

SCUBA DIVER WORKBOOK

EXAS 1249



UNIVERSITY SCUBA

Name: _____

Open Water Semester Grades

Quiz 1: Equipment	_____
Quiz 2: Physics	_____
Quiz 3: Physiology	_____
Quiz 4: Dive Tables/ Environment	_____
Quiz 5: Safety	_____
Quiz 6: Surprise	_____
Quiz 7: Advance Diving Technique	_____
Quiz 8: Dive Tables	_____
Quiz Average	_____
Workbook	_____
Lab	_____
Final Exam	_____
Final Grade	_____

Please Print:

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone Number: _____

Age: _____

Social Security Number: _____

Statement of Understanding of Course Requirements

I understand that in order to scuba dive without the direct supervision of an active NAUI instructor, I will need to be certified after successfully completing all three phases of a beginning scuba course to include:

1. Classroom
2. Confined-Water (pool) training
3. Open Water Evaluation (at the lake)

I am aware that the scuba course offered at the university of Texas at Arlington includes only the classroom and confined water phases of standard Open Water scuba training and NAUI sanctioned advanced courses (Advanced, Master Diver, Rescue, Training Assistant, AI, and DM). I am also aware that the grade I receive in this course will be based on my performance in the classroom and confined water training only. I understand that I will not be certified upon completion of this course and that in order to become certified I will have to pursue Open Water Evaluation outside of university curriculum.

Name: _____ Age: _____
(Please print)

Signature: _____ Date: _____

Signature: _____ Relation: _____
(Signature of parent or legal guardian if participant is a minor)

Affirmation & Liability Release Statement For Open Water Evaluation

I understand that all open water training exercises which are required for instructional purposes and certification may be conducted at a remote dive site and are outside the curriculum and responsibility of the university. I also understand that as a result of the remote location medical care in the form of hyperbaric chambers may not be readily available. I hereby personally assume all risk for any harm, injury, or damage, which I may receive as a result of said training, whether seen or unseen, and agree not to hold University of Texas at Arlington or University Scuba; it's agents or employees, liable.

Name: _____ Age: _____
(Please print)

Signature: _____ Date: _____

Signature: _____ Relation: _____
(Signature of parent or legal guardian if participant is a minor)



RELEASE OF LIABILITY, WAIVER OF CLAIMS, EXPRESS ASSUMPTION OF RISK AND INDEMNITY AGREEMENT

PLEASE READ AND BE CERTAIN YOU UNDERSTAND THE IMPLICATIONS OF SIGNING

EXPRESS ASSUMPTION OF RISK ASSOCIATED WITH DIVING AND RELATED ACTIVITIES

I _____ do hereby affirm and acknowledge that I have been fully informed of the inherent hazards and risks associated with Snorkeling, Skin and/or Scuba diving. I fully understand that these risks can lead to severe injury and even loss of life. I understand that diving operations may be conducted at a site that is remote from a recompression chamber and competent medical assistance. Nevertheless, I choose to proceed even in the absence of a recompression chamber and competent medical assistance. Additionally, I understand that there are also risks associated with dive travel, including, but not limited to the possible injury or loss of life as a result of a dive boat accident, as well as travel to and from dive sites. Despite the potential hazards and dangers associated with the activity of diving, I wish to proceed and I freely accept and expressly assume all risk, dangers and hazards that may arise from diving activities which could result in personal injury, loss of life and property damage to me.

RELEASE OF LIABILITY, WAIVER OF CLAIMS AND INDEMNITY AGREEMENT:

In consideration of being allowed to participate in Snorkeling, Skin and/or Scuba Diving activities as well as the use of any of the facilities and the use of the equipment of the below listed releasees, I hereby agree as follows:

1. TO WAIVE AND RELEASE ANY AND ALL CLAIMS based upon negligence, active or passive with the exception of intentional, wanton or willful misconduct that I may have in the future against any of the following named persons or entities (hereafter referred to as Releasees):
National Association of Underwater Instructors (NAUI):

(Instructor/s) _____

(Facility/ies) _____

(Others) _____
2. To release the releasees, their officers, directors, employees, representatives, agents and volunteers, from liability and responsibility, whatsoever, for any claims or causes of action that I, my estate, heirs executors or assigns may have for personal injury, property damage or wrongful death arising from Snorkeling, Skin and / or Scuba diving activities whether caused by active or passive negligence of the releasees or otherwise with the exception of gross negligence. By executing this document, I agree to hold the releasees harmless for any injury or loss of life which may occur to me during Snorkeling, Skin and/or Scuba diving activities and/or instruction.
3. By entering into this agreement, I am not relying on any oral or written representation or statements made by the releasees, other than what is set forth in this agreement. I further agree that this Agreement shall be governed by and interpreted in accordance with the laws of the State of California, United States of America.
4. If any provision of this release is found to be unenforceable or invalid, that provision shall be severed from this contract. The remainder of this contract will then be construed as though the unenforceable provision had never been contained in this document.

