
Teach On the Beach Big Seaweed Search for Schools: Practical Activities at the Shore Teachers Instructions

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1. Shore Activities Equipment Checklist

1.1. True/False Game Equipment Activity 1

True/False Seaweed questions

True False signs, printed from instructions, on A4

1.2. Big Seaweed Search Equipment Activity 2

For 5 groups

BSS schools i-d handout in plastic sleeves/laminated x 5 + 1 spare

BSS schools recording form x 5 + spare

BSS for schools scoring sheet x 5

Clipboards x 6

1mx1m square ropes x 5

1m rule/ stick x 5 if poss OR retractable tape measure

One - two markers e.g. cones, flags, bright bag etc

Pencils

1.3. Seaweed Art (optional activity A)

Rope squares

Digital camera

1.4. Seaweed Naming Project for Lesson 2 (optional activity B)

Small scissors

Small collecting bags/pots

Bucket/bottle of sea water to wash off any seaweed collected

Bucket(s)

Scraps of paper to name samples

1.5. Seaweed Snap (optional activity C)

Assortment of Activity1/seaweed snap cards (A4 sheets in punched pockets or printed on card) 1 for each child or 1/pair of children

Wooden pegs (1/card)

1.6. Seashore safari (optional activity D)

Seashore safari guides (www.mcsuk.org/media/explore/MCS_seashore_safari_guide.pdf)

Buckets/trays up to 15 per class (1 between two)

2. General equipment

- Extra blankets if cold
- Spare towel
- Water/sun cream if hot
- Hand sanitiser
- Gloves for those that want them
- Large bags (waterproof) for kit
- First aid kit
- Tarpaulin(s)
- Rubbish bag
- Charged phones (see RA)
- Whistle



3. What to bring (children and helpers) – to send to parents in a letter

- Water in re-usable bottle
- Lunch/snacks (try be as plastic/throwaway free as possible and take all your rubbish home)
- Waterproof jacket
- Waterproof, flat shoes (wellies/boots/trainers – no sandals)
- Gloves of the gardening kind
- Any medication, inhalers, epi pens etc
- Signed permissions from all parents/guardians
- Photo permission for use in school newsletter/website etc

4. Preparing for Practical Activities at the Sea Shore

4.1. Choose a shore

Select a shore to visit that has rocks. Sandy shores do not have much seaweed.

Most seaweed is found on rocky, complex shores that can be slippery and have deep pools, so there are safety issues to be aware of (see '**Schools Seaweed Search Practical Session example risk assessment**').

Identify suitable beaches, access and facilities via the Marine Conservation Society 'Near You' search www.mcsuk.org/nearyou or beach guide UK directory at www.thebeachguide.co.uk/beach-list

Check google maps in satellite view to help you identify rocky areas.

A sheltered shore that is fairly flat will make for an easier session than an exposed or steep shore where you may have big waves and hazardous rocks.

Try to find a shore where there is some nearby shelter available if the weather turns bad. Toilets nearby and easy access (such as slipways) make for a more manageable outing.

4.2. Check the shore out with a visit

Make a pre-visit to do your risk assessment (see example) for that specific beach to check its suitability

Identify your chosen access route and search area. Pick an area on the shore with a decent amount of seaweed (species and abundance). You may need to compromise and select an area children can access safely, rather than the richest seaweed zone if that is too steep/slippery/close to water. Try to find at least 3 different types of seaweed in the survey area. The presence of rock pools will increase the likelihood of finding different seaweeds.

Collect loose (drift) seaweeds for Lesson 1 Activities 1&2 whilst at the shore. You can freeze/refrigerate these for later use.

Check your access points are viable (ideally stairs or slope). Identify a SAFE working area and make a note of it or take photos. Note down the grid reference or postcode of where you will be, in case you need emergency service access





4.3. Timing

Ensure the tide will be going OUT at the time of your planned visit.

Check in your pre-visit how much beach and shore you will have clear to work on. Some shores become covered at high tide, and if so you'll need to wait a few hours to find seaweeds.

Allow a couple of hours at least for your visit. Free tide tables are available at www.visitmyharbour.com/tides/

4.4. Organise Helpers

Organise beforehand a sufficient ratio of assistants to children (1:10 minimum, but ideally you need 5 mobile and confident adults for 5 groups of 5-6 children).

Adults MUST all be prepared to go with the children ONTO the shore and guide them through the survey and help them find a safe route across the rocks.

If you have less adults, split into fewer groups. Children with mobility impairments, may need individual help. Ensure you have a first aider present.

