

Altitude Diver





PADI

**Altitude Diver
Specialty Course Instructor Guide**

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Introduction

This section includes suggestions on how to use this guide, an overview of course philosophy and goals, a flow chart to show you how course components and materials work together for success, and ways you can organize and integrate student diver learning.

How to Use this Guide

This guide speaks to you, the PADI Altitude Diver Specialty Instructor. The guide contains three sections – the first contains standards specific to this course, the second contains knowledge development presentations, the third considers optional confined water and/or surface training and details the open water dives. All required standards, learning objectives, activities, and performance requirements specific to the PADI Altitude Diver course appear in **boldface** print. **The boldface assists you in easily identifying those requirements that you must adhere to when you conduct the course.** Items not in boldface print are recommendations for your information and consideration. General course standards applicable to all PADI courses are located in the General Standards and Procedures section of your PADI *Instructor Manual*.

Course Philosophy and Goals

The world's mountain ranges are synonymous with sport, adventure and recreation. Thoughts of fresh mountain air, sheer rock faces, icy brooks and deep-blue skies conjure images of the Rockies, the Andes, the Alps and other ranges – places to escape civilization, taste excitement or just commune with nature. It's no surprise, then, that those headed up into unspoiled heights include scuba divers. Fresh water mountain lakes are often cool, clean and clear, with interesting aquatic life. Artificial lakes and reservoirs formed amid mountains also offer unique diving opportunities. Both these natural and manmade wonders require special procedures for altitude diving. Altitude diving is your door to dive opportunities inland, away from the ocean, and amid some of the most beautiful surroundings on earth. And if you enjoy other pursuits that take you toward the top of the world, now you can bring your gear and scuba, too.

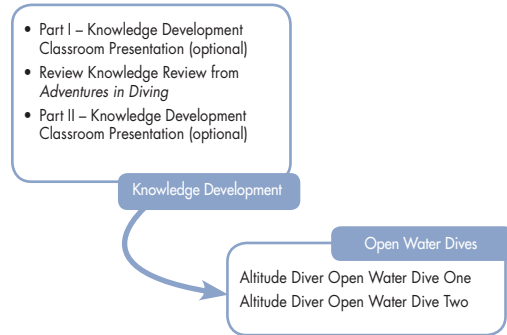
Therefore the *philosophy* of this course is to focus on extending your students diving opportunities by teaching them accepted altitude diving techniques and procedures. The goal of this course is to serve as an introduction to altitude diving and help the student diver develop the necessary altitude diving skills, knowledge and techniques. Students should be able to safely plan, organize and execute no decompression dives at altitudes up to 3000 metres/10,000 feet.

Students apply altitude diving knowledge and skills during actual open water dives. The course philosophy therefore, is to expand student diver knowledge about altitude

diving and decompression theory, altitude diving physiology, altitude diving equipment considerations, and, using the recreational dive planner at altitude. Once learned, student divers apply the knowledge by making at least two open water dives practicing and demonstrating the practical aspects of altitude diving.

Course Flow Options

The Course Flow Options chart provides a visual representation of how knowledge development and confined water and/or surface practice sessions support open water dives. When possible, it's preferable to have student divers complete and review the Knowledge Review before participating in the open water dives.



There are two dives to complete. You may rearrange skill sequences within each dive; however, the sequence of dives must stay intact. You may add more dives as necessary to meet student divers' needs. Organize your course to incorporate environment friendly techniques throughout each dive, to accommodate student diver learning style, logistical needs, and your sequencing preferences. You may choose from one of the approaches from program options, or develop your own.

Program Options

Step	Independent Study	Adventure Dive Integration	Instructor-Led
1	Independent study with <i>Adventures in Diving</i> manual (optional)	Independent study with <i>Adventures in Diving</i> manual (optional)	Knowledge Development Classroom Presentation (optional)
2	Review Knowledge Review	Give credit for the Altitude Adventure Dive and Knowledge Review	Review Knowledge Review
3	Confined Water Dive and/or Surface Practice Session (optional)	Confined Water Dive and/or Surface Practice Session (optional)	Confined Water Dive and/or Surface Practice Session (optional)
4	Open Water Dive One		Open Water Dive One
5	Open Water Dive Two	Open Water Dive Two	Open Water Dive Two

Section One:

Course Standards

This section includes the course standards, recommendations, and suggestions for conducting the PADI Altitude Diver course.

Standards at a Glance

Topic	Course Standard	
Minimum Instructor Rating	PADI Altitude Diver Specialty Instructor	
Prerequisites Minimum Age	PADI (Junior) Open Water Diver 10 years	
Ratios	Open Water – 8:1	
Site, Depths and Hours	<p>For the purpose of training, altitude is defined as ranging from 300 to 3,000 metres/1000 to 10,000 feet above sea level.</p> <p>Depth: 18 metres/60 feet recommended Hours Recommended: 12 Minimum Open Water Dives: 2</p>	
Materials and Equipment	<p>Instructor:</p> <ul style="list-style-type: none"> • PADI Altitude Diver Specialty Course Instructor Guide • Safety equipment, eRDP_{ML}[™], dive computer(s), dive timers, depth gauge(s) 	<p>Student Diver:</p> <ul style="list-style-type: none"> • eRDP_{ML}[™] and a means to monitor time and depth • Slate

Instructor Prerequisites

To qualify to teach the PADI Altitude Diver course, an individual must be a Teaching status PADI Open Water Scuba Instructor or higher. *PADI Instructors may apply for the Altitude Diver Specialty Instructor rating after completing a Specialty Instructor Training course with a PADI Course Director, or by providing proof of experience and applying directly to PADI.* For further detail, reference Membership Standards in the General Standards and Procedure section of your *PADI Instructor Manual*.

Student Diver Prerequisites

By the start of the course, a diver must be:

1. **Certified as a PADI (Junior) Open Water Diver or have a qualifying certification from another training organization.** In this case, a qualifying certification is defined as proof of entry-level scuba certification with a minimum of four open water training dives. Verify student diver prerequisite skills and provide remediation as necessary.
2. **10 years of age or older.**

Supervision and Ratios

Open Water Dives

A Teaching status PADI Altitude Diver Specialty Instructor must be present and in control of all activities. If Dive One is conducted deeper than 18 metres/60 feet, the Specialty Instructor must directly supervise at a ratio of no greater than 8 student divers per instructor (8:1). Otherwise, the Specialty Instructor may *indirectly supervise* all dives. **The Specialty Instructor must ensure that all performance requirements are met.**

The ratio for open water dives is 8 student divers per instructor (8:1), with 4 additional student divers allowed per certified assistant (4:1). For dives that include 10-11 year olds, direct supervision is required at a maximum ratio of 4:1. No more than two of the four divers may be age 10-11.

