Ask - What do we know about whales? How do they breathe? Can they breathe underwater?

5. Explain that as mammals, whales cannot breathe underwater and, that they have to surface to breathe in before they dive to feed. They do this through a hole in the top of their head called a Blow Hole (equivalent to our nostrils); when they surface you can see and hear the exhalation of air which is followed by a deep inhalation of air before the whale dives. For more information about blow holes look at the following link- http://www.enchantedlearning.com/subjects/whales/anatomy/Blowhole.shtml

6. Ask the children if they can hold their breath for a long time. Explain that the sperm whale can hold its breath for an astonishing 140 minutes! It is useful to help the children think about how much time this is; such as the time from them arriving at school, first lesson, break and part way through the second lesson!

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Whole School Assembly activities – continued

6. c/o Ask children why they think it is necessary for whales to be able to hold their breath for so long? E.g. feeding. *A minke whale may stay underwater for 10 or 15 mins swimming through shoals of thousands of small fish such as herring or sand eels, while the sperm whale may be down over two hours using echo-location to find a single giant squid!* Explain that whales have an excellent lung capacity and indeed, use much more of their lung capacity than we do.

7. Explain that we are going to investigate the lung capacity of a few volunteers today to see if we can match the supremacy of the whales! For this you will need to make a simple spirometer, outlined below.

Fill a large, preferably transparent container half full with water. Using two clear plastic bottles mark them clearly every 5 centimetres or so. Fill the bottles with water and quickly immerse them upside down in the container. The water will not come out of the bottles as long as they are immersed in the water of the container. Now feed a tube (such as those used in D and T) into the bottle with enough left for the children to blow into.

8. Ask for two volunteers to come to the front. A good idea is to start with 2 children from Key Stage 1 and then Key Stage 2 for comparison. Facing the audience, the children need to take a deep breath and then breathe out as much as they can into the tube.
   Explain to children not to breathe out too hard into the tube, as it is less effective. You will be able to see the amount of water (and marked units on the bottle) they have displaced, and so roughly measure their lung capacities.
   Note different tubes need to be used for hygiene.

9. Ask if there were any differences between the children and, why they think that was.
   How do they think our lung capacities compare to whales and other sea mammals?

The following activities are extras if you have time. The first is a lovely 'just so' story about how the baleen whales got their baleen plates!

10. Now is story time. Ask the children if they knew that the largest animal in the world, that is, the blue whale, eats one of the smallest shrimp-like creatures called krill. Read the following story to them (you may want to read it first and perhaps shorten it a little.) You could demonstrate the baleen plate using cardboard packaging that is 'segmented.' For more information about baleen look at the following link -
    http://www.enchantedlearning.com/subjects/whales/anatomy/Baleen.shtml

    Rayner, Shoo. (2007) *How the Whale Got His Throat,* Orchard Books, London.

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Whole School Assembly activities – continued

The second activity is the following about sizes of whales, although there is a similar activity for classes as part of the activity day. You could do one or both activities if you wish.

11. Using a 30m length of string pose the question to children and staff, 'Do you think a blue whale would fit in this hall, would it just fit in the hall, or would it have space to swim around or not fit in at all?' Ask the staff and children for a show of hands.
    Begin to let the string out, as you come to marks of different whales (see below for examples and sizes), talk about what is happening. 'Is this the blue whale? No, it is the minke whale…' and so on. What is likely to happen is that the person who is unravelling the string (a teacher perhaps) will end up outside the hall doors and along a corridor. Discuss the predictions of the children and teachers. Talk about why only in the oceans could an animal like the blue whale grow to such a huge size. For why this is look at the following link - http://largestfastestsmartest.com/everwondered/fishandseacreatures.html

Some approximate sizes of whales to mark on the piece of string –
Minke Whale 8m, Orca 9.5m, Humpback Whale 15m, Fin Whale 20.5m, Blue Whale 30m.

12. The children will already have learned a great deal and will be ready to have a great investigative day about life in the oceans.

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