4.5. Prepare the pupils

Write to parents/guardians in advance to make sure all children are prepared for the shore visit and parents or guardians are aware that they will be away from school. Ask for parents to confirm or deny photo permissions for reporting your visit in the school newsletter/website etc.

See the equipment checklist above for a list of what to ask pupils and helpers to bring.

5. Arriving at the Shore

Identify the safe working area you decided on (use a landmark or markers like flags, cones) and also the end survey point prior to children arriving on shore if possible. You could set out an END POINT marker (flag/bags/person) for the survey whilst someone else runs the True/False game.

Do a head count as you arrive and when you gather everyone together and before leaving.

Ask group leaders to keep their groups with them and help children to work safely.



5.1. Key H&S points to cover in briefing (see example safety briefing)

Review the rules agreed in class in Lesson 1 (no running, stay in your groups, listen to your group leader, be kind to each other etc) with ALL the group (children and leaders).

Explain the safe working area and that no one is to go outside of it.

Key points to include in your briefing:

- Work down the shore facing the sea
- Stay in the working area which is shown by...(landmarks or markers)
- Stay with your group ALL the time and listen to your group leader's instructions
- Don't jump onto or walk on the seaweed – it is slippery – use bare rock if you can
- Don't jump or run; step carefully and take your time
- Sharp items like fishing hooks can be hidden in seaweed; don't grab handfuls of it
- Don't touch any rubbish or gooey stuff
- Don't touch creatures like anemones, jellyfish and crabs as they can sting/nip
- Use hand sanitiser after handling seaweed (or wash your hands)
- Avoid other people, dogs, deep pools and the sea
- What to do if you are lost, cold, wet or fall over

Outline any other particular issues/hazards for the beach in your risk assessment. Explain what children must do to avoid them. Warn that anyone not following instructions will have to sit out.

Run through seashore code (get children to remember and say it back to you)



6. Seaweed True/False game (5 – 10 mins)

Select a flat area either on the shore or perhaps a grassy/sandy area on/behind a promenade/access point where children can move about freely. This activity is best done before going onto the Seaweed Search area.

6.1. You will need for the True/False game

- True/False signs (from Teachers Instructions)
- A flat area on the shore or nearby



6.2. Method for True/False game

2 adults or markers act as True and False, Stand them at least 20m apart on a flat area (not on the rocks). One is signed True and 1 is signed False. Children are asked to stand between them in a group.

When asked the question pupils must move to either true or false. Tell pupils they have limited time and so must decide FOR THEMSELVES not copy their mates!

6.3. Seaweed True False questions

- The fastest growing seaweeds can grow 60cm a day (TRUE)
- Seaweeds produce 70-80% of oxygen on Earth (TRUE)
- Seaweeds are used to flavour sweets (FALSE) used in some sweet things but not to flavour
- Sushi rolls have seaweed round them (TRUE)
- Whale sharks eat seaweed (FALSE) kind of! They eat plankton – mainly animal plankton but some kinds of seaweed and tiny algae get in there
- Seaweeds have air bubbles in to make them float (TRUE)
- There are seaweeds that poison people that swim in them (FALSE)

NB: Additional notes are contained on the 'Teachers instructions True False game'



7. Big Seaweed Search Activity (30 – 45 mins)

7.1. *Seaweed Search Method (set up and prepare beforehand if possible)*

Location: Set out a START marker (or identify landmark) at top of shore and END in mid shore. END marker is not too close to splash zone at least 10m from the sea. Mid shore is characterised by lots of bladder wrack (bubbly) and knotted wrack (egg). Ideally there should be a bit of serrated wrack (knife) present.

Split the class into 5 teams of 5-6, with an adult with each team (do this in class beforehand). Give out equipment. Each team is given

- a 1m rule (or tape measure/stick of 1m) if available
- A rope 1m square
- Clipboard with Species i-d handout and recording form and pencil

Each team surveys next to each other, going in a line down the shore. The survey width should be about 5m but teams can spread out a little bit so as not to overlap. Instead of splitting into 5 groups, you could do 5m across together as a class, in which case just measure or pace out 5m wide and mark the side edges.

Decide beforehand whether you want to

- a) put each square next to each other (e.g. Square 2 is directly below square 1 to cover a shorter survey on a narrow shore with less rocks
- b) place each square 5m apart to cover a longer survey on a larger shore with a lot of rocks.

The longer the survey the more chance you have of finding different seaweeds. Ensure that all the groups are using the SAME method and note down the method you used (either a square every 1m or every 5m). Use a metre rule, tape measure or pace out one large pace/1m.

Complete 5 – 10 squares in total, covering from high shore down to mid shore.

7.2. *Introducing the Seaweed Search Activity*

Introduce the Big Seaweed Search activity and remind children that they are looking for 7 of the seaweeds talked about in class (knife, bubble, egg, groovy, curly, pretty and pink paint).

