



## Beaches and Tidepools Try-It

Purpose: To help girls learn about the seashore and have fun doing it.

For everyone: How to Dress and What to Bring. Talk with your troop or parent about what to wear to the ocean and beach. (e.g., on your head, your feet, our exposed skin; in hot or cold weather. Learn the basic rule: NEVER TURN YOUR BACK ON THE OCEAN! Can you tell why?

Brownies: Complete 4 of the 6 activities listed.

### 1. The OCEAN

- Watch the ocean and see if you can tell if the tide is coming in or going out. Do you know how many low and high tides there are each 24 hour day? Ask your leader or parent what a tide table is and how it can help make your visit to the beach most interesting.
  - What color is the ocean water? Is it a different color in the distance farther out?
  - Observe where the waves break and form surf – close in or far out?
  - People are always saying when they come near the seacoast, “Smell the ocean!” What does the ocean smell like to you?
  - Listen to the surf and any bird calls and the sound of the wind, describe what you hear.
  - What do you see in the ocean? birds? marine mammals? people swimming, surfing? wind-surfing? boats? big ships way out? seaweed rafts?

### 2. The BEACH and SAND

- Feel the difference between wet and dry sand.
- Play in the sand: make a sand castle or a sand fort at the water’s edge to try to keep the waves back for a while.
- Make a seashell plaster cast paper weight on the wet sand to take home. Have someone help you mix plaster and make a cardboard “collar” for your paper weight. Directions are in the attached Leader’s Guide.

### 3. The BEACH and SHELLS

- Find several shells of different colors. How many shells or shell pieces can you find with some pink or reddish, lavender or purple tints?
- Try to find a shell with an iridescent or “pearly” inner lining.

- Find several shells of different shapes. Try to find a shell with 2 pieces hinged together.
- Look for small rocks on the beach. Are they smooth and rounded or rough-edged? Do any rocks have little holes in them?

#### 4. The BEACH and SEAWEED

- See how many of the 3 colors of seaweed you can find – (brown, green, and red).
  - What does the seaweed smell like?
  - Describe how the seaweed feels to you.
- Look underneath a clump of seaweed (or a big “kelp anchor”) and see what you can find.
- Look for our famous great Brown Kelp, probably the largest and longest seaweed on the beach. If you find a long enough strand, try using it as a jump rope between two Brownies. It’s also fun to “pop” the air floats (“bladders”) of the great brown kelp by stepping on them. The dried kelp bobs can be “popped” with your fingers.

#### 5. TIDEPOOLS

- Learn where to find tide pools.
- Know tide pool etiquette since you are visiting the home of many little plants and animals.
  1. Walk carefully.
  2. Don’t try to pull or pry animals off, or prod and poke.
  3. Turn rocks over carefully and return rocks to original positions.
  4. Don’t take anything living away – most tide pool life in California is protected by law.
- Look in the tide pool – do you see anything moving around?
  - Do you see animals attached to the rocks either in the tide pool or on the rocks higher up waiting for the tide to come in and cover them again?
  - See if you can find any seaweed growing in the tide pools or on the rocks waiting to be covered by the incoming tide. What color(s)?
  - Learn more about tide pool animals from books or museum exhibits if you can.
  - Can you find a sea star (“starfish”) a sea anemone that looks like a flower when open? a hermit crab moving around in a snail shell? You might like to read Paqoo by Holling, a book about a hermit crab.

#### 6. KEEPING the BEACH & OCEAN CLEAN: How you can help

- Trash and pollution can hurt our beaches and ocean tide pools. Read about “Pollution” on page 144 in the Brownie Girl Scout Handbook.

- Helping to pick up trash left by others is a wonderful service project when spending time at the beach. Don't litter, and be a good example to other people. (Brownies should not pick up sharp metal or broken glass pieces.)