I hereby declare that I am of legal age and am competent to sign this Agreement or, if not, that my parent or legal guardian shall sign on my behalf, and that my parent or legal guardian is in complete understanding and concurrence with this agreement.

I HAVE READ THIS AGREEMENT, I UNDERSTAND IT, I AGREE TO BE BOUND BY IT.

Signature Of Participant _____ Date _____
 Witness (Name) _____ Signature _____
 Signature Of Parent Or Guardian If Participant Is A Minor, and by their signature they, on my behalf release all claims that both they and I have.
 _____ Date _____
 (Parent Signature if participant is a minor)

WAIVER REAFFIRMATION

I HAVE READ THIS AGREEMENT, I UNDERSTAND IT, I AGREE TO BE BOUND BY IT.

Signature Of Participant _____ Date _____
 Witness (Name) _____ Signature _____
 Signature Of Parent Or Guardian If Participant Is A Minor, and by their signature they, on my behalf release all claims that both they and I have.
 _____ Date _____
 (Parent Signature if participant is a minor)

INSTRUCTOR/LEADER CONFIRMATION

I HAVE REVIEWED THIS AGREEMENT AND CONFIRM THAT IT HAS BEEN PROPERLY COMPLETED.

Signature Of Instructor/Leader _____ Date _____

Please note the following excerpt from the WARRANTIES - CONDITIONS AND LIMITATIONS OF COVERAGE

"Each insured as defined shall require each student to complete and sign a Medical History Form and the appropriate NAUI Release Of Liability, Waiver Of Claims, Express Assumption Of Risk and Indemnity Agreement form, at the beginning of training."



MEDICAL EVALUATION AND PHYSICIAN APPROVAL FORM

Please print or type

NAME _____

ADDRESS _____

CITY _____ STATE/PROVINCE _____ ZIP _____

HOME PHONE _____

To the Instructor: If any condition listed on the medical history form in the student record folder is checked by the student, you are required to individually interview the student. If, as a result of the interview, you are unsure whether or not the condition is a contraindication to diver training send the student to a physician for a medical exam. In the event that referral to a physician is necessary, provide the student with this NAUI Medical Form and transfer the student's medical history and any notes to the copy to take with them to the physician.

To the Physician: This person is an applicant for training in diving with self-contained underwater breathing apparatus (SCUBA). This is an activity which puts unusual stress on the individual in several ways. A list of contraindications is on the reverse of this form for your reference.

The student applicant's medical history below was provided during the enrollment process.

- | | | |
|--|--|--|
| <input type="checkbox"/> Behavioral health problems | <input type="checkbox"/> Bronchitis | <input type="checkbox"/> Contact lenses |
| <input type="checkbox"/> Claustrophobia | <input type="checkbox"/> Tuberculosis | <input type="checkbox"/> Dental plates |
| <input type="checkbox"/> Agoraphobia | <input type="checkbox"/> Respiratory problems | <input type="checkbox"/> Physical disability |
| <input type="checkbox"/> Migraine headaches | <input type="checkbox"/> Back Problems | <input type="checkbox"/> Serious injury |
| <input type="checkbox"/> Epilepsy | <input type="checkbox"/> Back/spinal surgery | <input type="checkbox"/> Over 40 years old |
| <input type="checkbox"/> Ear or hearing problems | <input type="checkbox"/> Diabetes | <input type="checkbox"/> Hepatitis |
| <input type="checkbox"/> Trouble equalizing pressure | <input type="checkbox"/> Ulcers | <input type="checkbox"/> HIV positive |
| <input type="checkbox"/> Sinus trouble | <input type="checkbox"/> Colostomy | <input type="checkbox"/> Regular medication |
| <input type="checkbox"/> Severe hayfever | <input type="checkbox"/> Hernia | <input type="checkbox"/> Drug allergies |
| <input type="checkbox"/> Heart trouble | <input type="checkbox"/> Dizziness or fainting | <input type="checkbox"/> Alcohol or drug abuse |
| <input type="checkbox"/> High blood pressure | <input type="checkbox"/> Recent surgery | <input type="checkbox"/> Rejected from any activity |
| <input type="checkbox"/> Angina | <input type="checkbox"/> Hospitalized | for medical reasons |
| <input type="checkbox"/> Heart surgery | <input type="checkbox"/> Pregnant | <input type="checkbox"/> Any medical condition not listed: |
| <input type="checkbox"/> Asthma | <input type="checkbox"/> Motion Sickness | _____ |

Notes: _____

PLEASE RETURN THIS FORM TO THE STUDENT APPLICANT

Please note that the medical examination form presents a choice under IMPRESSION. We can only accept unconditional approval as stated for student applicants desiring to begin or continue training. If you conclude that diving is not in the individual's best interest or that their medical condition is likely to present a probable direct threat to others, please discuss your opinion with the person and check disapproval.