Site, Depths and Hours

Site

Choose sites with conditions and environments suitable for completing requirements. **Bottom topography should be such that students can begin their dive at a deeper depth and end it at a shallower depth.**

Depths

18 metres/60 feet recommended

30 metres/100 feet limit for Dive 1 (Altitude Adventure Dive)

Children

18 metres/60 feet recommended

21 metres/70 feet limit for 12-14 years old if they have taken the Deep Adventure Dive

Hours

The PADI Altitude Diver course includes two open water dives, which may be conducted in one day. Dives may be conducted at night for divers who have completed the Night Adventure Dive or the first dive of the PADI Night Diver specialty course or have qualifying night diving experience. The minimum number of recommended hours is 12.

Materials and Equipment**Instructor Materials and Equipment**

Use the PADI Altitude Diver course materials prescriptively to accommodate various sequencing preferences and teaching and learning styles.

Required

- PADI Altitude Diver Course Instructor Guide
- Theoretical Depth at Altitude Table
- Descent/Ascent line
- Underwater Slate

Recommended

- eRDP_{ML} and *Instructions for Use and Study Guide*
- eRDP_{ML} Desktop version
- PADI *Adventures in Diving* manual.
- Dive computer

Student Diver Materials and Equipment**Required**

- eRDP_{ML}[™] and *Instructions for Use and Study Guide*
- Underwater slate
- Theoretical Depth at Altitude Table

Recommended

- Dive computer
- PADI *Adventures in Diving* manual

Assessment Standards

To assess diver knowledge you may review the Knowledge Review for Altitude Diver. The Knowledge Review is found in the appendix of this guide (it may also be found at the end of the Altitude Diving chapter in the PADI *Adventures in Diving* manual). **The student diver must demonstrate accurate and adequate knowledge during the open water dives and must perform all skills (procedures and motor skills) fluidly, with little difficulty, in a manner that demonstrates minimal or no stress.**

Certification Requirements and Procedures

Document student diver training by completing the PADI Specialty Training Record for Altitude Diver (see Appendix). By the completion of the course, student divers must complete all performance requirements for Altitude Diver Open Water Dives One and Two.

The instructor certifying the student diver must ensure that all certification requirements have been met. Reference the General Standards and Procedures section of your PADI *Instructor Manual* for information on Referral.

Links to Other Courses

The Altitude Adventure Dive conducted in the PADI Adventures in Diving program may count as the first dive toward this specialty at your discretion. Similarly, divers who successfully complete Altitude Diver Open Water Dive One and the Knowledge Review may receive credit as an Adventure Dive toward the PADI Adventure Diver and Advanced Open Water Diver certifications. They may also credit the Specialty Diver certification toward the PADI Master Scuba Diver rating.

Section Two:

Knowledge Development

Conducting the Course

After completing the course, student divers should have theoretical knowledge and pragmatic experience that allow them to adapt what they've learned to future recreational multilevel diving opportunities. **Regardless of how you conduct knowledge development (independent study, instructor-led or a combination of these instructional approaches), student divers should be able to answer the following learning objective questions.**

Knowledge Development

Learning Objectives

By the end of knowledge development, student divers will be able to explain:

Altitude Diving and Decompression Theory

- **How do you determine that a dive is an "altitude dive"?**
- **Why do you need to follow special dive table and computer procedures at altitude?**
- **How far can any decompression theory be relied on to keep the risk of decompression sickness within an acceptable minimum, and why?**
- **How can the lack of empirical data (documented hyperbaric test dives) on altitude diving affect altitude diving, flying after diving and driving to altitude recommendations?**
- **What are the theoretical and practical differences between altitude diving, flying after diving and driving to altitude after diving?**
- **What are the current recommendations for flying after diving?**
- **What are the current recommendations for driving to altitude after diving?**

continued on next page

Altitude Diving and Physiology

- **What are two potential detrimental physiological conditions possible from altitude diving, aside from decompression sickness, what causes them and how do you avoid them?**
- **What is the first aid for these two conditions should they occur?**

Altitude Diving Equipment Considerations

- **What two ways can altitude diving affect buoyancy?**
- **What two dive accessories are especially appropriate for altitude diving, and how do you use them?**
- **How does altitude affect the readings of a bourdon tube, capillary and electronic depth gauges, and how do you compensate for these effects?**
- **What are two considerations for using a dive computer at altitude?**

Using the Recreational Dive Planner at Altitude

- **What's the altitude range for using the RDP with altitude diving procedures?**
- **What two steps should you follow to make a proper ascent at altitude?**
- **What's the recommended maximum number of dives for one day at altitude?**
- **How do you determine the proper repetitive group on the RDP when arriving at altitude from sea level?**
- **How do you determine the theoretical depth for a corresponding actual depth at altitude using the Theoretical Depth at Altitude chart (imperial or metric)?**
- **How do you calculate no decompression limits for single and repetitive dives at altitude, when diving in less than six hours and more than six hours after arriving at the dive site?**
- **What is The eRDP_M's advantage over the Table for planning altitude dives?**
- **What is the maximum depth for recreational divers at altitude?**
- **What does the term *acclimated diver* mean as it applies to using the RDP?**
- **What is the procedure for determining the proper repetitive group on the RDP for an acclimated diver arriving at an altitude higher than his acclimation altitude?**

Knowledge Development

Teaching Outline

Suggestions to you, the PADI Altitude Diver Specialty Course Instructor, appear in not boxes.

A. Course Introduction

1. Staff and student diver introductions

Note:

Introduce yourself and assistants. Explain your background with altitude diving if your student divers aren't familiar with you.

Have divers introduce themselves and explain their interest in altitude diving — break the ice and encourage a relaxed atmosphere.

Give times, dates and locations as appropriate for classroom presentations and open water dives.

Review with student divers other skills they'll want as a PADI Altitude Diver. These opportunities, through additional specialty course training, may include, but are not limited to: PADI Deep Diver, PADI Underwater Navigator, PADI Peak Performance Buoyancy Diver, PADI Dry Suit Diver, PADI Digital Underwater Photographer, PADI Wreck Diver, and PADI Underwater Naturalist.

2. Course goals
 - a. To develop your theoretical knowledge of altitude diving
 - b. To enable you to organize, plan and conduct safe dives at altitudes up to 3000 metres/10,000 feet.
 - c. To improve your diving ability and skills while in a supervised environment.
3. Course overview
 - a. Classroom presentations. There will be [number] classroom presentations during this course.
 - b. Open water training dives. There will be two open water training dives during this course.
 - c. Performance assessment – Knowledge Review and two Open Water Dives.

