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SHIP TYPES: MISSIONS AND WEAPONS



**STUDY GUIDE ON ENGLISH
FOR SPECIFIC PURPOSES**

for cadets of naval specialties

MINISTRY OF DEFENCE OF UKRAINE

Naval Institute of National University
“Odesa Maritime Academy”

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The study guide “Ship Types: Missions and Weapons” is intended for cadets mastering naval specialties, as well as for scientific and pedagogical staff teaching “English for Specific Purposes” to future officers. It may also be useful for those who wish to improve their knowledge of the English language. The study guide has been developed in accordance with the requirements of the academic program for the subject “English for Specific Purposes” and consists of authentic professional texts accompanied by various tasks, including word lists, reading passages, audio and video materials, tasks for mastering thematic content, as well as tests and question lists for assessing cadets’ knowledge.

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UNIT 1: AIRCRAFT CARRIERS

Task 1. Learn new vocabulary.

	Word combinations	Translations
1.	Aircraft carrier	Авіаносець
2.	Power projection	Проекція сили
3.	Sortie deterrence	Стимування ворожих авіа ударів
4.	Maritime security	Морська безпека
5.	Forward presence	Передове базування
6.	Bombardment mission	Місія з авіаційного обстрілу
7.	Antisubmarine operation	Протичовнова операція
8.	Rescue mission	Рятувальна операція
9.	Reconnaissance	Розвідувальна діяльність
10.	Antiair warfare	Протиповітряна оборона (ППО)
11.	Unmanned aerial vehicle (UAV)	Безпілотний літальний апарат (БПЛА)
12.	Sea control	Контроль над морським простором
13.	Close-in weapon system (CIWS)	Зенітно-артилерійський комплекс (ЗАК)
14.	Surface-to-air missile (SAM)	Зенітна керована ракета (ЗПК)
15.	Aircraft carrier task group	Авіаносна ударна група

Task 2. Complete each sentence with the correct term from Task 1.

1. Aircraft carriers provide a strategic _____, ensuring military presence in key areas.
2. The _____ is a large military ship equipped to carry, launch, and land aircraft.
3. Maintaining _____ is crucial for protecting international waters and trade routes.
4. _____ is the ability of a nation to apply its military power in areas far from its own territory.
5. The presence of an aircraft carrier in a region often serves as a _____ to potential enemy units preventing the latter from launching aircraft.
6. Aircraft carrier was assigned a _____ to neutralize enemy artillery positions along the coastline.
7. An _____ is a group of ships, including an aircraft carrier, that operate together for a specific mission.
8. The navy conducted a _____ mission to gather intelligence information on enemy positions.

9. In an _____, the navy uses specialized equipment to detect and destroy enemy submarines.
10. The _____ systems on an aircraft carrier help protect it from incoming missile threats.
11. The aircraft carrier conducted a _____ to save sailors from a sinking ship.
12. _____ involves operations to protect against enemy aircraft and maintain control of the skies.
13. The carrier's _____ are crucial for fighting with and destroying enemy aircraft.
14. The _____ can provide surveillance without risking pilot lives.
15. Ensuring _____ allows naval forces to dominate in the sea zone and prevent enemy forces from operating there.

Task 3. Match words and word combinations with their definitions.

	Word combinations		Definitions
1.	Fleet	A.	The deck below the flight deck where aircraft are stored and maintained.
2.	Displacement	B.	The group of people who operate a ship or aircraft.
3.	Crew	C.	Power plant which is powered by nuclear energy.
4.	Robust	D.	A ship that accompanies and protects other ships.
5.	Deployment	E.	The weight of the water a ship displaces when it is floating, used to measure the size of the ship.
6.	Oil-fired boiler	F.	A group of ships sailing together, engaged in the same activity, or under the same ownership.
7.	Nuclear-powered plant	G.	Strong and unlikely to break or fail.
8.	Flight deck	H.	The process of getting something back.
9.	Hangar deck	I.	Military aircraft designed for air-to-air combat with other aircraft.
10.	To launch	J.	The movement of military forces for a specific mission or operation.
11.	Arresting wire	K.	The upper deck of an aircraft carrier where aircraft take off and land.
12.	Escort ship	L.	To send something out, such as a new ship onto water or a missile into air.
13.	Fighter jet	M.	A type of boiler that uses oil as fuel to produce steam for propulsion.

14.	Recovery	N.	The work needed to keep a machine, etc. in good condition.
15.	Maintenance	O.	A wire used to quickly stop an aircraft as it lands on a flight deck.

Task 4. Read and translate the text.

Aircraft carriers, the largest military ships ever built, are well-known for their immense size and diverse capabilities enabling power projection, strategic forward presence, sortie deterrence and maintaining maritime security worldwide.

These floating airfields, often described as the world's largest combatant ships and the world's smallest airfields, serve as strategic hub in naval fleets. Ranging in displacement between 75,000 and 96,000 tons and accommodating between 75 and 85 aircraft, aircraft carriers are marvels of engineering. Some ships of this type exceed 350 meters in length and require a crew of over 5,000 sailors to operate efficiently. Powered by robust engines and equipped with four screws, carriers demonstrate impressive speed and endurance, capable of extended deployments at sea. While some carriers in the U.S. Navy are propelled by oil-fired boilers, others, designated as CVNs, are nuclear-powered.

Unique features distinguish aircraft carriers, including a flight deck for takeoff and landing and a hangar deck for aircraft storage and maintenance. Depending on their size and design, carriers employ different launch and recovery systems. These include:

- **CATOBAR (Catapult Assisted Take-Off But Arrested Recovery):** This system uses catapults to assist aircraft during takeoff and arresting wires for recovery. It enables the launch of heavier aircraft with more fuel and ordnance.
- **STOBAR (Short Take-Off But Arrested Recovery):** STOBAR systems facilitate the takeoff of aircraft without catapult assistance but rely on arresting gear for recovery. While they have limitations on aircraft weight and fuel, they offer operational flexibility.
- **STOVL (Short Take-Off and Vertical Landing):** STOVL systems enable aircraft to take off and land vertically, eliminating the need for catapults and arresting gear. They are typically found on carriers designed for smaller aircraft, providing enhanced agility and versatility.

Aircraft carriers can undertake a wide range of missions, including providing air support to troops ashore, conducting bombardment missions, antisubmarine operations, rescue missions, reconnaissance, antiair warfare and sea control. The main type of weaponry which carriers possess to fulfill their missions is a variety of aircraft, including fighter jets, reconnaissance planes, helicopters, and

unmanned aerial vehicles (UAVs). In addition to aircraft, aircraft carriers are equipped with defensive armament such as close-in weapon systems (CIWS), surface-to-air missiles (SAMs), and anti-submarine warfare (ASW) weapons to protect against air, surface, and subsurface threats.

Aircraft carriers often operate as part of a larger naval formation known as an aircraft carrier task group. This task group typically includes escort ships such as cruisers, destroyers, and frigates, as well as support vessels like supply ships and submarines. The task group provides protection, support, and logistical assistance to the aircraft carrier, enabling it to carry out its missions effectively and ensuring the security of the entire formation.

In summary, aircraft carriers are indispensable assets in modern naval warfare, providing unparalleled capabilities for power projection and maritime security. As mobile airbases, they play a pivotal role in shaping the outcome of conflicts and maintaining stability in global regions, often operating within aircraft carrier task groups to maximize their effectiveness.

Task 5. Answer the questions.

1. What are the main capabilities of aircraft carriers?
2. What is the range of displacement and aircraft capacity of modern aircraft carriers?
3. What types of propulsion systems are used in aircraft carriers?
4. What are the unique features that distinguish aircraft carriers from other types of ships?
5. What are the different launch and recovery systems used on aircraft carriers?
6. What types of missions can aircraft carriers undertake?
7. What types of weaponry do aircraft carriers possess to fulfill their missions?
8. What is an aircraft carrier task group? What is its purpose? What does it typically include?

Task 6. Work in pairs.

- One partner retells the main points of the text from memory.
- The other partner listens carefully and asks questions to clarify or add missing information.
- Then, switch roles.

Task 7. Summarize the text.

Write a summary of the text in your own words. Include the most important ideas and details of the text; use relevant terminology. Write not less than 15 well-structured sentences.

UNIT 2: CRUISERS

Task 1. Learn new vocabulary.

	Word combinations	Translations
1.	Cruiser	Крейсер
2.	Surface warfare (SUW)	Бойові дії надводних сил
3.	Naval surface fire support (NSFS)	Вогнева підтримка (наземних військ) засобами морського базування
4.	Undersea warfare (USW)	Бойові дії під водою
5.	Air warfare (AW)	Бойові дії в повітрі
6.	Aegis combat system (ACS)	Багатофункціональна бойова інформаційно-керуюча система "Іджіс"
7.	Vertical launching system (VLS)	Установка вертикального пуску (УВП)
8.	Ballistic missile defense (BMD)	Оборона проти балістичних ракет
9.	Cruise missile	Крилата ракета
10.	Naval gun	Корабельна гармата
11.	Missile	Ракета
12.	Torpedo	Торпеда
13.	Survivability	Живучість (стійкість до пошкоджень)
14.	Stealth technology	Технологія "стелс"/ технологія зниження радіолокаційної, оптичної та інфрачервоної помітності
15.	Radar cross-section	Радіолокаційна ефективна площа розсіювання (ЕРП)

Task 2. Complete each sentence with the correct term from Task 1.

- _____ provides gunfire support to land forces from a ship.
- _____ is combat that takes place under the sea.
- A _____ is a long-range missile used to hit land or sea targets.
- A _____ is a large gun mounted on a ship for naval combat.
- _____ involves defending against or attacking enemy aircraft.
- _____ is a highly advanced system that allows cruisers to track and destroy multiple targets simultaneously.
- A _____ is a powerful naval ship used in many missions.
- _____ involves fighting enemy ships on the sea's surface.
- _____ helps a ship stay safe and continue to operate in combat.
- _____ makes a ship harder to detect by enemy radar.