IMPRESSION:
 APPROVAL (I find no medical conditions I consider incompatible with diving.)
 DISAPPROVAL (This applicant has medical conditions which in my opinion clearly would constitute unacceptable hazards to health and safety in diving.)

Date _____ Signature _____, MD.

Physician's Name (print) _____

Address _____

Phone _____



This list of relative and absolute contraindications is not all inclusive. Contraindications that are absolute permanently place the diver and his diving partners at increased risk for injury or death. Relative contraindications to scuba may be resolved with time and proper medical intervention or may be intermittent. A bibliography is included to aid in clarifying issues that arise. The Divers Alert Network (DAN) physicians are available for consultation by phone (919) 684-2948 during normal business hours. For diving related emergencies call, DAN at (919) 684-8111 24 hours, 7 days a week.

OTOLARYNGOLOGICAL

Relative Contraindications:

- History of...
 - significant cold injury to pinna
 - TM perforation
 - tympanoplasty
 - mastoidectomy
 - mid-face fracture
 - head and/or neck therapeutic radiation
 - temporomandibular joint dysfunction
- Recurrent otitis externa
- Significant obstruction of the external auditory canal
- Eustachian tube dysfunction
- Recurrent otitis media or sinusitis
- Significant conductive or sensorineural hearing impairment
- Facial nerve paralysis not associated with barotrauma
- Full prosthodontic devices
- Unhealed oral surgery sites

Absolute Contraindications:

- History of...
 - stapedectomy
 - ossicular chain surgery
 - inner ear surgery
 - round window rupture
 - vestibular decompression sickness
- Monomeric TM
- Open TM perforation
- Tube myringotomy
- Facial nerve paralysis secondary to barotrauma
- Inner ear disease other than presbycusis
- Uncorrected upper airway obstruction
- Laryngectomy or status post partial laryngectomy
- Tracheostomy
- Uncorrected laryngocele

NEUROLOGICAL

Relative Contraindications:

- History of...
 - head injury with sequelae other than seizure
 - spinal cord or brain injury without residual neurologic deficit
 - cerebral gas embolism without residual, pulmonary air trapping has been excluded
- Migraine headaches whose symptoms or severity impair motor or cognitive function
- Herniated nucleus pulposus
- Peripheral neuropathy
- Trigeminal neuralgia

- Cerebral palsy in the absence of seizure activity

Absolute Contraindications:

- History of...
 - seizures other than childhood febrile seizures
 - TIA or CVA
 - spinal cord injury, disease or surgery with residual sequelae
 - Type II (serious and/or central nervous system) decompression sickness with permanent neurologic deficit
- Intracranial tumor or aneurysm

CARDIOVASCULAR

Relative Contraindications:

The suggested minimum criteria for stress testing is 13 METS.

- History of...
 - CABG or PCTA for CAD
 - myocardial infarction
 - dysrhythmia requiring medication for suppression
- Hypertension
- Valvular regurgitation
- Asymptomatic mitral valve prolapse
- Pacemakers-Note: Pacemakers must be depth certified by the manufacturer to at least 130 feet (40 meters) of sea water.

Absolute Contraindications:

- Asymmetric septal hypertrophy and valvular stenosis
- Congestive heart failure

PULMONARY

Asthma (reactive airway disease), COPD cystic or cavitating lung diseases all may lead to air trapping.

Relative Contraindications:

- History of...
 - prior asthma or reactive airway disease (RAD)*
 - exercise/cold induced bronchospasm (EIB)
 - solid, cystic or cavitating lesion
- Pneumothorax secondary to: thoracic surgery *, trauma or pleural penetration*, previous over inflation injury*
- Restrictive Disease** (*Air Trapping must be excluded) (**Exercise Testing necessary)

Absolute Contraindications:

- History of spontaneous pneumothorax
- Active RAD (asthma), EIB, COPD or history of the same with abnormal PFS or positive challenge
- Restrictive diseases with exercise impairment

GASTROINTESTINAL

Relative Contraindications:

- Peptic ulcer disease
- Inflammatory bowel disease
- Malabsorption states
- Functional bowel disorders
- Post gastrectomy dumping syndrome
- Paraesophageal or hiatal hernia