4. Certification

- a. Upon successful completion of the course, you will receive the PADI Altitude Diver Specialty certification.
- b. Certification means you are qualified to:
 - Plan, organize, make and log open water dives made to a maximum altitude of 3000 metres/10,000 feet using the RDP, in conditions generally comparable to or better than the conditions you were trained in.
 - Apply for the Master Scuba Diver rating if you are a PADI Advanced Open Water Diver and a PADI Rescue Diver (or have a qualifying certification from another organization) with certification in four other PADI Specialty ratings, and you have 50-logged dives.

Note:

Use the PADI Student Record File. Explain all course costs and materials, and what the costs do and do not include, including equipment use, dive site fees, etc. Explain what equipment student divers must have for the course, and what you will provide. Cover and review points about scheduling and attendance.

5. Class requirements

- a. Complete paperwork
- b. Cost of course.
- c. Equipment needs.
- d. Schedule and attendance.

B. Altitude Diving and Decompression Theory

1. The decompression models used by the vast majority of dive tables and dive computers, including the Recreational Dive Planner, were developed for use at sea level. These models control the release of nitrogen absorbed during your dive by assuming that you will begin and end your dive at sea level, under a full atmosphere of pressure.
 - **How do you determine that a dive is an “altitude dive”?**
2. At about 300 metres/1000 feet above sea level, atmospheric pressure drops enough to question the accuracy of calculations intended for sea level. So, when using the Recreational Dive Planner (and most other tables and most dive computers), an altitude dive is any dive made at 300 metres/1000 feet or greater above sea level. The procedures for using the RDP at altitude (discussed later) may be used to a maximum altitude of 3000 metres/10,000 feet.

3. As the diver ascends in altitude, there is less air pressure. Pressure declines roughly 3.1 percent per 300 metres/1000 feet up to 3000 metres/10,000 feet.

Note:

Because air compresses itself in the atmosphere, this number is not exact. However, this rough approximation is suitable for demonstrating pressure changes within the RDP altitude diving range. Use this figure to compute a couple of examples for lessening pressure in bar or psi, whichever is used by local divers, but explain that this simplification is for demonstration purposes only and should not be considered exact.

- a. At sea level, the diver is surrounded by one atmosphere of pressure.
 - b. At 3000 metres/10,000 feet, the pressure is .714 atmospheres.
 - c. This is the same pressure change as 3 metres/10 feet of seawater, which we know makes a big difference in our no decompression limits. As we'll see, this must be accounted for when using the RDP or any other dive table or dive computer.
- **Why do you need to follow special dive table and computer procedures at altitude?**
4. All dive tables and computers attempt to avoid decompression sickness by keeping nitrogen dissolved into a diver's body during a dive within acceptable limits.
 - a. The dissolved nitrogen exerts a pressure called tissue pressure.
 - b. Tables and computers are concerned with the pressure ratio between the tissue pressure and the surface pressure at sea level.
 - c. The ratio must not exceed the acceptable limits set by the table or dive computer.
 - d. At altitude the surface pressure is less than at sea level, which makes the pressure ratio greater when surfacing compared to making the same dive at sea level.
 - e. Unless the actual depth is converted to a theoretical depth for table use and special procedures are followed (these will be discussed in detail later), at altitude the pressure ratio can exceed the maximum limit intended by the table or dive computer, increasing the possibility of decompression sickness.
- **How far can any decompression theory be relied on to keep the risk of decompression sickness within an acceptable minimum, and why?**
 - **How can the lack of empirical data (documented hyperbaric test dives) on altitude diving affect altitude diving, flying after diving and driving to altitude recommendations?**

5. All decompression models — table or computer, are empirical, that is, they rely on the experience of observed test data.
 - a. Tables and computers are mathematical models that extrapolate empirical data, but at the extremes, it is known that mathematics alone cannot be relied on (e.g., repetitive deep diving, sawtooth profiles with deep dive following shallow, etc.).
 - b. Therefore, tables and computers can only be relied on to produce acceptably minimal risk of decompression sickness within what has been successfully tested.
 - c. There is relatively little test data for altitude diving, flying after diving or driving to altitude after diving.
 - d. In the absence of test data, procedures and recommendations for altitude diving, flying after diving and driving to altitude after diving must be highly conservative — often more conservative than the math alone dictates.
 - e. Whether at sea level or at altitude, the diver must realize that because people differ in their physiology, no dive table or computer can guarantee that decompression sickness will never occur, even when diving within the table or computer limit.
- **What are the theoretical and practical differences between altitude diving, flying after diving and driving to altitude after diving?**
- **What are the current recommendations for flying after diving?**
- **What are the current recommendations for driving to altitude after diving?**
6. Flying after diving comparison with altitude diving.
 - a. Although flying after diving and altitude diving both involve pressures above sea level, from a decompression model point of view, they are very different.
 - Flying after diving involves the diver diving, then surfacing and ascending to a lesser pressure.
 - In altitude diving, the diver ascends to altitude first, dives and returns to the same altitude pressure.
 - When flying after high altitude diving, follow the same procedures you would use after diving at sea level. Never mix altitudes by diving at one altitude and then making a repetitive dive at a higher altitude.

Note:

Review current flying after diving recommendations. As of the date of publication of this outline, the recommendations are as follows.

- b. Recommendations for flying after diving when using the RDP, another table or a dive computer:
 - For Dives Within the No Decompression Limits
 - 1) Single Dives – A minimum preflight surface interval of 12 hours is suggested.
 - 2) Repetitive Dives and/or Multiday Dives – A minimum preflight surface interval of 18 hours is suggested.
 - For Dives Requiring Decompression Stops
 - 1) A minimum preflight surface interval greater than 18 hours is suggested.
- c. As with dive tables and computers, no flying after diving recommendation can guarantee that decompression sickness will never occur.
- d. These guidelines represent the best estimate presently known for a conservative, safe surface interval for the vast majority of divers.
- e. There always may be an occasional diver whose physiological makeup or special dive circumstances result in decompression sickness despite following the recommendations.
- f. Flying after diving recommendations change over time. These are current at the time of this printing. Always check with your instructor to stay apprised of the most current ones.
- g. Driving to altitude after diving. There are currently no recommendations for driving to altitude after diving, so the most prudent practice is to be conservative. The longer you wait before you go, the lower the risk. You may check with a local dive center, resort or instructor to see if divers in the area follow a particular recommendation or protocol.