Other seaweeds will be ignored, just for the first part of the session

Gather everyone together at the start and run through the equipment, the recording form and how to score (see briefing below).

Do a demonstration square if possible near to the start point before setting everyone off.



7.3. Seaweed Search Method Briefing

Each team choose a name and write it on the RECORDING FORM.

Teams work in a line across the top of the shore (within safe working area which is shown by.....). We want to look at an area about 5m across, and all the way down to the end point

Each team will survey from the start point at top of shore, going in a line DOWN the beach, always working facing the sea (each team works next to each other, but not overlapping, keep to your line)

Each team will go down the beach using their 1m squares to survey the area between START and END in a straight-ish line. You might need detours needed to avoid pools, so you don't get your feet wet!).

If your square is going to fall into the middle of a pool, or you'll have to wade through a pool to stay in your line, then go round and put your square nearby! The aim is to stay dry.

Try not to overlap with the team next to you – you can spread out a little. The lines you survey will probably need to wiggle a bit to avoid water.

Start with the first square at the TOP of the beach where you first see seaweed.

Lay down your rope and pull it into a square like this (show). This is square 1.

Look for EACH of the 7 seaweeds on this BSS SCHOOLS I-D HANDOUT in your square (show)

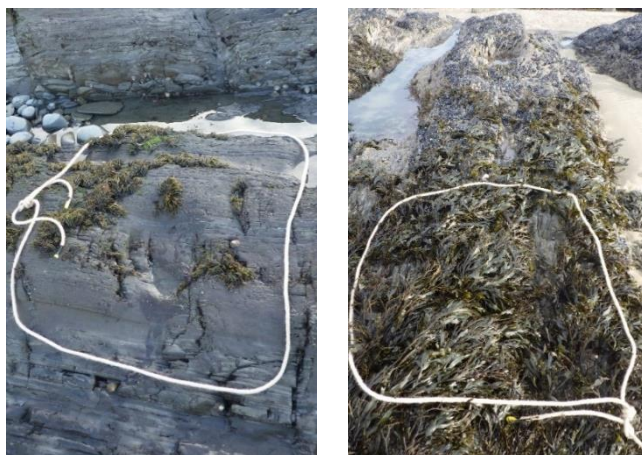
Use the BSS SCHOOLS I-D HANDOUT check if you have found any of the seaweed included in the survey GROWING in your square (it will be attached, not drift which will be loose).

When you see any of the 7 seaweeds GROWING in your square (not outside of it, on the RECORDING FORM, score how much of it there is – you need to work together to agree this:

- Does it cover ALL of your square Score = 3
- Are there one or two bits only Score = 1
- Between 1 or 2 and the whole square (left) Score = 2

Use **SCORING SHEET** to check if needed.

For Square 1 write the score for the seaweed you've found in the table's top row (labelled Square 1)



Check for any other of the 7 seaweeds growing in the same square. If so, score them too. If no further seaweeds from the handout are present, go onto the next square (Square 2).

Place your next square 2 (pick ONE of either)

- 1m down the shore, next to the first square but further down towards the sea
- Or 5m down the shore

See what seaweeds you can see from the handout. Do the scoring again for each one and write it in the 2nd row for square 2

Complete 10 squares in total, covering from high shore here to the end point which is.....

Each group should complete the same number, at the same distance apart, so lets see who can remember...

- How many squares are we doing?
- How far apart should the squares be?
- Where is the start point
- Where is the end point?

We have until x O'Clock and let's meet at the end point.

When you've finished, wait at the end marker which is(flag/marker/person).

7.4. At the end of the survey

At the end of the survey get everyone together at the end point and make sure they have filled in their RECORDING FORM. The HIGHEST score for each seaweed is recorded as its maximum abundance (1, 2 or 3) not the total or sum of scores.



8. Limpet vs seaweed (5 mins)

Gather everyone together again after the seaweed survey. Introduce the limpet vs seaweed activity.

Limpets and other grazers like periwinkles and topshells (shore snails) eat seaweed and could affect how much seaweed is growing on the shore. So now we are going to count how many limpets in a 1m square.

Use your 1m ropes again.



Each team finds an area with limpets somewhere in the area you've just surveyed.

Pull your rope into a square and place it over an area including some limpets.

Count the number of limpets in your square and draw where they are in the square on the recording form. Also draw any seaweed. You should end up with a map' or diagram of where seaweed and limpets are in your square.