CONTRAINDICATIONS TO DIVING

Absolute Contraindications:

- High grade gastric outlet obstruction
- Chronic or recurrent small bowel obstruction
- Entrocutaneous fistulae that do not drain freely
- Esophageal diverticula
- Severe gastroesophageal reflux
- Achalasia
- Unrepaired hernias of the abdominal wall potentially containing bowel

METABOLIC AND ENDOCRINOLOGICAL

Relative Contraindications:

- Hormonal excess or deficiency
- Obesity
- Renal insufficiency

Absolute Contraindications:

- Diabetics on Insulin therapy or oral anti-hypoglycemia medication

PREGNANCY

Absolute Contraindications:

Venous gas emboli formed during decompression may result in fetal malformations. Diving is absolutely contraindicated during any state of pregnancy.

HEMATOLOGICAL

Relative Contraindications:

- Sickle cell trait
- Acute anemia

Absolute Contraindications:

- Sickle cell disease
- Polycythemia
- Leukemia

ORTHOPEDIC

Relative Contraindications:

Chronic Back Pain
Amputation
Scoliosis - assess impact on pulmonary function
Aseptic osteonecrosis

BEHAVIORAL HEALTH

Relative Contraindications:

- History of
 - drug or alcohol abuse
 - previous psychotic episodes
- Developmental delay

Absolute Contraindications:

- History of panic disorder
- Inappropriate motivation for scuba training
- Claustrophobia and agoraphobia
- Active psychosis or while receiving psychotropic medications
- Drug or alcohol abuse

BIBLIOGRAPHY

The Physiology and Medicine of Diving, 4th edition, 1993; Diving and Subaquatic Medicine, 3rd edition 1994; Diving Physiology in Plain English, 2nd edition, 1997

RELEASE AND INDEMNIFICATION AGREEMENT FOR ADULT STUDENTS

STUDENT: (Name and Address)

INSTITUTION:

The University of Texas at Arlington

DESCRIPTION OF ACTIVITY OR TRIP: _____

LOCATION: _____ DATE(s): _____

I, the above named student, am eighteen years of age or older and have voluntarily applied to participate in the above Activity or Trip. I acknowledge that the nature of the Activity or Trip may expose me to hazards or risks that may result in my illness, personal injury or death and I understand and appreciate the nature of such hazards and risks. In consideration of my participation in the Activity or Trip, I hereby accept all risk to my health and of my injury or death that may result from such participation and I hereby release the above named Institution, its governing board, officers, employees and representatives from any liability to me, my personal representatives, estate, heirs, next of kin, and assigns for any and all claims and causes of action for loss of or damage to my property and for any and all illness or injury to my person, including my death, that may result from or occur during my participation in the Activity or Trip, whether caused by negligence of the Institution, its governing board, officers, employees, or representatives, or otherwise. I further agree to indemnify and hold harmless the Institution and its governing board, officers, employees, and representatives from liability for the injury or death of any person(s) and damage to property that may result from my negligent or intentional act or omission while participating in the described Activity or Trip.

I HAVE CAREFULLY READ THIS AGREEMENT AND UNDERSTAND IT TO BE A RELEASE OF ALL CLAIMS AND CAUSES OF ACTION FOR MY INJURY OR DEATH OR DAMAGE TO MY PROPERTY THAT OCCURS WHILE PARTICIPATING IN THE DESCRIBED ACTIVITY OR TRIP AND IT OBLIGATES ME TO INDEMNIFY THE PARTIES NAMED FOR ANY LIABILITY FOR INJURY OR DEATH OF ANY PERSON AND DAMAGE TO PROPERTY CAUSED BY MY NEGLIGENT OR INTENTIONAL ACT OR OMISSION.