C. Altitude Diving and Physiology

- ***What are two potential detrimental physiological conditions possible from altitude diving, aside from decompression sickness, what causes them and how do you avoid them?***
- ***What is the first aid for these two conditions should they occur?***

Besides decompression sickness, there are two physiological conditions of special concern in altitude diving: hypoxia and hypothermia.

1. Hypoxia

- a. The air at altitude has less pressure and density, so each breath has fewer oxygen molecules in it (though the percentage of nitrogen is the same as at sea level). This lower partial pressure makes it harder for your body to meet its oxygen demands.
- b. When there's insufficient oxygen partial pressure to meet body demands, the condition of hypoxia results.
- c. Hypoxia at altitude results from heavy exercise, including hauling equipment, donning equipment and walking to and entering the dive site. Signs/symptoms include fatigue, shortness of breath, light-headedness, faintness and exhaustion.
- d. To avoid hypoxia, limit exercise. Don't let yourself get out of breath. Rest frequently.
- e. Hypoxia can come on suddenly at the end of a dive.
 - During the dive, you are under pressure so your body has no problem meeting its oxygen demands.
 - When returning to the surface, you are back into thin air suddenly. If you have been exerting yourself near the dive's end, or do so in exiting the water, you may find it difficult to catch your breath.
- f. Should symptoms of hypoxia occur, stop all activity, rest and catch your breath. Resume activity at a slower pace only after full recovery of normal respiration.
- g. After several weeks at altitude, the body becomes adapted to the thinner air and hypoxia is less likely.

2. Hypothermia

- a. Hypothermia occurs when the diver has been exposed to the cold (water or air) long enough that the body core temperature begins to drop.
- b. Even with wet suits or dry suits, given a long enough dive or series of dives, hypothermia can be a problem.
- c. Hypothermia can occur at sea level, but it's a particular concern for altitude divers because freshwater lakes at altitude tend to be colder, with distinct thermoclines.
- d. Signs/symptoms of hypothermia include shivering, numbness and blueness. As the body's core temperature drops, coordination is affected, weakness, confusion, unconsciousness and eventually death follow.

- e. Hypothermia is prevented by wearing exposure suits appropriate to local conditions and planned depths, by allowing yourself to rewarm between dives and by ending a dive if you begin shivering. Shivering is a warning that should never be ignored!
- f. A diver suspected of having slight-to-mild hypothermia should be removed from the cold, dressed in warm clothes and allowed to rewarm. More severe cases may require CPR, shock management and emergency medical treatment.

D. Altitude Diving Equipment Considerations

- **What two ways can altitude diving affect buoyancy?**

1. Buoyancy at altitude

- a. Virtually all altitude diving is freshwater diving. Compared to salt water, freshwater has less buoyancy.
- b. Wet suits and neoprene dry suits have more buoyancy at altitude.
 - Wet suits are closed cell, meaning the gas trapped in the material can't escape.
 - In the lower atmospheric pressure at altitude, this gas expands, making the suit thicker and more buoyant at the surface.
 - This effect has no bearing on non-neoprene dry suits, which have no trapped gas in the material.
- c. The best way to account for the different buoyancy at altitude is to perform a buoyancy check before the dive.

Note:

You may want to review proper buoyancy check procedures. Consider promoting the Peak Performance Buoyancy Specialty Course prior to actual altitude training dives.

- **What two dive accessories are especially appropriate for altitude diving, and how do you use them?**

2. Accessories especially appropriate for diving at altitude:

- a. Descent/ascent line
 - Not required, but highly recommended when descents and ascents cannot be made along a gradually sloping bottom or up a wall.
 - Ascents are very slow at altitude; lines make it easier to maintain the slow ascent rate.
 - Lines can be valuable for measuring depth.

- b. Slate
 - Altitude dive planning converts actual depths to theoretical depths (to be discussed) to account for pressure differences. For contingency table calculations, conversions must be carried on the slate.
 - Safety stop/emergency decompression stop depth varies with altitude. Appropriate stop depth should be carried on the slate.
- **How does altitude affect the readings of a bourdon tube, capillary and electronic depth gauges, and how do you compensate for these effects?**
3. Depth gauges at altitude
 - a. Bourdon tube gauges
 - At altitude, bourdon tube gauges read shallower than actual depth.
 - To correct to actual depth, use this rule of thumb: Add .3 metres/1 foot to the depth the gauge shows, plus .3 metres/1 foot for each 300 metres/1000 feet of altitude. The correction factor should be noted on your slate.

Note:

Although more precise correction tables have been developed for correcting depth gauges, you may find this rule more convenient and easier to remember. The rule may yield a corrected depth slightly (less than .3 metres/1 foot) deeper than do such tables.

- Some bourdon tube gauges have an adjustment dial for resetting the gauge for accurate readings at altitude.
 - The actual depth is converted to a theoretical depth for use on the RDP, which will be discussed in the next section.
- b. Capillary depth gauges
 - Capillary depth gauges read deeper than the actual depth because they are based on compressing the air in the capillary tube. Since the surface pressure is less than at sea level, it's easier to compress the air in the tube.
 - This makes the capillary depth automatically adjust for altitude. The capillary depth gauge reads deeper than actual, but it reads in the theoretical depth to be used on the RDP. No conversion is necessary.

- Unfortunately, capillary depth gauges are harder to read for depths below 9 metres/30 feet, so bourdon tube gauges or electronic gauges may be necessary.
 - c. Electronic depth gauges differ in their performance at altitude. Some automatically compensate for altitude; some must be adjusted. Consult the owner's manual/manufacturer of the specific gauge.
 - d. If in doubt, compare your depth gauge with a gauge known to be accurate, or with a measured line. *Note: Most depth gauges are calibrated for salt water. This is not a concern because the RDP is calibrated for salt water too, and no adjustment is necessary. When comparing in fresh water, however, a salt water calibrated depth gauge will read 3 percent shallower than a measured line.*
- **What are two considerations for using a dive computer at altitude?**
4. Dive computers and altitude
- a. Using a dive computer at altitude requires two considerations:
 - The computer must be designed for use at altitude.
 - The computer manufacturer's instructions for use at altitude must be followed.
 - b. If a computer cannot be used to calculate equivalent decompression limits, it may still be usable as a time and depth gauge, consult the manufacturer's literature.
 - c. If you plan to do a lot of diving at altitude, you may wish to consider that in purchasing a dive computer.

