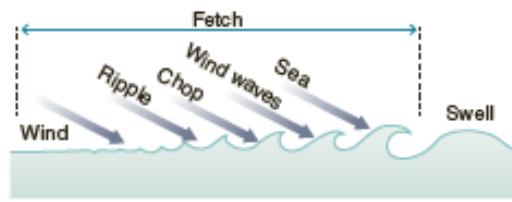
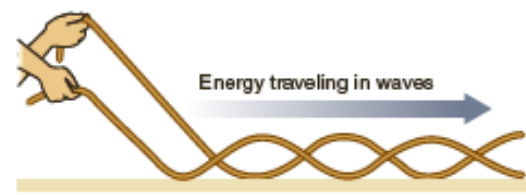


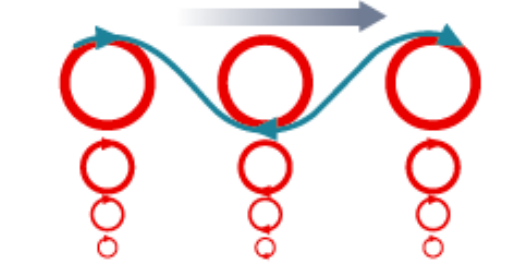
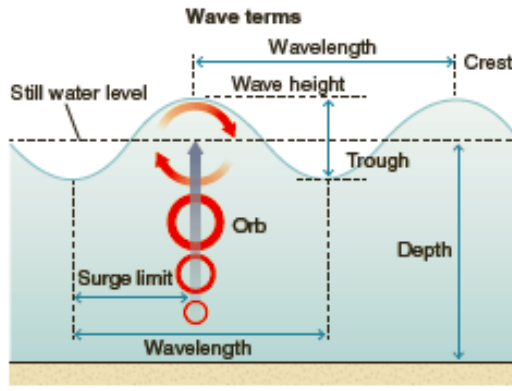
# 6. Diving Equipment



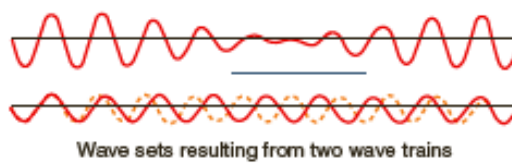
Wind over water causes waves—undulating forms of energy that can travel thousands of miles.



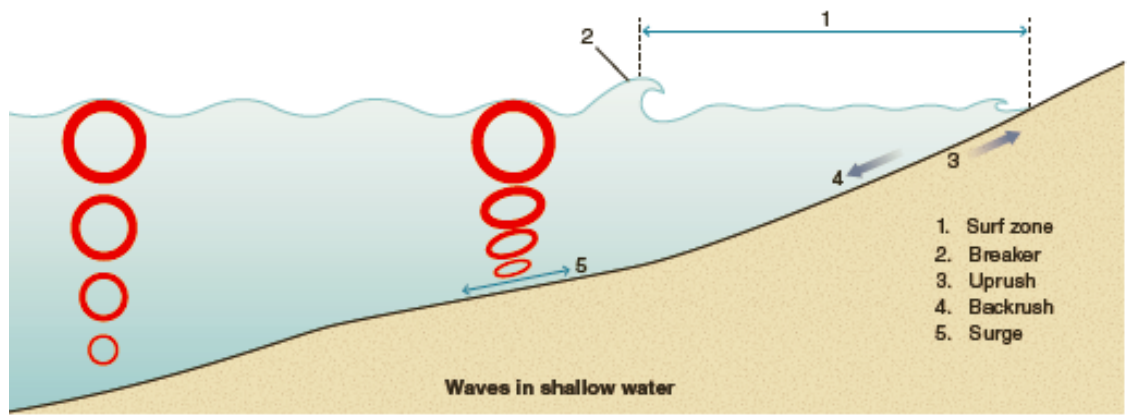
Wave movement is a flow of energy similar to that caused by vertically shaking one end of a rope.



As a wave passes, water particles (represented by the circles) do not move with the wave; rather, they complete their orbit by returning to their starting point.