- _____ is a missile firing system installed on a submarine or surface combat ship that launches missiles from a vessel's deck.
- The primary function of _____ is to protect naval vessels from incoming ballistic missile threats, ensuring their safety during combat operations.
- Harpoon _____ are designed for anti-ship engagements.
- A _____ is an underwater weapon used to destroy submarines.
- A ship with a small _____ is less visible to radar systems.

Task 3. Match words and word combinations with their definitions.

	Word combinations		Definitions
1.	Naval warship	A.	A coordinated group of various types of ships, organized and deployed together for combat operations.
2.	Displacement	B.	An internal combustion engine that uses gas turbines to generate power.
3.	Battle force	C.	The collective term for weapons and armaments used in military operations.
4.	Gas turbine engine	D.	The weight of the water a ship displaces when it is floating, used to measure the size of the ship.
5.	Weaponry	E.	Military operations conducted to gather information about enemy forces; often involve surveillance, intelligence, and analysis of gathered data.
6.	Reconnaissance missions	F.	The area related to the sea, including oceans, seas, coastlines, and other bodies of water.
7.	Versatility	G.	To improve the quality, effectiveness, or performance of something.
8.	Tactical advantage	H.	A military vessel specifically designed and equipped for naval warfare.
9.	Maritime environment	I.	Combined or unified into one unit to achieve a common goal or function efficiently.
10.	To enhance	J.	Having progressed beyond basic levels in terms of development or complexity.
11.	Advanced	K.	Characterized by complexity or advanced design.
12.	Sophisticated	L.	Favorable circumstances in combat which include superior firepower, better positioning, or access to advanced technology.
13.	Integrated	M.	Occurring at the same time.

14.	Simultaneously	N.	Confront or participate in a military operation or battle.
15.	To engage	O.	Ability to adapt and perform various tasks.

Task 4. Read and translate the text.

Cruisers, medium-sized (with a displacement of around 10,000 tons) and multi-mission naval warships, play a pivotal role as key members of a battle force, boasting diverse functions and capabilities. These powerful vessels are superior in ship-to-ship SUW (surface warfare) missions while also providing crucial support in NSFS (naval surface fire support), USW (undersea warfare), and AW (air warfare).

The versatility of cruisers is ensured by their adaptations and advanced technologies. Powered by four powerful gas turbine engines, cruisers obtain high speed, enabling them to undertake long-distance combat missions with ease. Equipped with the sophisticated ACS (Aegis Combat System), modern cruisers can engage and destroy multiple enemy targets. This integrated combat system is highly automated, exceptionally fast, and capable of conducting anti-air, anti-surface, and anti-submarine warfare simultaneously. VLS (vertical launching systems) enhance their combat capabilities, allowing cruisers to launch attacks over considerable distances. Moreover, cruisers equipped with BMD (ballistic missile defense) systems, which include missiles and missile launchers, can provide defense against ballistic missile attacks, safeguarding entire nations.

Cruisers are equipped with a wide array of weaponry, including advanced missile systems, naval guns, and anti-submarine warfare systems. Their armament may include Standard Missile (SM) systems for air defense, Tomahawk cruise missiles for long-range strike missions, Harpoon missiles for anti-ship engagements, and torpedoes for anti-submarine warfare. Considering their diverse weaponry, cruisers are particularly essential in anti-air, anti-surface and anti-submarine operations. They are well-equipped to handle diverse threats and capable of neutralizing incoming raids from enemy aircraft or missile attacks. Additionally, specially designed weaponry of cruisers, enable them to strike both land and sea targets at significant distances.

Additionally, stealth technology is an important feature found in many modern cruisers. This technology helps to reduce the ship's visibility to radar, making it harder for enemy forces to detect a cruiser. By employing advanced materials and design techniques, cruisers can minimize their radar cross-section, which is the measure of how detectable they are to radar systems. This stealthy design not only improves the ship's survivability in combat but also enhances its ability to operate covertly, allowing it to approach potential threats without being

noticed easily. Stealth technology also helps cruisers to evade detection by adversaries during reconnaissance missions, providing a tactical advantage in strategic operations. Overall, the integration of stealth technology represents a significant advancement in naval warfare, enabling cruisers to operate more effectively in modern maritime environments.

In summary, cruisers are indispensable units in modern naval warfare, combining firepower, versatility, and advanced technologies to fulfill a wide range of missions. As versatile powerhouses of naval warfare, they play a crucial role in maintaining maritime security and projecting power across the seas.

Task 5. Answer the questions.

1. What are the key functions and capabilities of cruisers in naval warfare?
2. How do gas turbine engines contribute to the performance of cruisers?
3. What role does the ACS (Aegis Combat System) play in modern cruisers? What types of warfare can cruisers conduct simultaneously with the Aegis Combat System (ACS)?
4. How do VLS (vertical launching systems) enhance the combat capabilities of cruisers?
5. How do cruisers contribute to naval surface fire support (NSFS)?
6. How do cruisers defend against ballistic missile attacks?
7. What types of weaponry are typically found on cruisers for different types of warfare operations?
8. How does stealth technology improve a cruiser's survivability in combat?
9. What is the benefit of cruisers having a minimized radar cross-section?
10. Why are cruisers considered indispensable units in modern naval warfare?

Task 6. Work in pairs.

- One partner retells the main points of the text from memory.
- The other partner listens carefully and asks questions to clarify or add missing information.
- Then, switch roles.

Task 7. Summarize the text.

Write a summary of the text in your own words. Include the most important ideas and details of the text; use relevant terminology. Write not less than 15 well-structured sentences.

UNIT 3: DESTROYERS

Task 1. Learn new vocabulary.

	Word combinations	Translations
1.	Destroyer	Есмінець
2.	Anti-submarine warfare (ASW)	Противовозна оборона (ПЧО)
3.	Anti-aircraft warfare (AAW)	Противовітряна оборона (ППО)
4.	Amphibious assault operation	Морська десантна операція
5.	Screen unit	Підрозділ прикриття
6.	Sonar system	Надводна система гідроакустичних локаторів
7.	Depth charge	Глибинна бомба
8.	Gas-turbine drive	Газотурбінний привід
9.	Engine/ power plant	Двигун, силова установка
10.	Surface warfare (SUW)	Бойові дії надводних сил
11.	Advanced gun system (AGS)	Корабельна 155-мм артилерійська установка
12.	Vertical launching system (VLS)	Установка вертикального пуску (УВП)
13.	Humanitarian assistance and disaster relief (HADR)	Надання гуманітарної допомоги та допомоги у ліквідації наслідків стихійних лих
14.	Search and rescue (SAR) operation	Пошуково-рятувальна операція
15.	Weaponry	Зброя, озброєння

Task 2. Complete each sentence with the correct term from Task 1.

- Modern destroyers use _____ engines to obtain high speed and maneuver effectively.
- During _____, ships help to find and rescue people in distress at sea.
- To protect against enemy aircraft, ships engage in _____.
- The _____ on a destroyer includes the machinery and systems for propulsion.
- Scientists work on developing advanced _____ to protect against new threats.
- The _____ helps detect underwater objects like enemy submarines.
- In _____, ships attack enemy submarines using special equipment.
- The _____ enables ships to launch missiles vertically.
- An _____ allows destroyers to fire at long-range targets with great accuracy.
- A _____ provides protection for larger ships in a group.
- During an _____, naval forces support troops landing on a beach.

- The newer Arleigh Burke class _____ are equipped with the Aegis system.
- _____ involves combat between naval ships on the surface of the water.
- A _____ is an explosive device used to attack submarines.
- In a _____ operations, the Navy provides medical aid and supplies during emergencies.

Task 3. Match words and word combinations with their definitions.

	Word combinations		Definitions
1.	Firepower	A.	Happening in a short time or at a fast pace.
2.	Agility	B.	The ability of a ship or vehicle to change direction easily and effectively.
3.	Rapid	C.	The protection of the seas, oceans, and other navigable waters from threats such as piracy, terrorism, illegal fishing, and smuggling.
4.	Acceleration	D.	To accompany and protect a ship, convoy, or person as they travel.
5.	Maneuverability	E.	The ability to move quickly and easily.
6.	Torpedo	F.	A danger or potential attack that comes from below the surface of the water, such as submarines or underwater mines.
7.	Maritime security	G.	The ability to target or hit a specific point with great accuracy.
8.	To escort	H.	A catastrophic event caused by natural forces, such as earthquakes, hurricanes, floods, or tsunamis.
9.	Subsurface threat	I.	The amount of destructive power that a weapon or military unit can deliver.
10.	To handle	J.	Essential goods provided to people during or after a disaster, including food, water, medicine, and shelter materials.
11.	Distressed vessel	K.	The process of increasing speed.
12.	To contribute	L.	To give or provide something, such as effort, resources, or support, towards a common goal.
13.	Relief supplies	M.	A self-propelled underwater missile designed to be launched from a ship or submarine to target and destroy other ships or submarines.
14.	Natural disaster	N.	A ship or boat in trouble or experiencing difficulties, often requiring assistance.
15.	Precision	O.	To manage or deal with a situation, object, or task.

Task 4. Read and translate the text.

In today's Navy, destroyers and cruisers perform vital roles in naval operations, each with its own set of duties and capabilities. Destroyers, often referred to as the "workhorses" of the fleet, fulfill a wide range of duties, including ship-to-ship combat, protection of carrier task groups, anti-submarine warfare (ASW), anti-aircraft warfare (AAW), and amphibious assault support. They can serve as part of a screen unit in a carrier task group, providing protection against various forms of attack. Additionally, destroyers are distinguished by detecting and engaging enemy submarines, aircraft, missiles, and surface ships. In amphibious assaults, their weaponry aids in protecting against enemy forces at sea and ashore. Their agility, speed, firepower and utilization of Aegis combat system make them versatile units in both offensive and defensive operations.