E. Using the Recreational Dive Planner at Altitude

- **What's the altitude range for using the RDP with altitude diving procedures?**
 - **What two steps should you follow to make a proper ascent at altitude?**
 - **What's the recommended maximum number of dives for one day at altitude?**
 - **How do you determine the proper repetitive group on the RDP when arriving at altitude from sea level?**
1. RDP altitude range: The special procedures for using the RDP must be used when diving at or above 300 metres/1000 feet. The maximum altitude is 3000 metres/10,000 feet.

2. Ascent procedures.
 - a. Ascend from all altitude dives at a rate not to exceed 9 metres/30 feet per minute.
 - b. A three-minute safety stop at the depth prescribed on the Theoretical Depth at Altitude Chart is required on all dives.
3. Repetitive diving: Make no more than two dives per day when diving at altitude.
4. Arriving at altitude
 - a. When arriving at an altitude dive site higher than where your travel originated from, you have surfaced from a greater pressure to a lower pressure. This means the nitrogen pressure in your body is greater than the surrounding pressure, just like after surfacing from a dive. This residual nitrogen must be accounted for in planning an altitude dive just as you would in planning a repetitive dive.
 - b. You may allow a six-hour surface interval after arriving at altitude and make your first dive a new dive.
 - c. To dive sooner than six hours, however, you account for the nitrogen by determining a pressure group letter for use on the RDP Table or eRDP_{ML}.
 - You use the pressure group to plan your dive as if you were making a repetitive dive.
 - To do this, upon arrival at the dive site altitude, count two pressure groups for each 300 metres/1000 feet.
 - After determining your pressure group, you may allow a “surface interval,” if you wish, to reduce your residual nitrogen.
 - d. When diving above 2400 metres/8000 feet, wait six hours.

Sample Problems

- A diver plans an altitude dive at 1500 metres/5000 feet. What is the pressure group upon arrival at the dive site altitude?
Answer: J – Count 10 pressure groups (two for each 300 metres/1000 feet) to arrive at J.
- If the diver in the previous question waits 90 minutes after arriving at the dive site altitude, what is the new pressure group?
Answer: B. Table 2 of the RDP Table or the Dive Planning Mode (PG Before SI) of the eRDP_{ML}TM shows that after 90 minutes, pressure group J moves into pressure group B.

- A diver plans to dive at an altitude of 2680 metres/8792 feet. What is the pressure group upon arrival at the dive site altitude?

Answer: You can't determine a pressure group for altitudes greater than 2400 metres/8000 feet. The diver must wait six hours before diving.

- **How do you determine the theoretical depth for a corresponding actual depth at altitude using the Theoretical Depth at Altitude chart (imperial or metric)?**
- **How do you calculate no decompression limits for single and repetitive dives at altitude, when diving in less than six hours and more than six hours after arriving at the dive site?**
- **What is The eRDP_{ML}[™] advantage over the Table for planning altitude dives?**
- **What is the maximum depth for recreational divers at altitude?**

5. Determining theoretical depths

- a. As mentioned earlier, the actual depth must be converted to a theoretical depth for use on the RDP.
- b. Use the Theoretical Depth at Altitude Chart to make these conversions.

Note:

Copies of these charts are in the Appendix of this outline. Make copies of the chart for each student and distribute them at this time.

- Use the exact or next greater number,
 - Round altitudes up to the next 300 metres/1000 feet.
 - Round depths to the next greater depth. This can mean a depth is rounded when entering the Theoretical Depth at Altitude Chart, and then again when applying the theoretical depth to the RDP.
- c. The eRDP_{ML}, with its 2 metre/five foot depth increments, helps reduce unnecessary rounding in altitude diving. Its use for altitude diving is highly recommended.
 - d. Remember that capillary depth gauges will automatically read the theoretical depth, and no conversion is necessary.
 - e. The maximum depth for any dive is a theoretical depth of 40 metres/130 feet.

Sample Problems

Sample Problem 1: (Use the Theoretical Depth at altitude Charts on the following pages.)

- A diver plans to dive at an altitude of 1000 metres/3300 feet to an actual depth of 15 metres/47 feet. What is the depth used on the RDP for planning this dive?

Answer: 18 metres/60 feet. Round up 1000 metres/3300 feet to 1200 metres/4000 feet on the Theoretical Depth at Altitude Chart. Round 15 metres/47 feet to 16 metres/50 feet in the "Actual Depth" column, then move right into the 1200 metres/4000 feet column. The theoretical depth shown is 18 metres/58 feet. An 18 metre/58 foot dive rounds to 18 metres/60 feet on the RDP.

Sample Problem 2:

- At what depth would the diver in the above problem make the required safety stop?

Answer: 4.5 metres/13 feet. Find 4.5 metres/13 feet listed under 1200 metres/4000 feet in the Safety/Emergency Decompression Stop Depth portion of the chart.

Sample Problem 3:

- If the diver in Sample Problem 1 arrives from sea level and dives 15 minutes after arriving at the dive site, what is the no decompression limit for the planned actual depth of 15 metres/47 feet?

Answer: 36 minutes. Upon arrival at the dive site, count eight pressure groups (two for each 300 metres/1000 feet) for group H. On Table 2 of the RDP Table, or in the Dive Planning Mode (PG Before SI) of the eRDP_{ML}[™], find or enter H and a surface interval of 15 minutes. This moves the diver into group F. Table 3 of the RDP Table or continuing in Dive Planning Mode with the eRDP_{ML}[™] shows that a diver in group F planning a dive to a theoretical depth of 18 metres/60 feet has a no decompression limit of 36 minutes.

- **What does the term acclimated diver mean as it applies to using the RDP?**
- **What is the procedure for determining the proper repetitive group on the RDP for an acclimated diver arriving at an altitude higher than his acclimation altitude?**

6. Special rules for acclimated divers.
 - a. After more than six hours at altitude, a diver's body nitrogen equilibrates (for practical purposes) with the surrounding altitude. Because of this lower body nitrogen level, somewhat different rules may be used when a diver already acclimated to altitude ascends to a higher altitude to dive.
 - b. For the purposes of using the RDP, an acclimated diver is a diver who has spent six or more hours at an altitude between 1200 metres/4000 feet and 3000 metres/10,000 feet. Divers acclimated to less than 1200 metres/4000 feet follow procedures as if acclimated to sea level.
 - c. For acclimated divers determining a pressure group upon arrival at an altitude higher than acclimation altitude: Count four pressure groups for each 300 metres/1000 of difference. Round up to nearest 300 metres/1000 for dive altitude and round down to nearest 300 metres/1000 for acclimation altitude.