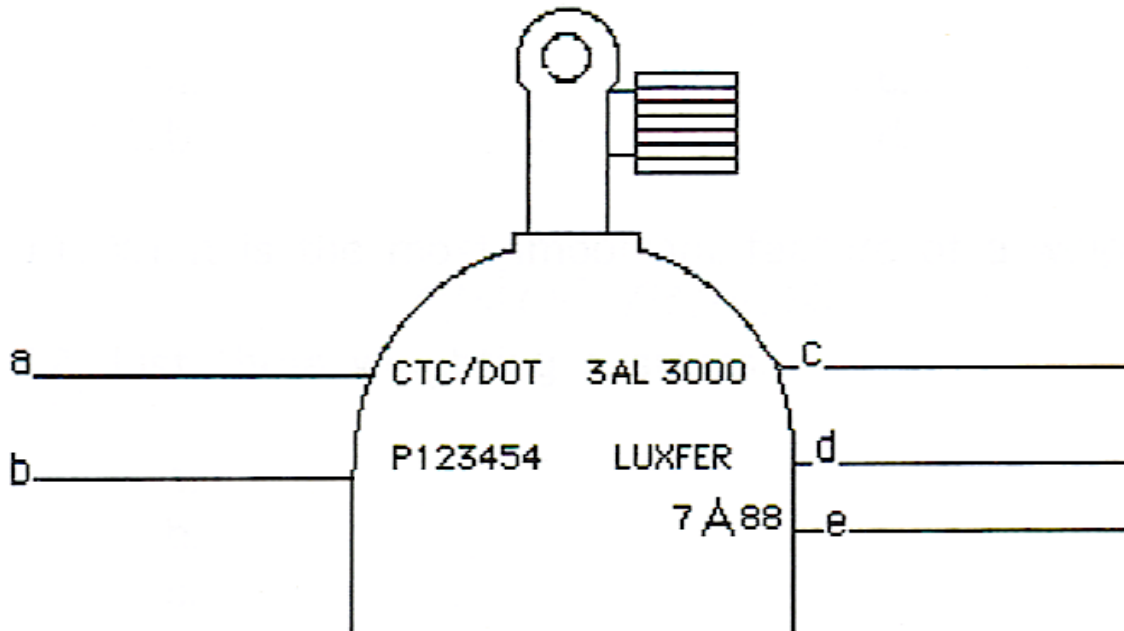
Signature of Student

Date

Witness

Date

5. Label the diagram below.



6. List four attachments for a first stage and describe their use.

- a.
- b.
- c.
- d.

7. What is the most important feature in the selection of a regulator?

8. Describe the proper care for a regulator.

9. List two basic types of scuba backup units.

a.

b.

10. List four important features of a buoyancy compensator device.

a.

b.

c.

d.

11. What is the most important feature of a weight belt?

12. List three weighting systems.

a.

b.

c.

13. Wetsuits are intended to protect against:

a.

b.

14. Describe the primary differences between a drysuit and a wetsuit.

15. What four instruments are considered required for diving?

- a.
- b.
- c.
- d.

16. What is the purpose of the log book and why is it important?

17. List five other useful accessories used in diving.

- a.
- b.
- c.
- d.
- e.

Skill Review

1. List three steps used in preparing your personal dive gear for the first water skill session.

- a.
- b.
- c.

2. Briefly explain how to clear the type of mask you are using in class.

3. What two methods are used for clearing a snorkel?

a.

b.

4. What is the most important rule in scuba diving?

5. List three considerations in the care of a scuba tank.

a.

b.

c.

6. List the two main reasons why the mask should not be kept on the forehead.

a.

b.

7. Describe the Valsalva maneuver and why it is used.

Chapter Two: Physics

1. What are the components of the air that we breathe and their percentages?

2. What is the density of fresh and salt water in pounds per cubic foot?

Fresh

Salt

3. List the two primary reasons for the high rate of heat loss in water.

a.

b.

4. Compare the following chart for a balloon full of air at the surface (Illustration of Boyle's Law).

Depth	Pressure	Volume	Density
0'	_____	×1	×1
33'	2 atm	_____	_____
66'	_____	_____	_____
99'	4 atm	_____	_____
132'	_____	_____	_____

5. A balloon containing a volume of 16 pints of air at the surface will have what volume at a depth of 99 feet?

6. A balloon filled with 4 pints of air at a depth of 66 feet will contain _____ pints of air when taken to the surface.

7. Define Boyle's Law.

8. Define buoyancy.

9. Give examples of objects which are positively, negatively, and neutrally buoyant.

Positive

Negative

Neutral

10. List three factors that help to determine the buoyancy of an object (Archimedes Principle).

a.

b.

c.

11. List three ways a diver can vary his/her buoyancy.

a.

b.

c.

12. Body heat lost during a dive occurs through conduction and through _____.

13. If the temperature outside a tank increases the pressure inside the tank will _____ (Charles' Law).

14. Briefly describe the effects of water on:

Vision

Heat loss

Hearing

Body Movement

15. List the two factors that have the greatest effect on air consumption.

a.

b.

Formulas:

$$\text{DCR} = \frac{\text{Air Used}}{\text{Time}}$$

$$\text{SCR} = \text{DCR} / P$$

$$P = \frac{\text{Depth} + 33}{33}$$

16. If you use 1500 psi of air in 15 minutes at a depth of 50 feet, your surface consumption rate (SCR) is _____ psi per minute.

17. If your surface consumption rate is 65 psi per minute, 2000 psi of usable air would last you approximately how many minutes at a depth of 60 feet?

