

# How to Navigate Underwater and Avoid Getting Lost on a Dive

Intimidated by underwater navigation? Follow these tips next time you go scuba diving to avoid losing the dive boat.

First of all, don't be intimidated by a divemaster who seems as though he or she could find the dive boat with a mask on backwards. Some people have the natural gift of underwater navigation, an innate sense of direction that would lead them straight to the only glass of water in the Sahara Desert. Other people — and this applies especially to resort-based dive leaders — are so familiar with the area they dive that finding the boat is like a New Yorker finding their way out of Central Park. It might look confusing to a tourist, but not to somebody who sees it nearly every day.

The best advice is to buy a compass and learn how to use it — or take an underwater navigation course and practice your skills. But here are some tips you can use with or without a compass:

## **TIP 1:**

As you enter the water, look for directional clues that will be visible from below. One big clue is the position of the sun. Where is it now and where will it be when it's time to surface? Also note the direction the waves are moving and try to determine the direction of the current if there is any.

## **TIP 2:**

When you make your descent, keep your head and feet down to get a clear view of the site. Start making mental notes about the size, shape and topography of the site.

## **TIP 3:**

When you reach the bottom, take a minute to stop and look around. Find the sun. Note the depth of the bottom. Test the current to see which way it's running. What else can you see from here? Note any reef formations, sand ripples or coral heads. These are all clues that can help you return here at the end of the dive.

## **TIP 4:**

Often, you'll have an open-water swim from the boat to the reef, wreck, kelp forest or whatever your first destination is. To help you find the boat again, measure the distance by counting the number of fin kicks it takes to get from the anchor line to the site. Also, turn around occasionally to record in your memory what the scene will look like when you return to the boat.

## **TIP 5:**

When you reach the edge of the reef, wreck or whatever, find a landmark to identify the spot as your take-off point for returning to the boat.

## **TIP 6:**

As you explore the dive site, occasionally pause to get a sense of where you are. Estimate how far and in what direction you've come. Again, look back occasionally to record the scene for the return trip.

## **TIP 7:**

When you return to the boat, use all of the mental notes you've made about the site. Look for your visual clues as you swim back to the boat. The more clues you found on the outbound trip, the more confident you'll be for the return.

**TIP 8:**

If the boat doesn't appear after the expected number of fin kicks plus 10 percent, find bottom at the same depth as the anchor and follow the contour. Search up-current first. If you don't find the boat soon, it's best to surface and look for it. If you've been careful, it shouldn't be far.

## How to Use a Scuba Compass Underwater

**Step 1:**

Note that most compasses have numbers marked every 30 degrees. Many substitute East for 90, South for 180, West for 270 and North for 0/360.

**Step 2:**

Rotate the compass back and forth to make it level. The card, the only moving part, should remain stationary and aimed north. Then aim your lubber line toward your target.

**Step 3:**

Count the tick marks from left or right of the closest cardinal point to your desired direction. The number it lands on is your heading. Repeat this step to be sure the card is still pointing north and accurate.

**Step 4:**

For a straight out-and-back dive, find your return course by adding or subtracting 180 from your original heading. Use the number that gives you a result between zero and 360. Test: Walk 10 steps in your original heading and then 10 steps in your return course. You should end up in the same spot.

**Step 5:**

To make a right turn, add 90 to your original heading, or subtract 90 for a left turn. If the resulting number is negative, add 360 to maintain a number between zero and 360. Test: Take four right-angle turns, walking 10 feet in each direction, and you should end up at the same spot. If possible, write your headings on a slate. Rounding off to the nearest 10 degrees will simplify addition and subtraction. Over the short distances typical in recreational diving, an error of 5 degrees or so won't matter.

**Step 6:**

Before your dive, move the compass until the card points north and aim the lubber line in the desired direction and mark your heading. At depth, check your buoyancy and swim forward with the lubber line pointed in the direction of your heading. For your return, take your reciprocal heading and you will find yourself back where you began.