Historically, destroyers were relatively small vessels, but today's destroyers, such as the Spruance-class and Arleigh Burke-class, are much larger, displacing around 8000 tons, and more technologically advanced. They were the first major ships to be powered by gas turbines, featuring 80,000-horsepower, gas-turbine-drive power plants capable of reaching full speed in just 12 minutes, enabling rapid acceleration and maneuverability.

Destroyers possess some specialized capabilities:

- Anti-submarine warfare (ASW): Destroyers utilize advanced sonar systems, depth charges, and torpedoes to detect and neutralize enemy submarines, protecting naval assets and maintaining maritime security.
- Escort duties: Destroyers serve as escorts for larger vessels, providing protection against air, surface, and subsurface threats.
- Carrier task group: Although destroyers can operate independently, they typically function as part of a screen unit. Being equipped with vertical launching system (VLS) to handle anti-air and anti-aircraft missiles, destroyers' primary tasks include detecting enemy units and providing defense in AAW (anti-aircraft warfare) and ASW (anti-submarine warfare) operations. Equipped with torpedoes, missiles, and anti-submarine rockets, destroyers engage in surface warfare utilizing advanced gun systems (AGS).
- Search and rescue (SAR) operations: Destroyers play a vital role in SAR missions, providing medical support and assistance to distressed vessels and personnel.
- Humanitarian assistance and Disaster relief (HADR): Destroyers contribute to HADR efforts by providing medical aid, transporting relief supplies, and coordinating rescue operations in response to natural disasters.

Overall, destroyers are indispensable units in modern naval operations, capable of performing a wide range of missions with precision and efficiency. As

guardians of the seas, they play a crucial role in ensuring maritime security and safeguarding the interests of nations worldwide.

Task 5. Answer the questions.

1. What are the primary duties and capabilities of destroyers in naval operations?
2. What technological advancements distinguish modern destroyers from their historical counterparts?
3. How do destroyers assist in amphibious assaults?
4. What specialized capabilities do destroyers possess for anti-submarine warfare (ASW)?
5. How do destroyers contribute to the operation of carrier task groups?
6. What roles do destroyers play in search and rescue (SAR) operations?
7. How do destroyers contribute to humanitarian assistance and disaster relief (HADR) efforts?
8. What specific systems and weapons do destroyers utilize?
9. Why are destroyers considered versatile units in both offensive and defensive operations?

Task 6. Work in pairs.

- One partner retells the main points of the text from memory.
- The other partner listens carefully and asks questions to clarify or add missing information.
- Then, switch roles.

Task 7. Summarize the text.

Write a summary of the text in your own words. Include the most important ideas and details of the text; use relevant terminology. Write not less than 15 well-structured sentences.

UNIT 4: FRIGATES

Task 1. Learn new vocabulary.

	Word combinations	Translations
1.	Frigate	Фрегат
2.	Replenishment	Поповнення запасів
3.	Merchant ship convoy	Супровід торгових суден
4.	Advanced electronic warfare system	Передова система радіоелектронної боротьби
5.	Combined diesel electric and gas (CODLAG) propulsion system	Комбінована морська енергетична установка ("Комбіновані дизель-електрика та газ")
6.	Protection of shipping (POS)	Оборона судноплавства
7.	Short-range	З малим радіусом дії; ближнього радіусу дії
8.	Long-range strike	Удар на великій відстані
9.	Amphibious (assault) forces	Морський десант; морські десантно-штурмові сили
10.	Power projection	Проекція сили (здатність держави розгорнути та забезпечувати війська за межами своєї території)
11.	Armor	Броня
12.	Anti-air missile	Зенітна керована ракета (ЗКР)
13.	Cruise missile	Крилата ракета
14.	Advanced gun system	Корабельна 155-мм артилерійська установка
15.	Threat	Загроза

Task 2. Complete each sentence with the correct term from Task 1.

- The _____ on modern ships allows them to engage enemy targets with precision.
- _____ combat involves engaging enemy forces at close range.
- An _____ is designed to destroy incoming enemy aircraft or missiles.
- A _____ is a guided weapon used to attack targets at great distances.
- The _____ helps a ship detect and disrupt enemy communications and radar.
- A _____ is a type of warship designed for protecting other ships and conducting various missions.
- The _____ allows the ship to switch between different types of engines for better efficiency.
- The Navy ensures the safety of commercial ships through _____.

- _____ are specialized units that carry out beach landings and support ground troops.
- During a _____ operation, naval vessels refuel or resupply while at sea.
- Naval forces must be ready to respond to any _____ that could endanger their mission.
- _____ is the protective layer on a warship that helps resist damage from attacks.
- The concept of _____ involves projecting military force far from a nation's own territory.
- The _____ relied on naval escorts to navigate safely through areas known for hostile activity.
- A _____ is a military attack from a distance, often using missiles.

Task 3. Match words and word combinations with their definitions.

	Word combinations		Definitions
1.	Naval gun	A.	The capability of a ship, aircraft, or vehicle to change direction easily.
2.	Advancement	B.	To defend against an attack or threat.
3.	Significant	C.	Designed for attacking, particularly in a military context.
4.	To counter	D.	The process of improving or increasing the quality or effectiveness of something.
5.	Survivability	E.	Highly developed, complex, or advanced.
6.	Enhancement	F.	The most innovative technology currently available.
7.	Valuable	G.	A large-caliber weapon mounted on a warship.
8.	Maneuverability	H.	Noticeable, important, especially in leading to a different result or an important change.
9.	Sophisticated	I.	Having great worth, usefulness, or importance.
10.	Cutting-edge technology	J.	The weapons and military equipment that a ship, aircraft, or military unit carries for combat.
11.	Robust	K.	The process of making progress or moving forward, especially in technology.
12.	Offensive	L.	Designed to protect or defend against attack or harm.
13.	Defensive	M.	To speak too proudly about what you have done or what you own.
14.	Armament	N.	The ability of a ship, vehicle, or system to remain functional after a damage.

15.	To boast	O.	Strong and capable of withstanding difficult conditions.
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Task 4. Read and translate the text.

Frigates are versatile warships that play essential roles in naval operations. They are smaller than destroyers, with less firepower and armor, but frigates compensate with high maneuverability and specialized capabilities.

Frigates first appeared in the U.S. Navy during World War II, initially designated as destroyer escorts (DE) designed to protect amphibious forces, support replenishment operations, and defend merchant ship convoys. Modern frigates represent significant advancements in naval technology and capability. These vessels feature an improved design that allows them to destroy surface ships, detect enemy submarines, defend convoys, and employ advanced electronic warfare systems, including both active and passive electronic warfare systems to counter enemy detection and targeting efforts. Modern frigates utilize a Combined Diesel Electric and Gas (CODLAG) propulsion system, which significantly enhances their operational range and efficiency. Moreover, modern frigates boast increased survivability, being equipped with advanced missile systems and other sophisticated armaments.

The above mentioned enhancements ensure frigates are valuable in different scenarios, including:

- Anti-Submarine Warfare (ASW): Frigates are equipped with advanced sonar systems and torpedoes, making them highly effective in detecting and neutralizing enemy submarines.
- Protection of Shipping (POS): They escort slower ships, such as merchant convoys and amphibious forces, offering protection against surface and undersea threats.
- Versatile Combat: Frigates are designed to operate independently or as part of larger task groups, providing critical support and protection. Despite their limited firepower compared to destroyers, frigates engage in short-range combat effectively and are particularly valuable in anti-submarine operations. They also have vertical launching systems (VLS) for anti-air and anti-surface missiles, enabling them to conduct anti-air warfare (AAW) and surface warfare (SUW).

Frigates carry a range of weaponry, including naval guns, missiles, and torpedoes. Their armament typically includes anti-air missiles, cruise missiles for long-range strikes, anti-ship missiles, and ASW torpedoes. The integration of advanced gun systems provides additional firepower for surface engagements and

enhances their combat effectiveness by performing various offensive and defensive roles.

In summary, frigates are vital components of modern navies, combining versatility, cutting-edge technology, and specialized capabilities to perform a wide range of missions. Their evolution reflects the continuous advancements in naval warfare, ensuring they remain indispensable in maintaining robust maritime security and projecting power across the seas.

Task 5. Answer the questions.

1. What missions distinguish modern frigates from those used during World War II?
2. How do modern frigates differ from their predecessors in terms of technology and capability?
3. What propulsion system is commonly used in modern frigates, and how does it enhance their operational range?
4. What role do frigates play in the Protection of Shipping (POS)?
5. How can frigates adapt to various combat tasks?
6. What types of weaponry do frigates typically carry for combat operations?
7. What makes frigates particularly valuable in anti-submarine operations?
8. Why are frigates considered vital components of modern navies despite having less firepower than destroyers?

Task 6. Work in pairs.

- One partner retells the main points of the text from memory.
- The other partner listens carefully and asks questions to clarify or add missing information.
- Then, switch roles.

Task 7. Summarize the text.

Write a summary of the text in your own words. Include the most important ideas and details of the text; use relevant terminology. Write not less than 15 well-structured sentences.

UNIT 5: SUBMARINES

Task 1. Learn new vocabulary.

	Word combinations	Translations
1.	Submarine	Підводний човен
2.	Attack submarine (SSN)	Ударний (багатоцільовий) підводний човен
3.	Intelligence, surveillance and reconnaissance (ISR)	Розвідка, спостереження та рекогностування (РСП)
4.	Guided-missile submarine (SSGN)	Ракетний підводний човен
5.	Fleet ballistic-missile submarine (SSBN)	Підводний човен (атомний), озброєний балістичними ракетами
6.	Special operations forces (SOF)	Сили спеціальних операцій
7.	Nuclear missile exchange	Обмін ядерними ударами
8.	Electronic warfare system	Система радіоелектронної боротьби
9.	Sonar system	Система гідроакустичних локаторів
10.	Propulsion system	Рухова установка; силова установка
11.	Task force	Оперативне з'єднання/ група
12.	Landing force	Десантна група
13.	Mine laying	Встановлення мін
14.	Wire-guided torpedo	Торпеда, керована по дротах
15.	Nuclear deterrence	Ядерне стримування

Task 2. Complete each sentence with the correct term from Task 1.