Skill Review

1. Describe how to determine at the surface if you are properly weighted for diving.

2. What are four factors that will affect your buoyancy?

a.

b.

c.

d.

3. How do you stop an unplanned buoyant ascent?

4. List four procedures to be followed when making a water entry for diving.

- a.
- b.
- c.
- d.

5. List the five step safety inspection drill and each step's significance.

- 1.
- 2.
- 3.
- 4.
- 5.

6. List three steps you should take to prepare for a descent and three actions you should perform during the descent.

- | <i>Steps</i> | <i>Actions</i> |
|--------------|----------------|
| a. | a. |
| b. | b. |
| c. | c. |

7. List three actions you should perform during an ascent.

- a.
- b.
- c.

8. In the following out-of-air situations describe what actions you would take.

Out-of-air at 30 feet

Out-of-air at 60 feet (Buddy is beside you)

Out-of-air at 60 feet (Buddy cannot be seen)

9. List three major things that you should do in the case of an out-of-air situation.

a.

b.

c.

10. Describe the procedure for a free flowing regulator.

Chapter Three: Physiology

1. List four body air spaces that are affected by pressure.

a.

b.

c.

d.

2. Using a single sentence, describe a squeeze.

3. Define vertigo. What causes vertigo?

4. If pressure in the ear is not equalized during descent what is likely to happen?

5. Describe equalizing techniques for the following:

Ears:

Mask:

6. Define a reverse block.

7. What is the most important rule in scuba diving? Why?

8. The primary stimulus to breathe is _____.

9. Describe the recommended breathing pattern for a diver.

10. What is “skip breathing” and why should it be avoided?

11. Why is the depth 132 feet set as the absolute limit for sport diving?

12. Complete the following:

<i>Malady</i>	<i>Cause</i>	<i>Symptoms</i>	<i>First Aid</i>	<i>Prevention</i>
_____	Breathing Impure air	_____	Fresh air Oxygen	Pure air from a reputable source
Nitrogen Narcosis	Diving too deep	Impaired judgement, lack of concern, foolish behavior	_____	_____
Decompression Sickness	_____	_____	Recompression	Dive within time/ depth limits

13. List four health practices recommended for divers.

- a.
- b.
- c.
- d.

14. You should refrain from _____ 12 hours before diving.

15. When should a woman not dive?

Skill Review

1. Give an example of when it is appropriate to use each of the following entries:

Giant Stride

Back Roll

Wading Entry

2. List at least two actions to be avoided during a water exit.

a.

b.

3. Explain what to do if you become separated from your buddy while underwater.

4. List at least three natural navigation aids.

a.

b.

c.

5. What two principles are applied when using an underwater compass for navigation?

a.

b.

6. List the three instruments required to measure air consumption.

a.

b.

c.

Chapter Four: Environment

1. List five environmental factors that will affect diving.

- a.
- b.
- c.
- d.
- e.

2. List four effects on diving techniques caused by varying environmental conditions.

- a.
- b.
- c.
- d.

3. Illustrate a thermocline.

4. List four factors that will affect visibility underwater.

- a.
- b.
- c.
- d.

5. What is the primary hazard associated with low visibility?

6. What three environmental factors cause water movement?

- a.
- b.
- c.

7. When planning a dive in a current, the dive should always begin _____ the current.

8. Illustrate a Rip Current and explain how to escape.

9. List four different types of bottom composition and problems which can result from each.

- a.
- b.
- c.
- d.

10. Most aquatic injuries stem from a _____ reaction on the part of the animal.

11. Explain at least three ways to protect yourself from injury while diving.

- a.
- b.
- c.

12. Why is an area orientation important when preparing to dive at a new dive site?

13. List three methods to conserve underwater life.

- a.
- b.
- c.

14. To dive safely from a boat what are the first two preparations that should be made?

- a.
- b.

15. List three preparations that can be made to prevent seasickness.

- a.
- b.
- c.

16. Briefly define the following boating terms:

Bow:

Starboard:

Port:

Head:

Galley:

Stern:

17. List three ways to prevent sun burning while on a dive trip.

a.

b.

18. List three precautions to be taken to avoid underwater entanglement.

a.

b.

c.

19. What three precautions should a diver take to avoid being struck by a boat while in the water?

a.

b.

c.