Sample Problem

A diver is acclimated to 1400 metres/4600 feet. What pressure group is he in upon arrival to a dive site at 1757 metres/5763 feet? Answer: H. 1400 metres/4600 feet rounds down to 1200 metres/4000 feet; 1757 metres/5763 feet rounds up to 1800 metres/6000 feet. This is a difference of 600 metres/2000 feet. Four pressure groups for each 300 metres/1000 feet is Eight pressure groups, which is H.

- d. Acclimated divers may use the pressure group upon arrival provision for altitudes up to 3000 metres/10,000 feet.
 - e. Acclimated divers follow all other rules for altitude diving.
 - f. Acclimated divers may not mix altitudes by making a dive at one altitude and then making a repetitive dive at a higher altitude.
7. Sample problems and exercises

Note:

Conduct several sample dive plans for various altitudes similar to those likely to be encountered by the class. Be sure to cover:

1. Determining NDL for first and repetitive dive at altitude for a diver arriving from sea level and waiting six hours.
2. Determining NDL for first and repetitive dive at altitude for a diver arriving from sea level and diving in less than six hours.
3. Determining NDL for first and repetitive dive for an acclimated diver diving at an altitude higher than his acclimation altitude. Have your students demonstrate that they can correctly plan these types of dives with the RDP.

Section Three:

Open Water Dives

Conduct

The PADI Altitude Diver Specialty course requires two open water training dives. All open water training dives must be conducted using the special altitude rules and procedures for the Recreational Dive Planner. **If students arrive at an altitude dive site that is higher than their point of origination they must either:**

- **Wait 6 hours prior to making their first open water altitude dive, OR**
- **Count two pressure groups for each 300 metres/1000 feet of altitude to determine their beginning pressure group (round up fractions of 300 metres/1000 feet.**
- **When diving above 2400 metres/8000 feet, students must wait 6 hours prior to making an open water dive.**

If an altitude training dive made during this specialty is between a theoretical depth of 18-30 metres/60-100 feet, the Advanced Open Water Diver rating is recommended as a prerequisite. Likewise, if an altitude training dive made during this specialty is between a theoretical depth of 30-40 metres/100-130 feet, the Deep Diver rating is recommended as a prerequisite.

Bottom time on each dive should not exceed the no decompression limits of the RDP, Table or eRDP_{ML}, or each diver's computer.

Regardless of how you conduct the open water dives, student divers must demonstrate the following performance requirements.

Performance Requirements

By the end of the open water dives, student divers will be able to:

Altitude Diver Open Water Dive One

- **Determine the no decompression limits for depths at the altitude at which the dive will take place using a dive computer that has altitude capability, or using the Recreational Dive Planner and the Theoretical Depth at Altitude Table.**
- **Execute a descent using a reference as a tactile or visual guide (line or sloping bottom).**
- **Compare a depth gauge to the instructor's and/or other student diver's depth gauges.**
- **Use a depth gauge and timing device (or dive computer) to measure an ascent rate that is not faster than 9 metres/30 feet per minute.**
- **Perform an ascent using a reference as a tactile or visual guide (line or sloping bottom).**
- **Perform at least a three-minute safety stop at a theoretical depth of 5 metres/15 feet before surfacing.**

Altitude Diver Open Water Dive Two

- **Determine the no decompression limits for depths at the altitude at which the dive will take place using a dive computer that has altitude capability, or using the Recreational Dive Planner and the Theoretical Depth at Altitude Table.**
- **Apply the skills and knowledge developed in the academic session and first open water training dive.**

Open Water Guidelines for Altitude Dives

A. General Open Water Considerations

1. Involve students in dive-planning activities. Dive planning is the heart of altitude diving, and should, in fact, be the emphasis of your open water training activities.
2. Always conduct a thorough briefing. The better the briefing, the smoother the dive.

3. Assign buddy teams according to ability (weak with strong) and establish check-in, check-out procedures.
4. Assign logistical duties to staff and review emergency procedures.
5. A certified assistant or instructor should accompany all buddy teams during inwater activities. It is highly recommended that you have personnel on shore/boat to supervise divers entering and leaving the water.
6. No dive should exceed the no decompression limit of the RDP.
7. During the briefing, tell your students at what tank pressure they should begin their ascent to their safety stop. Remember that altitude ascents are not to exceed 9 metres/30 feet per minute in assigning this pressure.
8. It is highly recommended that no altitude diving exceed a theoretical depth of 30 metres/100 feet. At no time should any dive exceed a theoretical depth of 40 metres/130 feet. If dives are to exceed 18 metres/60 feet of theoretical depth, the Advanced Open Water Diver rating is recommended.
9. Consider using a descent/ascent line with accurate depth marking, especially for the first dive. Doing so will permit students to compare and contrast actual depths with their depth gauges.

B. Altitude Diver Open Water Dives

Dive One

- **Determine the no decompression limits for depths at the altitude at which the dive will take place using a dive computer that has altitude capability, or using the Recreational Dive Planner and the Theoretical Depth at Altitude Table.**
- **Execute a descent using a reference as a tactile or visual guide (line or sloping bottom).**
- **Compare a depth gauge to the instructor's and/or other student diver's depth gauges.**
- **Use a depth gauge and timing device (or dive computer) to measure an ascent rate that is not faster than 9 metres/30 feet per minute.**
- **Perform an ascent using a reference as a tactile or visual guide (line or sloping bottom).**
- **Perform at least a three-minute safety stop at a theoretical depth of 5 metres/15 feet before surfacing.**

1. Briefing
 - a. Evaluate conditions
 - b. Facilities at dive site
 - c. Entry technique to be used — location
 - d. Exit technique to be used — location
 - e. Bottom composition, expected features and points of interest
 - f. Depth range
 - g. Planned air supply limit
 - h. Review communication
 - i. What to do if separated from class/buddy
 - j. What to do if an emergency arises
 - k. Buddy assignments
2. Plan dive
 - a. Assign depth; have students determine theoretical depth and no decompression limit (you should check these).
 - b. Record no decompression limit, maximum actual depth and maximum theoretical depth on slates.
 - c. Review depth gauges and instrumentation; each student should know how to account for behavior of his instrument while diving.
 - d. Be sure that there's a mix of nonadjustable bourdon tube, adjustable bourdon tube, electronic and capillary gauges among various buddy teams for comparison during dive.
 - e. Assign maximum planned dive time.
3. Pre-dive
 - a. Prepare personal equipment.
 - b. Don equipment.
 - c. Pre-dive safety check.
 - d. Proper entry.
 - e. Weight adjustment for neutral buoyancy.
 - f. Maintain buddy contact.
4. Open Water Training Dive One
 - a. Descend in buddy teams.
 - b. Compare different depth gauges and observe difference.
 - c. Reference slate/use depth gauge to stay within planned depth limit.