1. A _____ can be directed to its target through a wire connected to the submarine that launched it.
2. _____ submarines are designed to hunt and destroy enemy submarines and ships.
3. Submarines equipped with an _____ can disrupt enemy radar and communications.
4. The primary mission of a _____ is to prevent enemy nuclear attacks.
5. Submarines often provide _____ support to larger naval groups by offering protection and firepower.
6. An _____ is a mission that involves gathering information and monitoring enemy activities.
7. A _____ is a vessel capable of underwater operations, often used for stealth missions.
8. During a _____ support, submarines help secure the area where troops are landing.

9. The _____ can launch ballistic missiles and plays a crucial role in nuclear deterrence.
10. Some submarines are designed to support _____ by transporting and deploying special operations teams.
11. In the event of a _____, submarines could be involved in launching nuclear missiles.
12. The _____ is equipped to perform intelligence gathering and precision strikes with cruise missiles.
13. The _____ on a submarine helps detect other underwater objects and threats.
14. A submarine might undertake a _____ mission to lay mines in strategic locations.
15. The ship's _____ combines diesel engines and gas turbines, providing both high speed and fuel efficiency.

Task 3. Match words and word combinations with their definitions.

	Word combinations		Definitions
1.	Substantial	A.	The ability of a vehicle, vessel, or aircraft to operate without being refueled, resupplied, or maintained.
2.	Depth	B.	The activity of fighting a war, often including the weapons and methods that are used.
3.	Warfare	C.	The ability to move, operate, or conduct activities in a way that avoids detection.
4.	Nuclear powered	D.	Large in size, value or importance.
5.	Land attack	E.	An organized effort to save people from dangerous or life-threatening situations, often conducted by military or emergency services.
6.	Strategic mission	F.	A vessel or device which is driven by nuclear energy.
7.	Submersible	G.	Central or key; important because other things depend on it.
8.	Range	H.	A vessel designed to be used or to operate underwater.
9.	Endurance	I.	Unfriendly, aggressive; often used to describe enemy forces or environments in a military context.
10.	Stealth	J.	The distance which refers to how deep a vessel can go underwater.
11.	Rescue operation	K.	A military operation aimed at striking

			targets on land, often involving missiles or artillery launched from ships, submarines, or aircraft.
12.	Pivotal	L.	A high-priority operation planned to achieve long-term objectives, often with significant impact on the overall success of a military campaign or national security goals.
13.	To alternate	M.	The maximum distance a ship or vehicle can travel on a full tank of fuel or within its operational capabilities.
14.	Hostile	N.	Essential items, such as food, equipment, or ammunition, that are necessary for a military operation or survival.
15.	Supplies	O.	To take turns or switch between two or more things, actions, or states.

Task 4. Read and translate the text.

Submarines play a critical role in modern naval operations, providing both offensive and defensive capabilities beneath the ocean surface. This type of vessels have evolved significantly since their initial use in warfare. Early submarines were relatively small and limited in capability. Modern submarines, however, are highly sophisticated and capable of operating at greater depths with advanced propulsion systems, such as nuclear reactors, which provide them with substantial operational range and endurance, allowing them to operate for extended periods, limited only by the endurance of their crews' supplies. Modern submarines are equipped with a variety of specialized capabilities, including advanced sonar systems for detecting enemy submarines, electronic warfare systems for countering enemy sensors, and stealth technologies to reduce their detectability.

The Navy classifies submarines into several types based on their roles and the weapons they carry: attack submarines (SSNs), guided-missile submarines (SSGNs), and fleet ballistic-missile submarines (SSBNs).

Attack submarines (SSNs) are primarily designed to seek and destroy enemy submarines and surface ships. They are also equipped for secondary missions, including intelligence, surveillance, reconnaissance (ISR), direct task-force support, landing-force support, land attacks, mine laying, and rescue operations. Armed with high-speed, wire-guided torpedoes and cruise missiles, SSNs can engage targets on both land and sea.

Fleet ballistic-missile submarines (SSBNs), equipped to launch intercontinental ballistic missiles (ICBMs) during strategic missions, particularly in the event of a nuclear missile exchange, have a strategic role. These submarines

are pivotal in nuclear deterrence, capable of causing significant destruction of targets thousands of miles away. SSBNs operate under a dual-crew system, with blue and gold crews alternating to maintain continuous patrols. This system allows one crew to rest and train while the other is on patrol, ensuring the SSBNs remain ready to execute their missions without prolonged interruptions.

Guided-missile submarines (SSGNs) are another key type, capable of destroying enemy ships and submarines like SSNs, but also designed to insert special operations forces (SOF) into hostile territory. These submarines are versatile platforms that significantly extend the range and power of naval forces.

In summary, submarines are vital components of modern naval forces, offering unmatched stealth, firepower, and versatility. Their ability to perform a variety of missions – from direct combat to strategic deterrence – makes them indispensable units in maintaining maritime security and national defense.

Task 5. Answer the questions.

1. How have submarines evolved since their initial use in warfare?
2. What are the primary roles of attack submarines (SSNs)?
3. What is the strategic role of fleet ballistic-missile submarines (SSBNs)?
4. How do SSBNs operate under a dual-crew system?
5. What capabilities do guided-missile submarines (SSGNs) possess?
6. Why are modern submarines equipped with stealth technologies?
7. What makes submarines vital components of modern naval forces?

Task 6. Work in pairs.

- One partner retells the main points of the text from memory.
- The other partner listens carefully and asks questions to clarify or add missing information.
- Then, switch roles.

Task 7. Summarize the text.

Write a summary of the text in your own words. Include the most important ideas and details of the text; use relevant terminology. Write not less than 15 well-structured sentences.

UNIT 6: AMPHIBIOUS WARFARE SHIPS

Task 1. Learn new vocabulary.

	Word combinations	Translations
1.	Amphibious warfare ship	Десантний корабель
2.	Amphibious command ship	Десантний корабель управління
3.	Amphibious transport dock	Десантний транспорт-док, посадкова платформа/ док
4.	Dock landing ship	Десантний транспорт-док
5.	General-purpose assault ship	Універсальний десантний корабель
6.	Multipurpose assault ship	Багатоцільовий десантний корабель
7.	Tank landing ship	Танкодесантний корабель
8.	Assault landing	Висадка десанту в умовах протидії противника
9.	Air-cushion landing craft	Десантні кораблі на повітряній подушці
10.	Deployment	Розгортання сил та засобів (військ)/ дислокація/ введення в дію
11.	Antisubmarine helicopter	Протичовновий вертоліт
12.	Sea control	Контроль над морським простором
13.	Well deck	Колодязна палуба
14.	Waterborne	Такий, що перевозиться водним транспортом/ плаваючий
15.	Bow ramp	Носова апарель

Task 2. Complete each sentence with the correct term from Task 1.

- During an _____ soldiers move from ships to land to start an attack.
- A _____ is a part of the ship that lowers to let vehicles or soldiers get onto land.
- _____ is important for keeping the ocean safe for allied ships.
- An _____ is fast and can move across both water and land.
- A _____ is a space in a ship that can be filled with water to launch smaller boats.
- A _____ vehicle can move easily on rivers or the sea.
- _____ means sending soldiers and equipment to a place where they are needed.
- A _____ is used to carry heavy equipment, like tanks, directly onto a beach.

- An _____ can find and attack submarines to protect the fleet.
- The _____ is a vessel designed for operations that involve both sea and land, typically used for troop landings and coastal assaults.

Task 3. Match words and word combinations with their definitions.

	Word combinations		Definitions
1.	Floodable	A.	Combined teams comprising both navy and marine personnel, working together on amphibious operations.
2.	Assault landing	B.	Complicated planning and coordination of resources and movements in amphibious operations.
3.	Navy-Marine Corps team	C.	Enclosed areas on ships that can be flooded to launch and retrieve landing craft and vehicles.
4.	Versatility	D.	Military activities conducted in the air, such as reconnaissance or air support.
5.	Operational demands	E.	Military operations where troops land on a hostile shore to attack or establish a foothold.
6.	Large-scale amphibious warfare operation	F.	Happening or being done at exactly the same time
7.	Operational experience	G.	Remove something from a container or vehicle and put somewhere else.
8.	To boast	H.	Able to be flooded.
9.	Simultaneous	I.	Extensive military operations involving multiple amphibious warfare ships and personnel.
10.	To offload	J.	To speak too proudly about what you have done or what you own.
11.	V/STOL (vertical/short takeoff and landing) aircraft	K.	Ability to carry and deploy helicopters.
12.	Complex logistics	L.	Ability to adapt or be used for various purposes.
13.	Well deck	M.	Aircraft capable of vertical or short takeoff and landing.
14.	Helicopter capacity	N.	The specific requirements or needs of a military operation.
15.	Aerial operation	O.	Knowledge and lessons gained from previous military operations.

Task 4. Read and translate the text.

In naval operations, different types of ships are used for various missions. While aircraft carriers are powerful, they're not suited for every task. Certain missions require the specialized capabilities of amphibious warfare ships, often referred to as "amphibs" or "gators". These vessels operate primarily at the intersection of sea and land, facilitating assault landings executed by Navy-Marine Corps teams. Their roles vary from command centers to troop and equipment transport, meeting diverse operational demands.