Chapter Five: Dive Tables

1. Define ingassing.

2. Define outgassing.

3. What causes bubble formation in the outgassing process?

4. What is the recommended sport diving depth limit?

5. With your training you should limit your dives to depths less than _____ feet.

6. What is residual nitrogen?

7. Define bottom time.

8. What is the adjusted maximum no-decompression limit?

9. What does a group designation letter group represent?

10. What is the proper ascent rate on all dives?

11. What is the minimum surface interval between dives?

12. Why should we be cautious when flying after diving?

13. What is the rule for flying after diving?

14. List at least three procedures that should be observed when at an emergency decompression stop.
 - a.
 - b.
 - c.

15. List the proper procedure for an omitted decompression stop.

16. Why are special dive tables needed when diving above altitudes of 1000 feet?

17. When should safety decompression stops be used?

Dive problems

1. After a 80 foot dive for 25 minutes, a diver and his buddy wait 1 hour and 38 minutes on the surface. If this buddy team wishes to return to a depth of 64 feet, how long can they stay without having to decompress?
2. A diver plans to make two dives at the same location. The depth is 72 feet and he wishes to have 25 minutes of bottom time on each dive. After his first dive, what is the minimum surface interval necessary to repeat the dive?
3. A diver makes a dive to 65 feet for 40 minutes. After a 1 hour surface interval the diver returns to 58 feet. He loses track of time and notices that his bottom time is now 40 minutes. According to the dive tables, what action should the diver take?
4. Two divers are planning an ice dive. They plan to dive to a depth of 50 feet for 50 minutes. According to a special rule on cold water diving, what should this buddy team's dive profile be?
5. In the above question, how long should these divers wait to fly?
6. After a dive to 90 feet for 35 minutes, a diver makes an uninterrupted ascent to the surface. Immediately upon surfacing, what procedure should he follow?
7. A diver exits the water at 12:00 noon after a dive to 82 feet for 29 minutes. He wishes to make another dive to 50 feet for 40 minutes. What is the minimum surface interval that will allow this second dive?

8. A diver exits the water at 11:30 am after a dive to 65 feet for 30 minutes. At 1:00 pm he reenters the water for another dive to 59 feet for 30 minutes. After a 30 minute surface interval, what is the maximum depth to which he may dive and remain for at least 20 minutes?

9. A diver exits the water at 1:30 pm after a dive to 65 feet for 4 minutes. If he wishes to repeat this profile, what is the minimum amount of time he must remain at the surface between dives?

10. A diver exits the water at 10:35 am after a dive to 50 feet for 25 minutes. She immediately reenters the water at 10:40 am and returns to 55 feet for 23 minutes. After a one hour surface interval she wishes to return to 60 feet. What is the maximum allowable bottom time on the third dive?

11. What are the symptoms of decompression sickness?

12. What are the first aid procedures for a diver who demonstrates symptoms of decompression sickness (bends)?

Chapter Six: Dive Safety

1. List three reasons why you should have a dive plan.

- a.
- b.
- c.

2. What is the first action a diver should take upon arriving at a dive site?

3. List four last minute preparations you should take before going diving.

- a.
- b.
- c.
- d.

4. What are five items that should be discussed with your buddy prior to making a dive?

- a.
- b.
- c.
- d.
- e.

5. List at least three methods of underwater communication.

- a.
- b.
- c.

6. Draw and label a dive flag and a diver recall flag.

7. What is the first step in diving communication?

8. Describe the action that should be taken in each of the following situations:

Leg cramp:

Entanglement:

Choking:

Exhaustion:

Free-flowing regulator:

Extreme dizziness:

Air starvation:

9. List three rules to be followed when assisting a distressed diver.

a.

b.

c.

10. What is a diving emergency?

11. List four types of suggested emergency training.

- a.
- b.
- c.
- d.

12. What is the first action taken when assisting an unconscious diver at the surface?

13. What is the telephone number for Divers Alert Network (DAN)?

14. List four ways to be prepared for a diving emergency.

- a.
- b.
- c.
- d.

15. Describe the position that an assumed decompression sickness, or lung overexpansion injury victim would be out in and why? Assume the victim is breathing.

16. Explain the general emergency procedures (in detail) for an unconscious diver.

17. What is the next step in continuing *your* education in diving?

Advanced Diving Technique Quiz

**This quiz must be completed as part of your Workbook.*

1. List two reasons why a diver should not wear his/her mask on the forehead.
 - a.
 - b.
2. Describe how to neutrally weight yourself at the surface before a dive.
3. List the common acronym that we use as a buddy check and the meaning of each letter.
4. What is the most important rule of scuba diving?
5. Describe what a diver should do if separated from their buddy.
6. List three reasons for diving with a buddy.
 - a.
 - b.
 - c.
7. List four factors to be considered when planning a dive.
 - a.
 - b.
 - c.
 - d.