Wave sets resulting from two wave trains



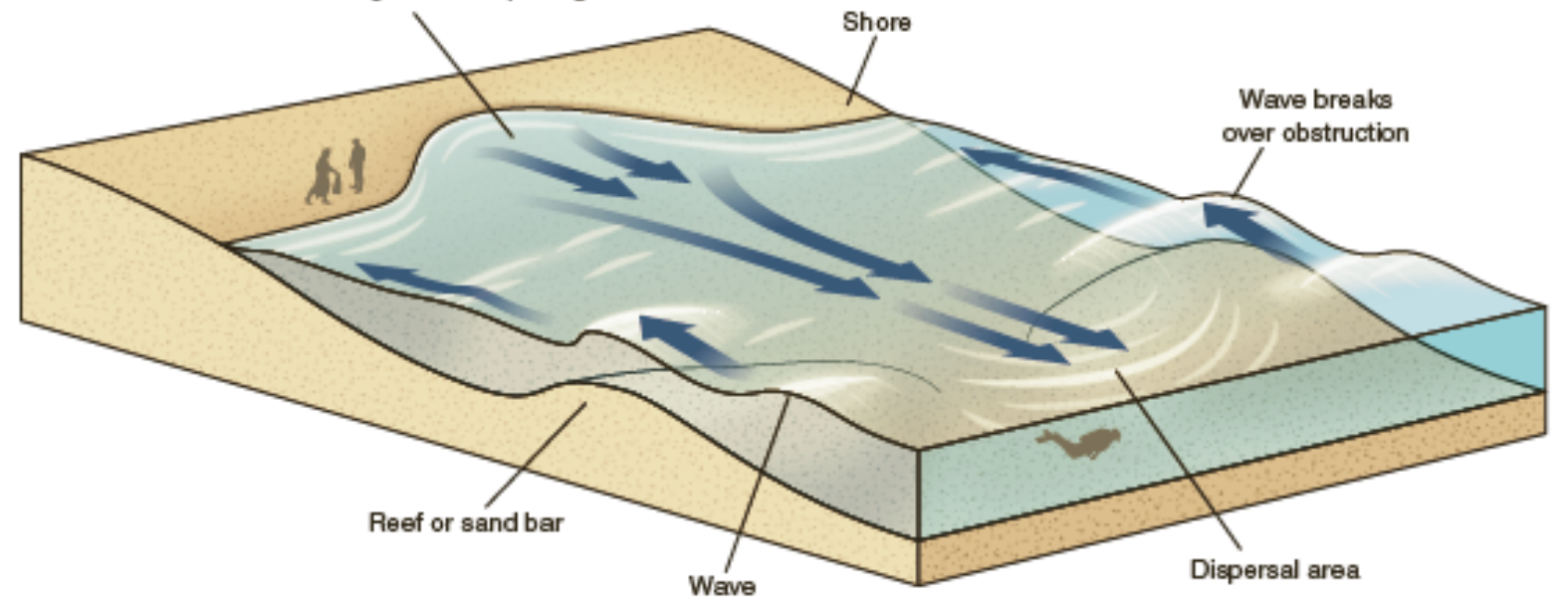
1. Surf zone
2. Breaker
3. Uprush
4. Backrush
5. Surge