9. Additional Activities

Choose from any of the Additional Activities below. These can be done on the same day or on a return visit to vary activities at the shore. BEFORE ALL ACTIVITIES REMIND CHILDREN TO STAY IN THE 'SAFE' SURVEY AREA

9.1. *Optional Activity A Seaweed Art (10-15 mins)*



Use the ropes you used to make your survey squares to make a frame.

Using drift seaweed, shells (empty ones), stones, natural wood, make a picture in your frame as a group. It can be a pattern, a seaside scene, a portrait. It has to include seaweed somehow

Take photos and discuss what the children have created.

9.2. *Optional Activity B Seaweed naming project (10 mins on shore)*

Choose your favourite seaweed on the shore – ask your teacher to take a photo of it or collect a small bit of it (making sure you wash it first so there are no creatures on it), put in a bag put your name on a scrap of paper in the bag, and take it back to the class.

Back in class, you will draw your seaweed and create an identification card. Give it a name, colour it in and name and label the features that help you to tell it apart from other seaweeds (air bubbles, patterns, shapes of fronds and blades, the holdfast, hairs)

NB You can do this with a batch of collected seaweeds on another day or in the follow up sessions if you don't have time on the same day as the shore visit. If you collect samples these can be stored in a fridge for a couple of days or a freezer for longer.



9.3. Optional Activity C Seaweed snap (10-20 mins)

Give out a selection of the ' **Activity 1 / seaweed snap handouts**' (A4 photos/an outline drawing of seaweed – you can use laminates or punched pockets).

Children have a fixed time (5 minutes, more if shore is larger) to find seaweed on the shore that matches it and peg it to the seaweed.

Work in pairs or individually. When found your seaweed put your hand up. Anyone who hasn't found their seaweed on their card after 5 minutes, gather in the middle of the survey area.

- * Go through which of the seaweeds were found where (hands up who had.....)
- * Ask what do the children notice about where the different seaweeds are found?
- * Use it to introduce the concept that seaweeds grow in zones; at the top of the shore is found curly and groovy, in the middle is found bubbly, egg and further down is knife. Pink paint is md to low.
- * Pretty and pink paint are often IN pools, Groovy is usually out of the water. Seaweeds have places that they grow best and this activity can show where those are.

9.4. Optional Activity D Seashore Safari (15-30 mins)

Use the MCS Seashore Safari Guide (available as a leaflet from MCS or as a downloadable pdf www.mcsuk.org/media/explore/MCS_seashore_safari_guide.pdf)

Remind about the seashore code and that each bucket should hold one creature at one time. At the end, discuss what creatures were found and how they relate to seaweed (they may be hiding in it like crabs, eating it like snails, eating things hiding in it like birds).

Work in groups. In the safe working area, see what creatures, shells and artefacts from the guide can be found on the shore. You will need buckets or trays one per pair/group.

When you find something interesting show it to the group.

10. Plenary (5 – 10 mins)

Gather everyone together at the end of the shore session.

Discuss findings and activities e.g.

- Ask what seaweed we saw most of today?
- Was there a difference between which seaweeds were where on the beach?
- Show examples – take photos, review survey and seaweed snap
- What other things did students notice on the beach?
- What did you learn today? Use Audio to gather comments

You could use True – False for evaluation e.g.

Are these statements true or false?

- We did a good survey of the seaweed in our sample area
- I know how to tell the 7 different seaweeds we are looking for apart
- I enjoyed looking at seaweeds today

Recording sheets need to be gathered at the end to collate/compare back in class



11. Appendix A Example shore session timetable

Low tide 3.26pm

12.30 Meet on grass at top of beach steps

- Welcome to the Big Seaweed Search on the Shore

12.35 Prepare for shore work (5 mins)

- Re-cap rules of the day
- Health and Safety

12.40 True/False Game (10 mins)

Move to the beach

12.50 Seaweed Search introduction (10 mins)

- Safe working area
- Start point of the survey
- End point of the survey
- Survey method
- Split into groups
- Hand out equipment

1.00pm Big Seaweed Search (c.30 mins)

Set off the Limpet Count as teams arrive at the end point (5 mins see section)

1.30pm Gather everyone at END POINT (or somewhere flat nearby)

- Check each team has completed their recording forms
- Collect recording forms
- Plenary session – what did we find etc (5-10 minutes see section 5)

1.45 Break – hand sanitiser then snacks

2.00pm Introduce and set off Optional Activity Seaweed Art (Activity A)

2.15 Introduce and set off Optional Activity Seaweed Naming project (Activity B)

2.30 Introduce and set off Optional Activity Seaweed Snap (Activity C)

2.45pm Gather back together, pack up, reiterate safety rules moving back up the shore and leave (or allow 10-15 minutes free time before leaving if weather/transport timings suitable)



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