8. Describe a squeeze and how it may be avoided for the following areas:

Lungs:

Sinus:

Ears:

Mask:

9. At the end of a dive it is customary to have _____psi remaining pressure in the scuba tank. Why? (2 reasons)

10. Describe the proper way to ascend after a dive in excess of 60 feet.

Dive Table Quiz

**This quiz must be completed as part of your Workbook.*

1. List 10 important rules that should always be observed when using the NAUI dive tables. You may include NAUI recommended procedures.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

2. List four factors that can contribute to the onset of decompression sickness.

- 1.
- 2.
- 3.
- 4.

3. What is the procedure for an omitted decompression stop?

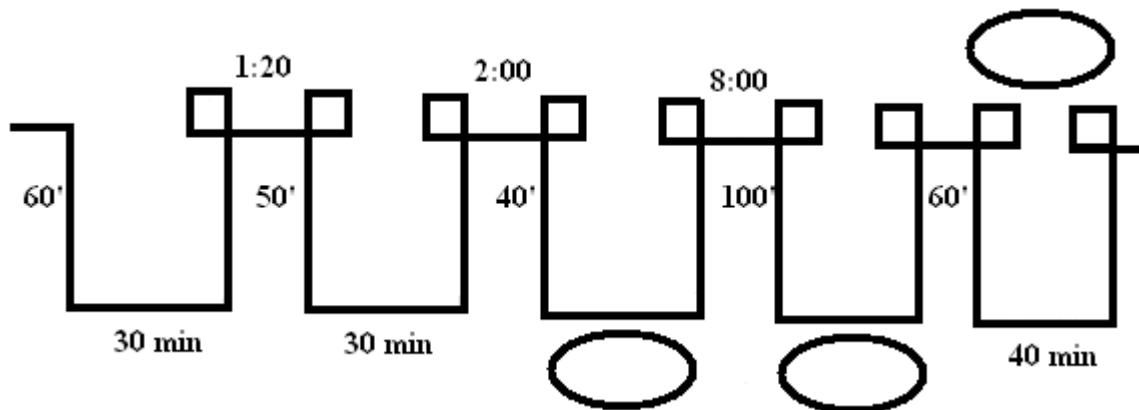
4. Why is oxygen used in the treatment of decompression sickness? Be specific.

5. What should you do if you feel symptoms of decompression sickness after a dive?

6. List 10 possible symptoms of decompression sickness?

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

7-10.



Mastery of Open Water Scuba Pool Skills

Please date and initial completion of each skill.

<i>Skill</i>	<i>Date</i>	<i>Initial</i>
Swim Requirements		
1. 250 yds non-stop	_____	_____
2. Tread or float for 10 min.	_____	_____
3. Swim 50 ft. underwater in one breath	_____	_____
Skin Diving Skills		
1. Proper Fin Kicks (2)	_____	_____
2. Blast Clear Snorkel	_____	_____
3. Displacement Clear Snorkel	_____	_____
4. Feet First Surface Dive	_____	_____
5. Head First Surface Dive	_____	_____
6. Cramp Removal	_____	_____
Scuba Skills		
1. Assemble equipment	_____	_____
2. Shallow Water Entry	_____	_____
3. Equipment Adjustment	_____	_____
4. Regulator Recovery	_____	_____
5. Regulator Replacement	_____	_____
6. No Mask Breathing	_____	_____
7. Partial Mask Clearing	_____	_____
8. Deep Water Exit (Dock)	_____	_____
9. Buddy Check BWRAF	_____	_____
10. Giant Stride Entry	_____	_____
11. Full Mask Clear	_____	_____
12. Free Flowing Regulator	_____	_____
13. Neutral Buoyancy (Fin Pivot)	_____	_____
14. Deep Water Exit (Ladder)	_____	_____
15. Properly Rinse Gear	_____	_____
16. Rolling Back Entry	_____	_____
17. Mask Removal and Replacement	_____	_____
18. Gear Removal Replacement Underwater	_____	_____
19. Weight Belt Removal and Replacement	_____	_____
20. Neutral buoyancy (Hovering)	_____	_____
21. Out of Air Simulation (Shallow)	_____	_____
22. Alternate Air Source Use	_____	_____
23. Deep Water Entry (In Water Don)	_____	_____
24. Equipment Removal and Replacement at Surface	_____	_____
25. Buddy Breathing	_____	_____
26. Simulated Emergency Ascent	_____	_____
27. Full Equipment Ditch and Don (Deep)	_____	_____
28. Tired Diver Tows	_____	_____
29. Rescue of Unconscious Diver	_____	_____

I have mastered all of the skills listed above and feel that I am ready to attend the Open Water Certification weekend.

Signed: _____ Date: _____

Instructor Approval: _____ Date: _____