At the core of amphibious operations are Amphibious Command Ships (LCC), serving as pivotal command hubs where officers issue orders and oversee missions. Dock Landing Ships (LSD) play a crucial role in transporting troops and equipment for assault landings, boasting versatility essential for various operations. Meanwhile, Amphibious Transport Docks (LPD) are more suitable for helicopter-based operations, offering greater capacity than Dock Landing Ships for troop helicopter deployment.

In large-scale amphibious warfare operations, two main categories of ships emerge. General-Purpose Assault Ships (LHA), second only to aircraft carriers in size, conduct simultaneous helicopter and landing-craft operations. These vessels, resembling aircraft carriers in size and functionality, play pivotal roles in complex missions. Multipurpose Assault Ships (LHD) built upon the operational experience of LHAs, incorporating advancements such as air-cushion landing craft (LCACs) and heavy helicopters. They undertake diverse functions, including sea control through the deployment of antisubmarine helicopters and V/STOL (vertical/short takeoff and landing) aircraft.

A variety of ships handle the complex logistics of amphibious operations. Tank-Landing Ships (LST) facilitate direct beach landings, offloading tanks, artillery, and logistics vehicles with their extendable bow ramps. Dock-Landing Ships (LSD) feature floodable well decks to launch waterborne landing craft and vehicles, with limited helicopter-handling capabilities. Amphibious Transport Docks (LPD) are alike LSDs but offer enhanced helicopter capacity, facilitating more extensive aerial operations.

In summary, amphibious warfare ships play essential roles in Navy-Marine Corps operations, offering a wide range of capabilities designed for the challenges of coastal landings and amphibious assaults. From command centers to troop transport and aerial operations, these vessels form the backbone of amphibious operations, ensuring mission success in various operational environments.

Task 5. Complete each sentence with the name of a ship type from Task 1.

1. _____ are like floating headquarters, which provide control and

communication facilities for commanders from sea, air, and land forces.

2. _____ are designed to carry troops and equipment, and obtain decks that can be flooded to allow the deployment of smaller waterborne craft and vehicles during assault landings.
3. _____ play a crucial role in deploying troops and equipment, and are similar to LSD but can carry more helicopters for operations requiring air support.
4. _____ can drive right onto shores and unload heavy equipment, tanks, artillery, and logistic vehicles.
5. _____ have both flight and well decks, thus can launch helicopters and landing craft at the same time.
6. _____ are like upgraded LHAs which can operate air-cushion landing craft and can even control the sea by using special helicopters.

Task 6. Answer the questions.

1. What are the specialized capabilities of amphibious warfare ships?
2. What is the role of Amphibious Command Ships (LCC) in naval operations?
3. What feature makes Dock Landing Ships (LSD) versatile for various operations?
4. What distinguishes General-Purpose Assault Ships (LHA) from other types of amphibious warfare ships?
5. How do Multipurpose Assault Ships (LHD) differ from General-Purpose Assault Ships (LHA) in terms of functionality?
6. What logistical functions do Tank-Landing Ships (LST) serve in amphibious operations?
7. How do Amphibious Transport Docks (LPD) differ from Dock-Landing Ships (LSD)?

Task 7. Work in pairs.

- One partner retells the main points of the text from memory.
- The other partner listens carefully and asks questions to clarify or add missing information.
- Then, switch roles.

Task 8. Summarize the text.

Write a summary of the text in your own words. Include the most important ideas and details of the text; use relevant terminology. Write not less than 15 well-structured sentences.

UNIT 7: PATROL COMBATANTS

Task 1. Learn new vocabulary.

	Word combinations	Translations
1.	Patrol combatant ship	Патрульний бойовий корабель
2.	Patrol coastal ship	Малий патрульний корабель
3.	Small-scale operation	Дрібномасштабна операція
4.	Littoral	Прибережний, узбережний
5.	Shallow water environment	Мілководдя
6.	Waterway	Водний шлях
7.	Machine gun	Кулемет
8.	Terrorist attack	Терористичний напад
9.	Coastal interdiction operation	Операція з забезпечення берегової охорони
10.	Special warfare operation	Операція сил спеціального призначення
11.	High-value target	Особливо важлива ціль
12.	Humanitarian assistance	Гуманітарна підтримка
13.	Disaster relief mission	Операція з надання допомоги у разі стихійного лиха (надзвичайної ситуації)
14.	Natural disaster	Стихійне лихо
15.	Joint exercise	Об'єднане (міжвидове) навчання
16.	Search and rescue operation	Пошуково-рятувальна операція

Task 2. Complete each sentence with the correct term from Task 1.

- _____ are superior in littoral observation and small-scale warfare operations.
- _____ areas are critical for the operations of PCs, allowing them to patrol ports and coastlines effectively.
- The navy deployed patrol combatant ships for a _____ to monitor areas close to the shore.
- PCs can navigate and operate in a _____, such as rivers and coastal regions.
- Each ship is armed with a _____ to defend against a variety of threats.
- One of the primary missions of PCs is to conduct _____, preventing illegal activities near the coast.
- The patrol combatant ships were on high alert to prevent any potential _____ in the busy port area.
- The patrol combatant ships delivered food and medical supplies as part of a _____ mission to the affected region.

- In a _____, PCs may be tasked with neutralizing significant threats to national security.
- During the special warfare operation, the patrol combatant ships successfully neutralized a _____ that posed a significant threat to national security.
- The patrol combatant ships took part in a _____ to help people after the earthquake.
- The patrol combatant ships were quickly deployed to conduct a _____ after the fishing boat sent a distress signal.
- After a _____, PCs can deliver critical aid and assist affected populations.
- Their agility and speed make them perfect for any kind of _____.
- The patrol combatant ships participated in _____ with allied navies to enhance their operational capabilities and strengthen cooperation.

Task 3. Match words and word combinations with their definitions.

	Word combinations		Definitions
1.	Agility	A.	The destructive capacity of guns, missiles, or other weapons.
2.	Versatility	B.	Fishing activities that are against the law or regulations.
3.	Firepower	C.	The act of attacking and robbing ships at sea.
4.	Piracy	D.	The act of watching carefully for specific purposes.
5.	Smuggling	E.	To discourage or prevent someone from taking action.
6.	Illegal fishing	F.	Ability to move quickly and easily.
7.	Interoperability	G.	The ability of military forces to work together effectively.
8.	Observation	H.	To protect something from harm or damage.
9.	Trade route	I.	Ability to adapt to many different functions or activities.
10.	To deter	J.	To come into view or become apparent.
11.	To safeguard	K.	The illegal transportation of goods or people.
12.	To emerge	L.	A sea or land route used by traders to transport goods.
13.	Adversary	M.	To enter into combat or conflict with an enemy.
14.	To engage	N.	To stop or seize something on its way from one place to another.
15.	To intercept	O.	An opponent or enemy.

Task 4. Read and translate the text.

Aircraft carriers are powerful assets in naval operations, projecting unparalleled force, but their immense size makes them unsuitable for small-scale tasks. In contrast, patrol combatant ships, also known as Patrol Coastal Ships (PCs), are superior in littoral observation and small-scale warfare operations. These vessels, measuring 50 meters in length and capable of speeds up to 35 knots, possess agility and versatility crucial for swift responses to emerging threats.

Operating in shallow waters inaccessible to larger ships, PCs patrol ports, coastlines, and waterways, from rivers to oceans, ready to address any situation that may arise. Their primary mission is to safeguard national homeland security by executing coastal interdiction operations aimed at countering and reducing the risk of terrorist attacks.

Despite their lighter armament compared to larger vessels, Patrol Coastal Ships are equipped with sufficient firepower to carry out various missions. Fitted with 25-mm machine guns and surface-to-air Stinger missiles, they can defend against a range of threats while also maintaining offensive capabilities to engage adversaries effectively. Moreover, PCs play a crucial role in hazardous special warfare operations targeting high-value objectives.

Beyond their offensive capabilities, Patrol Coastal Ships (PCs) often serve as the frontline defense against maritime threats such as piracy, smuggling, and illegal fishing activities. Their agility and speed make them ideal for intercepting and deterring these prohibited activities, thereby safeguarding maritime trade routes and ensuring maritime security.

Furthermore, PCs are also frequently deployed in humanitarian assistance and disaster relief missions. Their ability to operate in shallow waters and access remote coastal areas allows them to provide crucial aid and support during natural disasters, such as hurricanes, tsunamis, and earthquakes. They can deliver supplies, evacuate civilians, and assist in search and rescue operations, playing a vital role in humanitarian efforts around the world.

Patrol Coastal Ships often conduct maritime security patrols and presence operations in strategic regions to assert national sovereignty, monitor maritime traffic, and deter potential adversaries. These patrols contribute to maintaining stability and peace in the maritime domain, thus fostering global security and stability.

Additionally, PCs are integral components of multinational maritime security partnerships and coalitions. They frequently participate in joint exercises, training missions, and collaborative patrols with navies from allied and partner nations to enhance interoperability, build trust, and strengthen maritime security cooperation.

Overall, Patrol Coastal Ships play a multiple role in modern naval operations, ranging from coastal defense and maritime security to humanitarian assistance and international cooperation. Their versatility, agility, and firepower make them compulsory units in safeguarding maritime interests and promoting peace and stability at sea.

Task 5. Answer the questions.

1. What are the advantages of patrol combatant ships (PCs) in littoral observation and small-scale warfare operations?
2. Describe the size and speed capabilities of patrol combatant ships (PCs) as mentioned in the text.
3. What is the primary mission of patrol combatant ships in terms of national homeland security? How is it fulfilled?
4. What armaments are patrol combatant ships equipped with to carry out various missions effectively?
5. What offensive capabilities do PCs have?
6. In what types of operations do patrol coastal ships play a crucial role beyond offensive capabilities?
7. How do patrol combatant ships contribute to humanitarian assistance and disaster relief missions?
8. How do Patrol Coastal Ships enhance international maritime security cooperation with allied and partner nations?

Task 6. Work in pairs.

- One partner retells the main points of the text from memory.
- The other partner listens carefully and asks questions to clarify or add missing information.
- Then, switch roles.