## Leader's Guide

### 1. The OCEAN

- There are 2 high and 2 low tides every 24 hours. When planning a visit to the tide pools, pick as low a tide as possible, 1 ½ hours before extreme low and 1 hour afterwards offer a lot to see – but don't turn your back on the ocean!
- Tides are listed as being below zero feet are called “minus’ tides and are printed in red in little tide table books. In Southern California and Central California the best daytime tides occur during the winter months (Dec., Jan., Feb., and March). Good discussion of tides in Philip R. Brown's excellent book for children: Exploring Tide Pools, Santa Barbara Museum of Natural History, EZ Nature Books, San Luis Obispo, 1994.

### 2. The BEACH & SAND

Directions for making a plaster and seashell paper weight:

You will need:

½ lb. plaster of Paris in a bag to keep it dry.

Strip of cardboard, 1 ½ " wide by 16" long (for a collar), with a paper clip.

2 fairly large tin cans, one for water, one for mixing plaster

2 juice cans (6oz.), one for measuring water, one for measuring plaster

Stick for stirring plaster while mixing

1. Dig small, shallow hole in hard, wet sand.
2. Surround hole with strip of cardboard clipped to form a circle. Push cardboard collar halfway down in sand.
3. Place small shell bits close together within the shallow hole with the side you wish to be on top when you finish plaster-casting placed face down in the hole. Press shells gently into sand, leaving the exposed side free of sand so plaster will be able to adhere.
4. Mix plaster at the beach as follows:
  - Collect sea water from tide pools or ocean – salt speeds hardening.
  - Pour half a juice can of sea water into large mixing can.
  - Pour one juice can of plaster of Paris slowly into water, stirring with stick until mixture is thick and smooth as pancake batter (ratio is about 2 plaster to 1 water).
  - Be ready to add more water and/or more plaster to get “pancake batter” consistency in mixture. Work quickly before plaster hardens in can.
  - Pour mixed plaster slowly over shell pieces inside cardboard collar from one end to the other. If you do it slowly enough, it will remove air bubbles; but do not do it too slowly because plaster begins to harden very quickly.

- In about 15 min, plaster should be hard enough to pick up the cast and test.
- You can scratch name and date on back of cast if you wish.
- Wait until cast seems fairly well hardened before removing cardboard collar support. Wait awhile before washing away the sand to be sure the shells are set hard in the plaster.

### 3. BEACH & SHELLS

- For pictures of shells and other hard-shelled beach wash see Philip Brown's Exploring Tide Pools book and some common shell pictures which are in the training materials.
- Sharp eyes will find many colorful touches on shells and shell bits, pieces of crab and lobster, sea urchin "tests" (i.e., shells), barnacles, etc.
- Water-washed rocks are smooth. Most of the little holes in rocks are made by piddock boring clams in shale (mud-rock)

### 4. BEACH & SEAWEED

- Seaweed clumps and kelp anchors ("hold-fasts") are hiding places for many tiny animals. Who knows what you might find?

### 5. TIDEPOOLS

- In pools, you may see a crab scuttling – sometimes a sea star – most snail shells moving around will have a hermit crab inside.
- More can often be found on rocks higher up out of water where animals are waiting for the tide to come in and cover them again.
- "Touch Tank" at the museum Sea Center on Stearns Wharf has animals brought up by divers from under the wharf. You can touch and see animals up close.

The Sea Center also has an excellent exhibit of trash picked up by children on beaches – it also lists the different kinds and amounts collected.

Some other activities which can be fun to do at home or in a troop meeting are included in Philip Brown's Exploring Tide Pools book:

- p, 31 – Hermit Crab Maze
- p, 40 – Going Bananas with Echinoderms
- p, 43 – What's Inside a Mermaid's Purse

Some good museum resources:

Santa Barbara Museum of Natural History (Tel. 805-682-4711)  
2559 Puesta del Sol Road, Santa Barbara, CA 93105

Sear Center (of S.B. Museum of Natural History) (Tel. 805-962-0885)  
Stearns Wharf, Santa Barbara, CA 93101

Morro Bay State Park Museum of Natural History (Tel. 805-772-2694)  
Morro Bay State Park, Morro Bay, CA 93442

Cabrillo Marine Museum (Tel. 213-548-7592)  
3720 Stephen White Drive, San Pedro, CA 90731