- d. Tour for pleasure, staying within planned dive limits.
 - e. Ascent not exceeding 9 metres/30 feet per minute with three-minute safety stop at theoretical depth of 5 metres/15 feet as specified by Theoretical Depth at Altitude Chart.
5. Postdive
 - a. Proper exit
 - b. Remove and stow equipment.
 6. Debrief
 - a. Assess performance, make suggestions, give positive reinforcement.
 - b. Students calculate their ending pressure groups — review for correct calculation.
 - c. Log dive. (Instructor signs log.)

Dive Two

- **Determine the no decompression limits for depths at the altitude at which the dive will take place using a dive computer that has altitude capability, or using the Recreational Dive Planner and the Theoretical Depth at Altitude Table.**
 - **Apply the skills and knowledge developed in the academic session and first open water training dive.**
1. Briefing (if this dive is made in the same location as the first dive, repetition of identical information is not necessary)
 - a. Evaluate conditions
 - b. Facilities at dive site
 - c. Entry technique to be used — location
 - d. Exit technique to be used — location
 - e. Bottom composition, expected features and points of interest
 - f. Depth range
 - g. Planned air supply limit
 - h. Review communication
 - i. What to do if separated from class/buddy
 - j. What to do if an emergency arises
 - k. Buddy assignments

2. Plan dive
 - a. Have the students plan this dive in buddy teams for your assessment and approval.
 - b. Ensure that students record no decompression limit, maximum actual depth and maximum theoretical depth on slates.
3. Pre-dive
 - a. Prepare personal equipment.
 - b. Don equipment.
 - c. Pre-dive safety check.
 - d. Proper entry.
 - e. Weight adjustment for neutral buoyancy.
 - f. Maintain buddy contact.
4. Open Water Training Dive Two
 - a. Descend in buddy teams.
 - b. Dive made as planned by students.
 - c. Reference slate; use depth gauge to stay within planned depth limit.
 - d. Ascent not exceeding 9 metres/30 feet per minute with three-minute safety stop at theoretical depth of 5 metres/15 feet as specified by Theoretical Depth at Altitude Chart.
5. Post-dive
 - a. Proper exit
 - b. Remove and stow equipment.
6. Debrief
 - a. Assess performance, make suggestions, give positive reinforcement.
 - b. Students calculate their ending pressure groups — Review for correct calculation.
 - c. Log dive. (Instructor signs log.)
 - d. Complete certification paperwork.

Appendix

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Theoretical Depth at Altitude

METRIC

Actual Depth	Theoretical Depth at Various Altitudes (in metres)									
	300	600	900	1200	1500	1800	2100	2400	2700	3000
10	10	11	11	12	12	12	13	13	14	14
12	12	13	13	14	14	15	15	16	17	17
14	15	15	16	16	17	17	18	19	19	20
16	17	17	18	18	19	20	21	21	22	23
18	19	19	20	21	22	22	23	24	25	26
20	21	21	22	23	24	25	26	27	28	29
22	23	24	25	25	26	27	28	29	31	32
24	25	26	27	28	29	30	31	32	33	35
26	27	28	29	30	31	32	34	35	36	38
28	29	30	31	32	34	35	36	38	39	40
30	31	32	33	35	36	37	39	40	42	
32	33	34	36	37	38	40	41			
34	35	37	38	39	41	42				
36	37	39	40	42						
38	39	41	42							
40	41									

SAFETY/EMERGENCY DECOMPRESSION STOP DEPTH

Stop Depth	300	600	900	1200	1500	1800	2100	2400	2700	3000
	4.2	4.2	3.9	3.9	3.6	3.6	3.6	3.3	3.3	3.0

Theoretical Depth at Altitude

IMPERIAL

Actual Depth	Theoretical Depth at Various Altitudes (in feet)									
	1000	2000	3000	4000	5000	6000	7000	8000	9000	10,000
0	0	0	0	0	0	0	0	0	0	0
10	10	11	11	12	12	12	13	13	14	15
20	21	21	22	23	24	25	26	27	28	29
30	31	32	33	35	36	37	39	40	42	44
40	41	43	45	46	48	50	52	54	56	58
50	52	54	56	58	60	62	65	67	70	73
60	62	64	67	69	72	75	78	81	84	87
70	72	75	78	81	84	87	91	94	98	102
80	83	86	89	92	96	100	103	108	112	116
90	93	97	100	104	108	112	116	121	126	131
100	103	107	111	116	120	124	129	134	140	
110	114	118	122	127	132	137				
120	124	129	134	139						
130	135	140								

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SAFETY/EMERGENCY DECOMPRESSION STOP DEPTH

Stop Depth	1000	2000	3000	4000	5000	6000	7000	8000	9000	10,000
	14	14	13	13	12	12	12	11	11	10

Student Name _____ Date: _____
Day/Month/Year

Altitude Diving Knowledge Review

Answer the following questions. Your instructor will review your answers with you.

1. Define “altitude dive” and briefly explain why there are special considerations when using tables and dive computers at altitude.

2. What’s the main difference between altitude diving and flying after diving?

3. List the current recommendations for flying after diving.

4. List two possible detrimental physiological conditions, aside from decompression sickness, that may be concerns for altitude divers, and how to avoid them.

5. Describe how altitude affects each of the following instruments, and how to adjust for those effects:

Digital electronic depth gauge: _____

Bourdon tube depth gauge: _____

Capillary depth gauge: _____

Dive computer: _____

6. Identify the following when using the RDP at altitude:
- Ascent rate: _____
- Safety stop time/depth: _____
- Maximum depth: _____
- Maximum altitude: _____
7. What's the generally recommended maximum number of dives in a day when using the RDP at altitude?
- _____
- _____
8. You plan to dive to an actual depth of 18 metres/60 feet one hour after you arrive at an altitude of 1090 metres/3578 feet. If you were to dive to the no decompression limit, what would your no decompression limit be for a repetitive dive to the same depth after a 45 minute surface interval?
- _____
- _____
9. You plan to dive to an actual depth of 24 metres/80 feet after spending seven hours at the dive site altitude of 1226 metres/4023 feet. What is your no decompression limit? If your bottom time is 15 minutes, what would your no decompression limit be for a repetitive dive to an actual depth of 18 metres/60 feet after a one hour, five minute surface interval?
- _____
- _____

Student Statement:

I've completed this Knowledge Review to the best of my ability and any questions I answered incorrectly or incompletely I've had explained to me, and I understand what I missed.