Task 7. Summarize the text.

Write a summary of the text in your own words. Include the most important ideas and details of the text; use relevant terminology. Write not less than 15 well-structured sentences.

UNIT 8: MISSILES AND ROCKETS

Task 1. Learn new vocabulary.

	Word combinations	Translations
1.	Ordnance	Озброєння, боєприпаси
2.	Airframe	Конструкція літального апарата (планер / каркас / корпус ЛА)
3.	Powerplant	Силова установка
4.	Warhead	Бойова частина (БЧ); боеголовка
5.	Guidance system	Система наведення
6.	Inertial guidance	Інерціальне наведення
7.	Homing guidance	Самонаведення
8.	Command guidance	Командне управління (наведення)
9.	Air-to-ground missile (AGM)	Авіаційна керована ракета класу "повітря-земля"
10.	To intercept	Здійснювати перехоплення
11.	Underwater-to-surface guided missile	Керований реактивний снаряд класу "підводний човен-земля"
12.	Active/ semi-active/ passive homing	Активне/ напівактивне/ пасивне самонаведення
13.	Conventional explosive	Звичайна вибухова речовина
14.	Nuclear explosive	Ядерний заряд
15.	Radar beam guiding	Навідний по радіолокаційному променю

Task 2. Complete each sentence with the correct term from Task 1.

- The _____ of a missile is the main structure that holds its components together.
- The missile's _____ provides the propulsion needed to reach its target.
- The _____ is the part of a missile that carries payload, which can be conventional or _____ explosive.
- An _____ is a specifically designed missile that strikes targets on land from an aircraft.
- The _____ of a missile ensures it can reach an intended target accurately.
- _____ uses sensors inside the missile to navigate, while _____ makes the missile follow its target by detecting its position.
- In _____ a missile is controlled by signals sent from outside, like from a radar or an operator.
- Submarines use an _____ to hit targets above water.
- Some missiles use _____ to follow and track the target's movements by themselves.

10. Pilots may launch missiles designed to _____ incoming threats, such as enemy aircraft or projectiles.

11. Some missiles use _____ to follow a path set by radar waves.

Task 3. Match words and word combinations with their definitions.

	Word combinations		Definitions
1.	Rocket	A.	A problem or something that makes it harder to succeed.
2.	Missile	B.	To stay strong against something, like heat or pressure, without breaking.
3.	Explosive	C.	Happening all the time or very often without stopping.
4.	To withstand	D.	To follow or watch the movement of something, like using radar to follow a plane.
5.	Extended range	E.	To send out something, like light, heat, or a signal
6.	Constantly	F.	A shape or signal made by heat that can be used to find something.
7.	To propel	G.	The ability of a missile or rocket to travel over long distances.
8.	Direction	H.	Warmth or high temperature.
9.	To track	I.	The way something is moving or pointing.
10.	To emit	J.	A weapon like a rocket but with a system that allows it to change direction while flying.
11.	Heat pattern	K.	Flying in the air.
12.	Disadvantage	L.	A weapon that flies through the air using an engine but cannot change its path after being fired.
13.	To launch	M.	A material that can cause a big burst of energy, like an explosion.
14.	Airborne	N.	To push something forward with force, like a rocket being pushed into the air.
15.	Heat	O.	To send something into the air, like firing a missile or rocket.

Task 4. Read and translate the text.

When people think of combat at sea, they often imagine powerful guns. However, in modern naval operations, rockets and missiles are considered the most important weapons because of their long-range capabilities. Both ordnances are propelled into the air and carry explosives to damage enemy targets.

Rockets and missiles share several components, including the airframe, powerplant, and warhead. The airframe is the body of the rocket or missile, which holds all other components and determines its flight characteristics. It is made of lightweight but strong materials, which can withstand extreme heat and pressure. The powerplant is the engine that propels the rocket or missile. The warhead is the part of the missile or rocket that does the damage. It contains explosives, which can be either conventional or nuclear, depending on the mission.

While they are similar in many ways, there are key differences between them. The main difference between rockets and missiles lies in their guidance systems. A rocket cannot change its course once it is fired. It is simply propelled by a powerplant and carries an explosive warhead to its target. On the other hand, a missile has a guidance system that allows it to change its direction mid-flight to better hit its target. This key advantage makes missiles more accurate than rockets.

There are four main types of guidance systems used in missiles:

1. **Inertial Guidance:** This system uses a pre-programmed flight path in the missile's onboard computer. The computer constantly checks the missile's speed and direction and makes corrections to keep it on course.
2. **Homing Guidance:** In this system, the missile detects and tracks its target using radar, optical devices, or heat-seeking methods. There are three types of homing guidance:
 - **Active Homing:** The missile emits a signal that is reflected off the target.
 - **Semi-Active Homing:** The signal is emitted from the launching ship or aircraft, not the missile itself.
 - **Passive Homing:** The missile does not emit any signal but instead uses the target's emissions, such as radar or heat, to track it.
3. **Command Guidance:** This system uses a computer to monitor the missile's progress and sends instructions to change its course to ensure it hits the target.
4. **Beam-Riding Guidance:** In this system, the missile follows a radar beam directed at the target. The missile's onboard computer ensures it stays within the radar beam. If it moves out of the beam, it will destroy itself.

Although they all have guidance, not all missiles are directed to the same type of targets. There are various types of missiles based on their targets. For example:

- **Air-to-Ground Missiles (AGM):** These missiles are launched from aircraft to target ground or surface units.
- **Rocket Intercept Missiles (RIM):** These missiles are used to intercept and destroy enemy rockets fired at a ship.
- **Air Intercept Missiles (AIM):** These missiles detect and destroy airborne enemy weapons using heat patterns.

- **Underwater Guided Missiles (UGM):** These are launched from submarines and target surface ships.

The main advantage of rockets and missiles over guns is their extended range. Missiles, in particular, offer greater accuracy, making them more effective than rockets. However, the main disadvantage of rockets and missiles is their high cost. Both rockets and missiles can be launched from ships, submarines, or aircraft, depending on the mission.

While guns were once the primary weapon for naval combat, missiles and rockets now play a dominant role in modern warfare due to their range, accuracy, and ability to target specific threats.

Task 5. Answer the questions.

1. Why are rockets and missiles more important than guns in modern naval operations?
2. What are the main components of rockets and missiles?
3. What is the primary function of the airframe in rockets and missiles?
4. How does a missile differ from a rocket?
5. What are the four main types of missile guidance systems?
6. What are the three types of homing guidance, and how do they work?
7. What is the purpose of Air-to-Ground Missile (AGM) and Rocket Intercept Missile (RIM)?
8. Why are missiles more accurate than rockets?
9. What are the main advantages and disadvantages of rockets and missiles compared to guns?
10. Why have rockets and missiles replaced guns as the dominant weapons in naval warfare?

Task 6. Work in pairs.

- One partner retells the main points of the text from memory.
- The other partner listens carefully and asks questions to clarify or add missing information.
- Then, switch roles.

Task 7. Summarize the text.

Write a summary of the text in your own words. Include the most important ideas and details of the text; use relevant terminology. Write not less than 15 well-structured sentences.

UNIT 9: BOMBS, TORPEDOES AND MINES

Task 1. Learn new vocabulary.

	Word combinations	Translations
1.	Guided/ non-guided bomb	Керована/ некерована бомба
2.	Practice bomb	Тренувальна бомба
3.	Case, fuze, tail assembly, arming-wire assembly	Корпус міни, детонатор, хвостове оперення, запобіжник
4.	Semi-armor-piercing bomb	Напівброньована авіаційна бомба
5.	Chemical warfare bombs	Бомби з бойовими отруйними речовинами
6.	Bomb clusters	Бомбові касети
7.	Fragmentation bomb	Осколкова бомба
8.	Incendiary bomb	Запалювальна бомба
9.	Guidance system	Система наведення
10.	Wire-guided torpedo	Торпеда, керована по дротах
11.	Homing torpedo	Самонавідна торпеда
12.	Surface ship	Надводний корабель
13.	ASROC (anti-submarine rocket) system	Противоводна ракетна система
14.	Contact mine	Контактна міна
15.	Influence mine	Неконтактна міна
16.	Moored mine	Якірна міна
17.	Bottom mine	Донна міна

Task 2. Complete each sentence with the correct term from Task 1.

- The _____ bomb is equipped with technology that allows it to change its flight path to hit a target more accurately.
- A _____ bomb relies solely on gravity and does not have a system to steer it toward a target.
- A bomb's _____ is carefully designed to activate under specific conditions, such as impact or proximity to a target.
- A _____ is filled with sand or water and is used during training exercises to minimize damage.
- _____ are often dropped in groups to spread smaller explosives across a wide area.
- A _____ bomb is designed to break apart into sharp fragments, making it highly effective against enemy troops.
- During an attack on a fuel depot, _____ bombs are often used to create intense fires.

- _____, such as mustard gas bombs, are used to disable enemy forces through harmful chemicals.
- Torpedoes equipped with a _____ can be directed in real time by a thin wire connected to the firing vessel.
- A _____ torpedo uses onboard sensors to locate and follow its target automatically.
- A _____ is a vessel that operates on the water's surface and can deploy various weapons.
- The _____ system fires a torpedo through the air to locate and destroy enemy submarines.
- A _____ mine is designed to explode when struck directly by a ship or submarine.
- Mines that detect changes in sound or pressure to detonate are known as _____ mines.
- A _____ is anchored underwater and floats at a specific depth to target passing ships.

Task 3. Match words and word combinations with their definitions.

