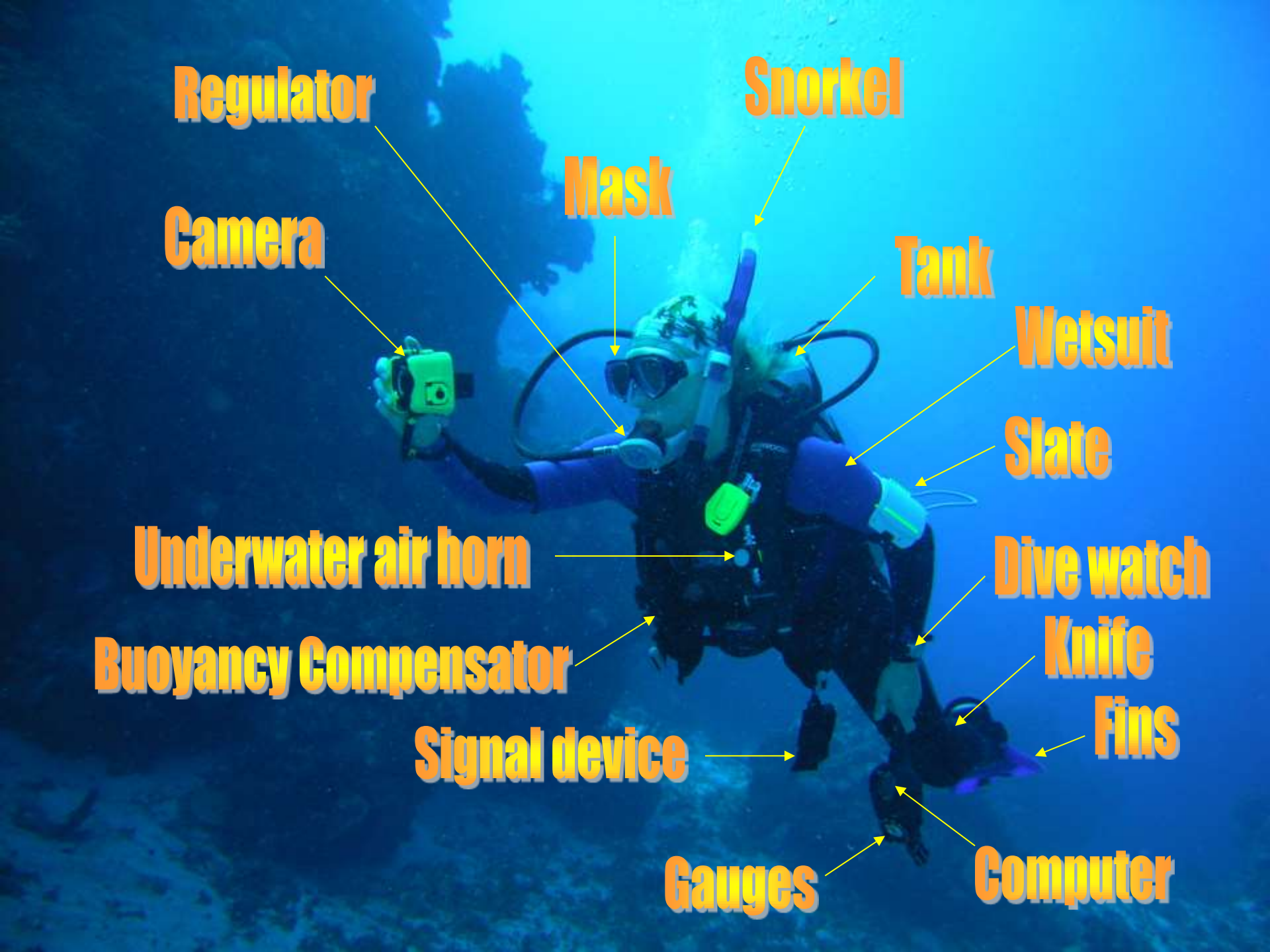


SCUBA & Snorkel Equipment





Regulator

Snorkel

Mask

Camera

Tank

Wetsuit

Slate

Underwater air horn

Dive watch

Buoyancy Compensator

Knife

Signal device

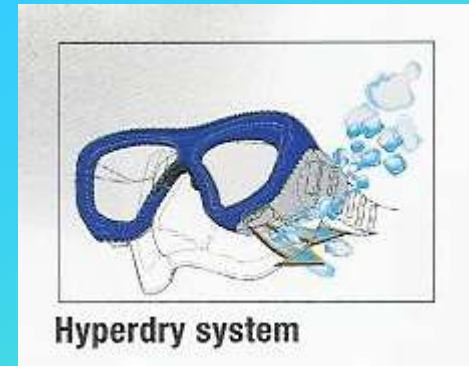
Fins

Gauges

Computer

Mask

- The most important factor is that your mask fits and seals properly.
- Nose pocket
- High or low volume
- Purge mask
- Black vs clear silicone
- Prescription lenses
- Defogging techniques
- Clean with toothpaste when new
- Never snorkel or dive with swim goggles
>>>>> eye squeeze