Student Name _____ Date: _____
Day/Month/Year

Altitude Adventure Dive Overview

- Knowledge Review
- Briefing
- Suiting up
- Pre-dive safety check (BWRAF)
- Entry
- Descent
- Depth gauge comparison at depth
- Tour
- Ascent – safety stop
- Exit
- Debrief
- Log dive – Complete Adventure Dive Training Record

Student Name _____ Date: _____
Day/Month/Year

Altitude Diving Knowledge Review Answer Key

1. Define “altitude dive” and briefly explain why there are special considerations when using tables and dive computers at altitude.
Any dive made at 300 metres/1000 feet or greater above sea level. Special dive table considerations are needed to account for the difference in atmospheric pressure.
2. What’s the main difference between altitude diving and flying after diving?
The exposure to lower atmospheric pressure follows the dive when flying or driving to altitude after diving. In altitude diving, the exposure to lower atmospheric pressure precedes the dive.
3. List the current recommendations for flying after diving.
The recommendations are exactly and same whether diving at sea level or diving at altitude.
4. List two possible detrimental physiological conditions, aside from decompression sickness, that may be concerns for altitude divers, and how to avoid them.
 1. **Hypoxia**
 2. **Hypothermia**
5. Describe how altitude affects each of the following instruments, and how to adjust for those effects:
 - Digital electronic depth gauge: **Varies. Electronic digital gauges commonly adjust for altitude, either automatically or through a special setting. Consult the manufacturer’s instructions.**
 - Bourdon tube depth gauge:: **Reads shallower than actual depth – use adjustment knob if available.**
 - Capillary depth gauge: **Reads deeper than actual depth. Reads theoretical depth – no adjustment necessary**
 - Dive computer: **Varies. Some automatically adjust for new altitudes, some allow you to set them for the altitude, and some you cannot be used at altitude (except as a depth gauge and timer). Consult manufacturers instructions.**

6. Identify the following when using the RDP at altitude:
 Ascent rate: **9 metres/30 feet or slower**
 Safety stop time/depth: **3 minute stop at theoretical depth**
 Maximum depth: **Theoretical depth of 40 metres/130 feet**
 Maximum altitude: **3000 metres/10,000 feet**

7. What's the generally recommended maximum number of dives in a day when using the RDP at altitude?
Two

8. You plan to dive to an actual depth of 18 metres/60 feet one hour after you arrive at an altitude of 1090 metres/3578 feet. If you were to dive to the no decompression limit, what would your no decompression limit be for a repetitive dive to the same depth after a 45 minute surface interval?
16 min metric 18 min imperial

9. You plan to dive to an actual depth of 24 metres/80 feet after spending seven hours at the dive site altitude of 1226 metres/4023 feet. What is your no decompression limit? If your bottom time is 15 minutes, what would your no decompression limit be for a repetitive dive to an actual depth of 18 metres/60 feet after a one hour, five minute surface interval?
 Part 1: **20 minutes**
 Part 2: **Metric – Table = 25 min, eRDP_{ML} = 25 min**
Imperial – Table = 20 min, eRDP_{ML} = 24 min

Student Statement: I've completed this Knowledge Review to the best of my ability and any questions I answered incorrectly or incompletely I've had explained to me, and I understand what I missed.

Student Name _____ Date: _____
Day/Month/Year

Altitude Adventure Dive Overview

- Knowledge Review
- Briefing
- Suiting up
- Pre-dive safety check (BWRAF)
- Entry
- Descent
- Depth gauge comparison at depth
- Tour
- Ascent – safety stop
- Exit
- Debrief
- Log dive – Complete Adventure Dive Training Record

PADI Adventure Dive Training Record

Adventure Dive: Altitude Dive

Skills Overview

Instructor Statement

“I verify that this student diver has satisfactorily completed the Knowledge Review and Performance Requirements (as described in PADI’s Adventures in Diving Program Instructor Guide) for this PADI Adventure Dive. I am a renewed, Teaching status PADI Instructor for the current year.”

Instructor Name: _____ PADI #: _____

Instructor Signature: _____ Completion Date: _____
Day/Month/Year

Instructor Contact Information (Please Print)

Instructor Mailing Address: _____

City _____ State/Province: _____

Country: _____ Zip/Postal Code: _____

Phone/Fax/email: _____

Student Diver Statement

“I verify that I have completed all of the Performance Requirements for this Adventure Dive. I realize that there is more to learn about Altitude diving and that completion of a PADI Altitude Diver course is highly recommended. I also agree to abide by PADI Standard Safe Diving Practices.”

Student Diver Signature _____ Date: _____
Day/Month/Year

PADI Specialty Training Record

Altitude Diver

Instructor Statement

“I verify that this student diver has satisfactorily completed all academic and/or any confined water training sessions as outlined in the PADI Specialty Course Instructor Guide for Altitude Diver. I am a renewed, Teaching status PADI Instructor in this specialty.”

Instructor Name: _____ PADI #: _____

Instructor Signature: _____ Completion Date: _____
Day/Month/Year

Open Water Dives

Dive One

I verify that this student diver has satisfactorily completed Dive One as outlined in the PADI standardized guide for Altitude Diver, including:

- Descend with buddy
- Compare different depth gauges
- Reference slate/depth gauge to remain within planned depth
- Tour for pleasure
- Ascent not to exceed 9 metres/30 feet per minute with 3 minute safety stop at theoretical depth of 5 metres/15 feet.

I am a renewed, Teaching status PADI Instructor in this specialty.

Instructor Name: _____ PADI #: _____

Instructor Signature: _____ Completion Date: _____
Day/Month/Year

Dive Two

I verify that this student diver has satisfactorily completed Dive Two as outlined in the PADI standardized guide for Altitude Diver, including:

- Descend with buddy
- Dive made as planned by student
- Reference slate/depth gauge to remain within planned depth
- Ascent not to exceed 9 metres/30 feet per minute with 3 minute safety stop at theoretical depth of 5 metres/15 feet

I am a renewed, Teaching status PADI Instructor in this specialty.

Instructor Name: _____ PADI #: _____

Instructor Signature: _____ Completion Date: _____
Day/Month/Year

Student Diver Statement

“I verify that I have completed all performance requirements for this Altitude Diver specialty. I am adequately prepared to dive in areas and under conditions similar to those in which I was trained. I agree to abide by PADI Standard Safe Diving Practices.”

Student Name: _____

Student Signature: _____ Date: _____
Day/Month/Year