	Word combinations		Definitions
1.	Bomb	A.	An underwater explosive weapon.
2.	Explosive charge	B.	Able to move by itself.
3.	Torpedo	C.	To help or play a part in achieving something.
4.	Self-propelled	D.	To cause something to start burning.
5.	Mine	E.	A weapon that explodes.
6.	Target	F.	To start or cause something to happen, especially a reaction or process.
7.	To detonate	G.	The substance in a bomb or weapon that causes the explosion.
8.	Trigger	H.	Air stored under high pressure, often used to power certain weapons or machines.
9.	To contribute	I.	An underwater weapon that moves on its own to attack ships or submarines.
10.	Blast	J.	The continuous physical force produced on or against an object.
11.	Smoke bomb	K.	The state of being near to something.
12.	To ignite	L.	Something aimed at to attack.
13.	Compressed air	M.	Easily harmed, damaged, or attacked.
14.	Adjustment	N.	To cause a bomb or explosive to explode.
15.	Proximity	O.	To catch or block someone or something from escaping.

16.	To trap	P.	A powerful explosion or the shockwave caused by it.
17.	Pressure	Q.	A small change made to improve accuracy or functionality.
18.	Vulnerable	R.	A device that produces thick smoke, often used for signaling or concealment.

Task 4. Read and translate the text.

Naval warfare relies on a variety of specialized weapons, each designed for specific purposes. Bombs, torpedoes, and mines are essential tools in this arsenal, each with unique characteristics, missions, and features that contribute to their effectiveness in combat situations.

Bombs are free-fall weapons dropped from aircraft and classified as either unguided ("dumb") or guided ("smart") weapons. Unlike rockets or missiles, bombs have no propulsion system and rely on gravity to reach their targets. A bomb typically has four key parts: the case, which contains the explosive; the fuze, which determines when the bomb detonates; the tail assembly, which stabilizes the bomb during its fall; and the arming-wire assembly, which prevents the bomb from activating before the expected time.

Bombs are categorized into several types:

- General-purpose (GP) bombs, weighing 100–2000 pounds, are designed for blast and fragmentation effects against unarmored ships or ground targets. Semi-armor-piercing (SAP) bombs are used to penetrate protected targets before detonation, while fragmentation bombs often dropped in clusters and are effective against troops.
- Chemical bombs contain chemical agents that are designed to disable or kill enemy personnel such as mustard gas, tear gas, or vomiting gas; or they can be smoke bombs containing white phosphorus that ignites during the explosion and spreads heavy smoke over the target area in order to conceal movements of ships or troops. Incendiary bombs, such as napalm, produce intense fires and are used against troops and ground installations.
- Practice bombs, loaded with inert materials like sand or water, are used for training and cause minimal damage upon impact.

Torpedoes are self-propelled underwater weapons designed to engage surface and underwater targets. They are constructed in four sections: the tail, which includes fins and screws for stabilization; the afterbody, housing the propulsion system; the midsection, containing fuel or compressed air; and the head, which holds the explosive charge and guidance systems.

Modern torpedoes have advanced guidance systems:

- Preset torpedoes follow a predetermined course and depth.

- Wire-guided torpedoes receive signals from the firing vessel via a thin wire, allowing real-time adjustments to intercept the target.
- Homing torpedoes may be active, using onboard sonar to locate targets; passive, detecting acoustic or magnetic disturbances; or a combination of both, switching modes as needed.

Torpedoes can be launched from surface ships, submarines, or aircraft. Surface ships use deck-mounted or tube-mounted systems, while submarines launch torpedoes through specially designed tubes. Aircraft deploy torpedoes by parachute to minimize impact upon water entry. The ASROC (anti-submarine rocket) system specifically targets submarines and fires rocket that propels a homing torpedo through the air and drops it into the water, where the homing torpedo seeks its target using sonar or other acoustic sensory methods.

Mines are passive underwater explosive weapons designed to detonate upon contact with or proximity to enemy vessels. Unlike torpedoes, mines remain stationary after deployment, making them an efficient but non-selective weapon. Mines can be used defensively to secure areas or offensively to trap enemy ships.

Mines can be classified according to the method of actuation, the method of planting, and their position in the water:

- Contact mines detonate when struck by a ship, while influence mines respond to sound, magnetic fields, or pressure changes caused by passing vessels.
- Mines can be planted by surface ships, submarines, or aircraft. Surface deployment is the most hazardous, as the planting vessel is vulnerable to attack, while submarines and aircraft offer more secret and safe options.
- Positioning determines a mine's effectiveness. Moored contact mines are anchored and float near the surface, where they are likely to strike ships. Bottom mines rest on the ocean floor and are typically used in shallow waters, relying on influence triggers such as sound or pressure to detonate.

While bombs, torpedoes, and mines serve different purposes, each plays a vital role in naval operations. Bombs, dropped from aircraft, are versatile weapons for both offensive and defensive missions. Torpedoes provide precision targeting against surface and underwater threats. Mines offer long-term effect, creating defensive barriers or offensive traps in strategic waterways.

Together, these weapons demonstrate the ingenuity and effectiveness of modern naval warfare. Together, these weapons demonstrate the technological sophistication and strategic importance of naval warfare tools.

Task 5. Answer the questions.

1. What are the three main types of weapons used in naval warfare? What are their primary functions?

2. What are the key differences between guided bombs and non-guided bombs?
3. What are the four main parts of a bomb? What is the role of each?
4. What types of bombs are used for specific missions, such as targeting troops, creating fires, or training?
5. What are main components of torpedoes?
6. What types of guidance systems are used in modern torpedoes? How do they function?
7. What platforms can be used to launch torpedoes? What is unique about the ASROC system?
8. What are the main differences between contact mines and influence mines? How do they detonate?
9. How can mines be deployed? which methods are considered safer for planting them?
10. How do bombs, torpedoes, and mines work together to support both offensive and defensive naval strategies?

Task 6. Work in pairs.

- One partner retells the main points of the text from memory.
- The other partner listens carefully and asks questions to clarify or add missing information.
- Then, switch roles.

Task 7. Summarize the text.

Write a summary of the text in your own words. Include the most important ideas and details of the text; use relevant terminology. Write not less than 15 well-structured sentences.

UNIT 10: GUNS

Task 1. Learn new vocabulary.

	Word combinations	Translations
1.	Gun	Вогнепальна зброя; гвинтівка, пістолет, гармата
2.	Projectile	Снаряд
3.	Rifling	Система нарізів (в каналі ствола)
4.	Gunfire control system (GFCS)	Система керування артилерійським вогнем корабля
5.	Close-in weapon system (CIWS)	Система озброєння ближньої дії
6.	Spin stabilization	Надання стійкості за рахунок швидкого обертання; гідроскопічна стабілізація
7.	Bullet	Куля
8.	Accuracy	Точність; влучність
9.	Target detection	Виявлення цілі
10.	Engagement	Зіткнення (з противником); бойова робота (бій); відкриття вогню; ведення вогню
11.	Shore bombardment	Обстріл берегових цілей
12.	Precision	Точність (стрільби)
13.	Naval operation	Морська операція
14.	Defensive fire	Оборонний вогонь
15.	Cannon	Гармата; артилерійська установка

Task 2. Complete each sentence with the correct term from Task 1.

1. A _____ is a weapon used to fire objects called projectiles.
2. The grooves inside a gun barrel, called _____, help make the shot more accurate.
3. A _____ is a small metal object that is fired from a gun.
4. A _____ is a system that helps to aim guns for targets far away.
5. The _____ protects ships by shooting down missiles or aircraft that come too close.
6. _____ helps a projectile stay stable by spinning it as it moves.
7. _____ is when naval guns are used to fire at targets on land.
8. _____ is important for finding enemy ships, planes, or missiles.
9. Guns are still used in many _____, even though missiles are more advanced.
10. In a battle, _____ means attacking or defending against an enemy.
11. Early _____ were not very accurate because they did not have grooves inside the barrel.

12. _____ means hitting the target exactly where you aim.
13. Using guns for _____ can help soldiers on land during a fight.
14. Modern guns focus on _____ to make sure their shots are effective.
15. A _____ is anything that is thrown or fired through the air.

Task 3. Match words and word combinations with their definitions.

	Word combinations		Definitions
1.	Gunpowder	A.	A naval mission involving direct combat with surface targets.
2.	Atmospheric conditions data	B.	The ability to adapt to various functions or tasks.
3.	Smoothbore cannon	C.	Missiles approaching a target, typically requiring defensive countermeasures.
4.	Barrel diameter	D.	Early guns with a smooth internal barrel, lacking rifling.
5.	Barrel length	E.	By hand rather than automatically or electronically.
6.	Surface engagement	F.	An explosive substances in the form of powder, used for making explosive devices and fireworks.
7.	Shore bombardment	G.	The internal width of a gun barrel, measured in inches or millimeters.
8.	Ceremonial saluting gun	H.	Developed to a high degree of complexity.
9.	Advanced weaponry	I.	Information about the weather in a specific area.
10.	Versatility	J.	Providing good results without excessive expense.
11.	Reliability	K.	The length of a gun barrel, calculated by multiplying the barrel diameter by a specified factor.
12.	Cost-effective	L.	Modern military equipment, such as missiles and guided systems.
13.	Incoming missiles	M.	The use of naval guns to attack land-based targets.
14.	Manually	N.	A gun used for formal occasions without combat capability.
15.	Sophisticated	O.	The quality of being trustworthy or of performing consistently well.

Task 4. Read and translate the text.

A gun, in its most basic form, is a tube closed at one end from which a projectile is propelled by the burning of gunpowder. The projectile, often referred to as a bullet, receives all its traveling energy at the moment of firing. This differs

from rockets and missiles, which continue to be propelled by burning fuels throughout their flight.

Despite advancements in modern warfare, including the development of torpedoes, bombs, and guided missiles, guns remain a critical component of naval operations.

Modern naval guns are far more advanced than the smoothbore cannons of the past. Early guns, which were loaded from the front and aimed manually, were often inaccurate and dangerous to operate. Today's guns are equipped with rifling – a spiral pattern of grooves and ridges inside the barrel that causes the projectile to spin. This spinning greatly increases the range and accuracy of the shot.