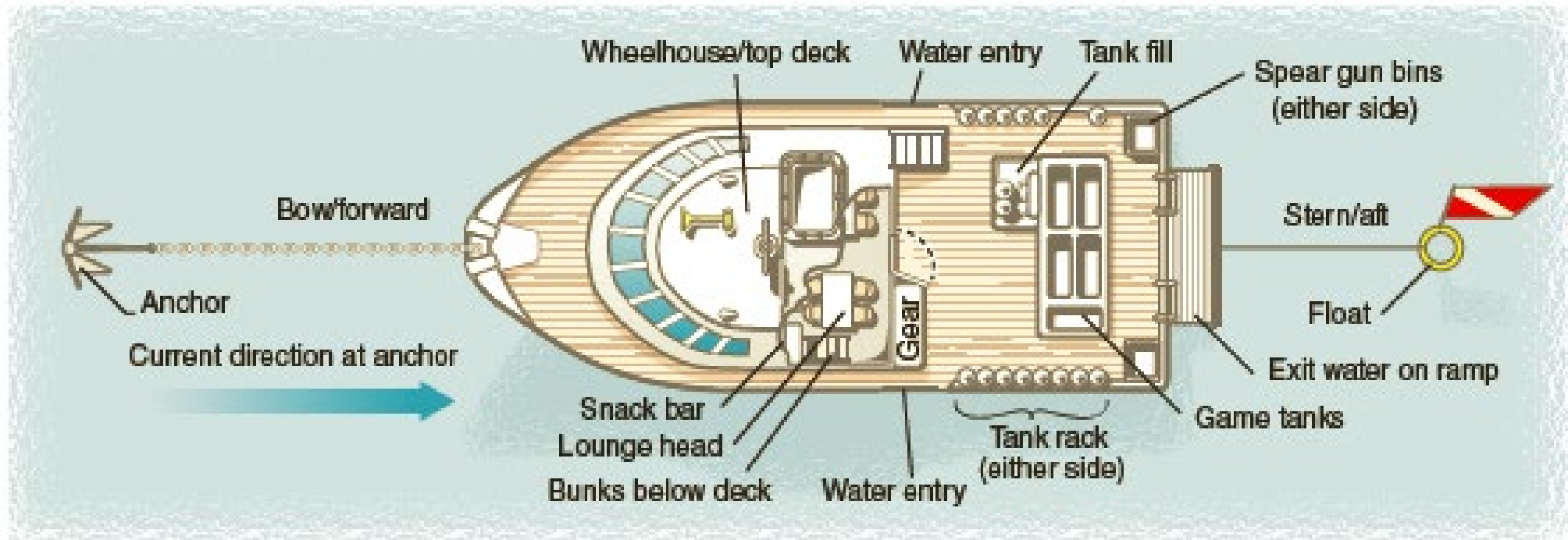
t

Laminar flow



Trapped water accumulates on shore and funnels offshore through narrow opening







1. Descend



2. Ascend



3. Stop

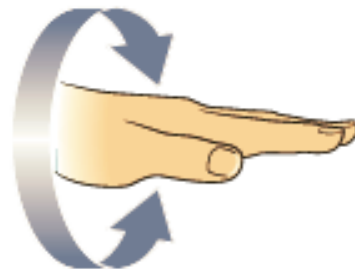


4a. OK

4b. OK



4c. OK



5. Something's not right



6. Emergency

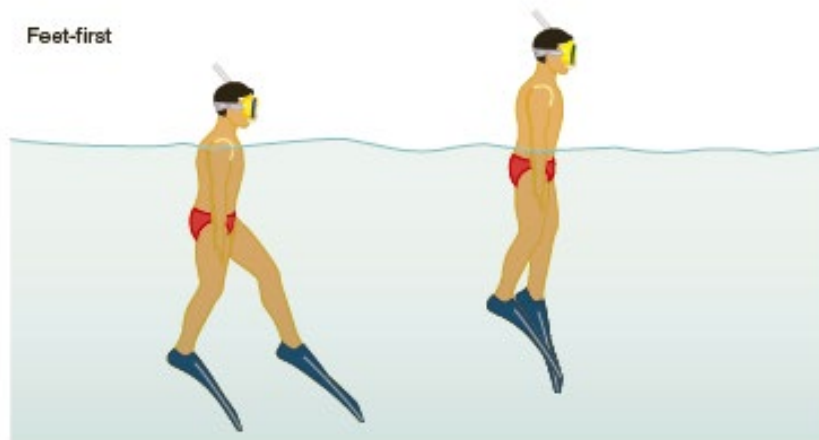
Pike



Tuck



Feet-first



## Head-to-Toe Buddy Check

<b>Mask</b>	In place, flush on face, no hair under skirt, not fogged
<b>Snorkel</b>	Attached to left side of mask
<b>Scuba cylinder</b>	Valve open all but a quarter turn, valve facing user's right side, height OK, snug in pack
<b>SPG</b>	Full pressure, not damaged or leaking
<b>Scuba regulator</b>	Primary and alternate air sources function OK, both buddies know the placement of the alternate air systems, regulator hoses oriented properly and free for use
<b>Buoyancy compensator</b>	Inflates and deflates properly
<b>Weighting system</b>	In place, proper amount of weight, right-hand quick release accessible, weights clear to drop, both buddies familiar with weight release system
<b>Exposure suit</b>	Properly positioned and zipped
<b>Dive knife</b>	Attached properly, easy to access, secured
<b>Fins</b>	Securely strapped or worn
<b>Instruments</b>	Watch, dive timer, or dive computer ready for use

1. Insert the mouthpiece into your mouth.
2. Exhale a small amount of air into the mouthpiece to clear it.
3. Keep the mouthpiece in your mouth.
4. Depress the manual inflator-deflator valve.
5. Exhale into the BC.
6. Release the manual inflator-deflator valve.
7. Repeat the procedure until you achieve the desired amount of buoyancy.



1. Grasp the inflation valve with your left hand, and grasp your regulator second stage with your right hand.
2. Take a breath.
3. Insert the BC mouthpiece into your mouth.
4. Clear the mouthpiece.
5. Exhale most of the air in your lungs into the BC.

## 1. Preparing to descend

- Check your instruments. Orient yourself at the surface and set a reference on your compass. Be sure your underwater timer and depth gauge are zeroed.
- Confirm that your buddy is ready to begin.
- Exchange your snorkel for your regulator.
- Pressurize your ears slightly to begin the equalization process (see chapter 3).
- Hold your BC deflator valve in your left hand.
- Give or acknowledge the signal to descend.

## 2. Initiating the descent

- Begin the descent by venting your BC. It is better to do this with the dump valve than by holding the deflator valve above your head. Hold the inflator-deflator valve in your left hand throughout the descent so you can add or release air from your BC at any time. Exhale fully to help get started downward.
- Breathe shallowly for the first 10 feet (3 m).

- Equalize pressure in your ears about every 2 feet (0.6 m) for the first 15 feet (4.6 m). If you experience equalizing problems, ascend a few feet to reduce the pressure, equalize again, and descend again. Exhale some air into your mask to prevent a mask squeeze. (See chapter 3 for a description of pressure equalization.)
- Keep your fins still while you descend so that you do not stir up silt on the bottom.
- Control your rate of descent by the average amount of air you keep in your lungs. When you begin sinking while your lungs are full, add a short burst of air to your BC to regain neutral buoyancy.

### 3. Completing the descent

- Remain with your buddy throughout the descent.
- Avoid contact with the bottom.
- Hover above the bottom, level off to a swimming position, agree on a direction with your buddy, and begin your exploration.