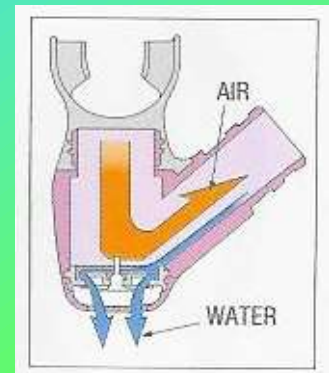




Snorkel

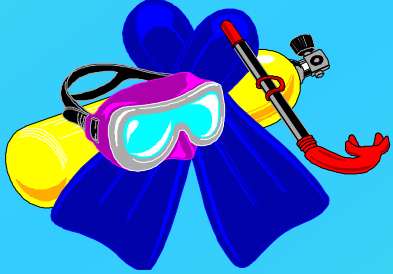


- Left side attachment - keeper
- Dry vs semi - dry
- Flexible corrugated tube
- 1st breath is slow and shallow
- Comfortable mouthpiece - jaw fatigue - hypoallergenic silicone



Fins

- Length & width should be appropriate for your size, height, strength, etc (Too large & you will tire quickly or cramp / Too small and your fin kicks will not be efficient)
- Warm water vs cold water fins
- Split vs blade
- Flexible – scoop water
- Store hung or flat
- Last item on – last item off





Exposure Suits



- Suit, hood, boots and gloves
- Neoprene (rubber with N₂ bubbles)
- With depth, buoyancy and insulating qualities decrease.
- Body loses heat 25 x faster in water than in air
- Wet suits vs dry suits



Buoyancy Compensator Device



- Manage displacement of water to ascend, descend or maintain neutral
- Have the ability to hold your head above water when inflated
- Inflator hose - power or manual
- Tank strap
- Over inflation valve
- Dump valve
- Integrated vs non-integrated
- Back inflation vs jacket style
- Hard vs soft back
- Whistle



Weight Belts



- Keep you neutrally buoyant
- * * * Be capable of quick release - right hand
- Soft pack - lead shot
- Nylon webbing with free weights
- Integrated systems
- Position for comfort and balance
 - Avoid placing weights in the small of your back





Regulators

- Air source
- Demand regulator
 - Take high pressure air from the tank and deliver it at approx 150 PSI above ambient pressure to the diver on demand.
 - Dust cap
 - Purge button



1st stage



2nd stage

Octopus

- Alternate breathing source
- Used if your primary regulator malfunctions or to share air
 - You will likely use this one as your buddy will grab the one in your mouth
- Most commonly a bright yellow color for easy location



Regulator Care



- Rinse regs with fresh water while still on the tank and pressurized to prevent water from entering the 1st stage
 - Flush water into the mouthpiece and exhausts
- Blow water from dust cap
- Replace dust cap O - ring
- Hang to dry by the first stage or yoke
 - Never store your regs on a dive tank
 - Do not store in a damp dirty place
- Do not carry the tank by the regs

Submersible Pressure Gauge

- Connects to 1st stage with a high pressure hose
- Indicates how much air is remaining in the tank in PSI or BARS
- 0 - 500 PSI is in the “red zone”
- Ensure you return to the surface before 500 PSI
- Luminous dials - large face
- Digital or analog
- Check high pressure hose for cracks



Depth Gauge



- Measures the current depth you are at
- Max depth indicated - must be reset after each dive
- At depths under 30 feet, a pressure gauge, depth gauge and timer are mandatory!



Dive Computer

- Capable of giving all necessary calculations for a safe dive
 - CURRENT DEPTH
 - DIVE TIME ELAPSED
 - VISUAL & AUDIBLE ALARMS (ASCENT RATE, SS)
 - REQUIRED SURFACE INTERVAL
 - WATER & SURFACE TEMPERATURE
- Not a substitute for dive planning
- Console vs wrist mount
- PC interface



Compass

- For dive planning or locating objects
- ACUC advanced course specializes in navigation
- Console, wrist or slate mount
- 360 degree face, revolving bezel
- Must be held flat to avoid needle sticking and giving a false reading
- Lateral window





Dive Time Recorder



- Monitors bottom time and ascent rate
- Times your safety stop
- Times your surface interval
- Computer vs dive watch





Tanks

- Aluminum - 3000 PSI - 80 cu. Ft.
 - Flat bottom
- Steel - 2250 PSI - 72 cu. ft.
 - Rounded bottom
- A full tank weighs 6 - 8 lbs more than an empty tank
- Valves
 - K valve - on/off, $\frac{1}{4}$ turn to prevent back seating
 - J valve - reserve system (older tanks)
- O - ring
- Overpressure disc activated when pressure exceeds its maximum allowance



Tank Care



- Rinse with fresh water
- Check for rust (under boot)
- Transport tanks laying down
 - Trunk - valve faces to left of car
- Store tanks upright with 100 - 300 PSI to prevent contamination
- Visual once per year
 - checks for corrosion externally,
 - removes valve and check for rust, pitting or foreign material
 - sticker on tank
- Hydrostatic every 5 years
 - fill with water, measure expansion and contraction
 - stamp date on tank neck
 - Cannot fill a tank without a hydrostatic

Tank explosion due to corrosion under boot



Filling a tank



- Filled with clean dry AIR
- Dive shop or other air supplier
- Ensure compressor draws on clean air
- Placed in water to fill as tend to heat up with rapid filling
- Check your air for odor



Diver's Knife

- To cut away entanglement such as fishing line, netting or weeds
- Used to hammer or as a pry tool
- Stainless steel vs titanium
- Blunt vs sharp tip
- Bright colors
- Worn on inner lower leg, arm or BCD attachment



Underwater Slates



- Wrist mount, clip to BCD or back of gauge console
- Pencil vs magnetic erase
- Enable communication for
 - dive planning
 - Recording data
 - Identification of marine life
 - Navigation headings



Underwater Lights



- Primary vs backup light
- Pistol grip, BCD or mask strap mount
- Incandescent vs LED
- Bright colors
- Idiot proof battery replacement, handle grip and easy switch
- Used to look into darkened crevices or holes
- At depth brings back color
- Required for night diving
- Used for signalling
- Glo Sticks





Flag and Float



- Diver flag is recommended to warn boaters there is a diver below
- Boaters are required to maintain a minimum distance of 100 feet from a dive flag & float or boat displaying a flag
- Floats can also be used to tie off gear (camera)





Sport Diver Flag

- Diver below - stay clear





Alpha Flag

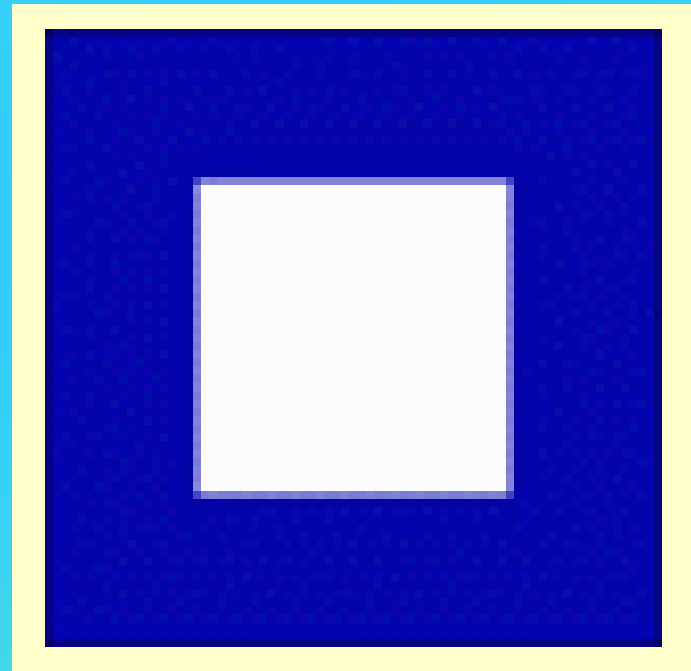
- Diver below - Stay clear
- International dive flag usually flown on the dive boat together with the sport diver flag.





Diver Recall Flag

- Return to vessel immed.
- Blue rectangular flag with white rectangle in the middle.





Equipment Bags



- Carry & protect snorkel/dive gear
- Should be big enough to carry all gear (exception tank & weights)
- Straps & Zippers - heavy duty
- Care & Maintenance
 - Rinse with fresh water & dry thoroughly



The Log Book



- Record of your dives
- Contains information about previous dives
- Contains information to do repetitive dive calculations



Exam Questions 1 - 20