Guns are projectile firing weapons and their categorization is based on their barrel length and inside barrel diameter. Navy guns are classified using a system that specifies the diameter in inches or millimeters, followed by the barrel length, which is calculated by multiplying the diameter by a given figure. For example, a 5-inch/54 gun has a barrel diameter of five inches and a barrel length of 270 inches.

Naval guns are supported by sophisticated systems to improve their effectiveness. Gunfire Control Systems (GFCS) are used for long-range targets, combining target detection with data on atmospheric conditions to calculate accurate firing solutions. Close-In Weapon Systems (CIWS), such as the 20mm/76 Phalanx system, provide defensive fire against incoming missiles or aircraft. These systems are essential for protecting ships during combat.

While guns have historically been a basis of naval firepower, their role has diminished with the advent of missiles, which offer superior range and precision. However, guns are still valuable for certain missions where missiles are less practical or cost-effective. For instance, the U.S. Navy's commonly used 5-inch/54 guns on cruisers and destroyers, and the 76mm/62 guns on frigates to perform tasks like surface engagements, shore bombardment, and defensive operations. Additionally, ceremonial saluting guns, which have no combat capability, are used for formal occasions.

Naval guns continue to evolve with technology, maintaining their place in the complex arsenal of modern warfare. They complement advanced weaponry by providing versatility, reliability, and cost-effective solutions for a range of naval missions.

Task 5. Answer the questions.

1. What is the basic definition of a gun, and how does it differ from rockets and missiles in terms of propulsion?

2. How were early guns different from modern naval guns in terms of operation and accuracy?
3. What is rifling, and how does it improve the performance of modern guns?
4. How are naval guns categorized, and what do the terms "barrel diameter" and "barrel length" refer to?
5. What is Gunfire Control System (GFC)? How does it assist with long-range targeting?
6. What is the purpose of Close-In Weapon System (CIWS)?
7. Why have missiles largely replaced guns as the primary weapon in naval combat?
8. In what scenarios are naval guns still considered valuable? What tasks are they commonly used for?
9. What are some advantages of naval guns in terms of versatility, reliability, and cost-effectiveness?

Task 6. Work in pairs.

- One partner retells the main points of the text from memory.
- The other partner listens carefully and asks questions to clarify or add missing information.
- Then, switch roles.

Task 7. Summarize the text.

Write a summary of the text in your own words. Include the most important ideas and details of the text; use relevant terminology. Write not less than 15 well-structured sentences.

SUPPLEMENTARY MATERIALS

AUDIO MATERIALS

In order to complete additional listening exercises, use the book *John Taylor, James Goodwell. Navy. Book 2. Express Publishing, 2011. 39 p.* and find exercises 5, 6 of each unit. In order to listen to audio recordings, use one of the laptops in your English language classroom.

UNIT 1: AIRCRAFT CARRIERS

Task: Listen and write down the next information.

1. Presently, there are _____
2. Different classes of aircraft carriers: _____
3. What's the difference?
Personnel changes: _____
Efficiency improvements: _____
Offensive capability improvements: _____

UNIT 2: CRUISERS

Task: Listen and write down the next information.

1. Recruit, tell me _____
2. Cruiser mission capabilities: _____

3. How does the ACS increase _____? – It _____ and _____
_____. So, it can _____
at the same time as _____
4. Why is VLS so valuable? _____
5. Missiles: _____
6. You are right about _____ but _____

UNITS 3, 4: DESTROYERS and FRIGATES

Task: Listen and write down the next information.

1. Ship's supply delivery method: _____
2. Types of ships discussed: _____
3. Types of ships expected _____
4. Types of warfare discussed _____
5. Sounds like _____
6. The best ships to use: _____
7. Why is frigate a better option for the mission? _____

8. Might be _____
9. But we'd better have the destroyer crews _____

UNIT 5: SUBMARINES

Task: Listen and write down the next information.

1. I'd like to _____
 2. We are going to _____
 3. We can _____ but only if _____
- Write as much as possible about:
4. inserting SOF: _____
 5. conducting ISR: _____
 6. possible land attack: _____

UNIT 6: AMPHIBIOUS WARFARE SHIPS

Task: Listen and write down the next information.

1. The type of operation: _____
2. We'll need _____
3. What helicopters will be used? How many helicopters will be used? _____
4. So, the question is _____
5. Why does a woman prefer to utilize an LPD? _____
6. Why does a man prefer to utilize an LHA? _____
7. Are you sure _____
8. I'd rather _____

UNIT 7: PATROL COMBATANTS

Task: Listen and write down the next information.

1. Listen up, lieutenant! Our next mission _____
2. Why are they going to patrol the area? _____
3. If we identify _____
4. Ships involved in the mission: _____
5. A destroyer is _____, but _____

6. What are the Captain's orders? _____

UNIT 8: MISSILES AND ROCKETS

Task: Listen and write down the next information.

1. Tell me about _____
2. What's the difference between _____ and _____
3. Missile types discussed: _____
4. Missile launch system mentioned: _____
5. Missile ranges mentioned: _____
6. Which would you use _____? – _____, Sir. It travels a _____ distance.

UNIT 9: MINES AND TORPEDOES

Task: Listen and write down the next information.

1. Listen up! This is your briefing for today's _____
2. What is the number of targets? _____
3. The first target is _____, it will represent _____
4. The other target is _____ that mimics _____
5. Torpedo launch/ delivery methods mentioned: _____
6. To destroy target one: _____
7. To destroy target №2: _____

UNIT 10: GUNS

Task: Listen and write down the next information.

1. Today I'm going to tell you about two different guns: _____ and _____
2. The _____ has a barrel length of _____ and a _____ diameter of 5 inches.

3. The _____ has a barrel length of _____ and a barrel diameter of _____
4. It has an extremely high _____
4. Gun targets mentioned: _____
- _____
5. Gun capabilities mentioned: _____
- _____

VIDEO MATERIALS

In order to watch video recordings and complete additional exercises, use one of the laptops in your English language classroom.

UNIT 2: CRUISERS

Source: watch the video at this website

<https://www.youtube.com/watch?v=1d4QWgSLGGg&t=243s>

Task 1. Watch the video and choose the correct answers for the questions.

1. What is a modern cruiser typically armed with?
 - A) Torpedoes
 - B) Guided missiles
 - C) Machine guns
 - D) Bombs

2. Which class of cruisers was specifically designed as a less expensive alternative to the Kirov class?
 - A) Ticonderoga class
 - B) Type 055 class
 - C) Slava class
 - D) Zumwalt class

3. What is unique about the Zumwalt class warships' radar signature?
 - A) It is larger than other cruisers
 - B) It is invisible to radars
 - C) It is as small as a fishing boat
 - D) It mimics other warships

4. What makes the Kirov class cruisers distinct from others?
 - A) They are fully nuclear-powered
 - B) They have the world's largest missile battery
 - C) They are the smallest cruisers in the fleet
 - D) They are only used by the Chinese Navy

5. Why are the Type 055 class cruisers referred to as "destroyers" officially?
 - A) They lack advanced weaponry
 - B) They are smaller than most cruisers
 - C) The designation is politically motivated
 - D) They cannot operate independently

6. What was the first warship class equipped with the Aegis weapon system?

- A) Type 055 class
- B) Ticonderoga class
- C) Kirov class
- D) Slava class

7. What is a notable feature of the Type 055 class cruisers compared to China's Type 052D destroyers?

- A) They are smaller and faster
- B) They have significantly greater displacement and firepower
- C) They are primarily used for submarine hunting
- D) They have a stealth design similar to fishing boats

8. What is the primary purpose of the Ticonderoga class cruisers?

- A) Coastal defense
- B) Supporting and protecting carrier battle groups
- C) Engaging submarines
- D) Stealth operations

9. Which class of cruisers has a combined nuclear and steam propulsion system?

- A) Zumwalt class
- B) Kirov class
- C) Slava class
- D) Type 055 class

10. Why was Ukraine unable to complete its Slava class cruiser?

- A) It lacked the necessary technology
- B) It had no strategic need for the ship
- C) It had insufficient funding
- D) The ship was damaged during construction

Task 2. Watch the video and fill in the gaps in the text.

A _____ is a type of warship. Modern cruisers are generally the largest ships in a fleet after aircraft carriers and amphibious assault ships, and can usually perform several roles. As of 2020, only two countries operate vessels formally classed as cruisers: the United States and Russia, and in both cases the vessels are primarily armed with _____. BAP Almirante Grau was the last _____ in service, serving with the Peruvian Navy until 2017. Nevertheless, other classes in addition to the above may be considered cruisers due to different classification

systems. The NATO system includes the Type 055 from China and the Slava from Russia.

Zumwalt class

The Zumwalt class cruisers are new _____ of the US Navy. These stealthy guided missile cruisers have superior offensive capabilities. The lead ship was launched in 2013 and _____ with the US Navy in 2016. Although the Zumwalt class warships are officially called "destroyers", in terms of size, displacement, and armament these warships are clearly cruisers. These stealthy warships are actually larger than US Ticonderoga class cruisers China's Type 055 class cruisers and Russian Slava class cruisers. Only Russian Kirov class cruisers are larger. Most likely that the Zumwalt class warships are called destroyers for political reasons. These new warships are optimized for _____, but also possess great anti-aircraft and anti-submarine capability. The Zumwalt class cruisers are stuffed with cutting-edge technology, including a new electric _____, and are stealthy to radars. Despite their size, the Zumwalt class cruisers have _____ of fishing boats. Also, these warships have low acoustic and infrared signatures. Noise levels are comparable to Los Angeles class submarines.

Kirov class

In 1977 Soviets launched the largest warship other than aircraft carriers built by any nation since World War II. In appearance and firepower, Kirov is more like a battle cruiser than a normal _____. It has the world's largest missile battery, at 352 missiles, though weapons and systems vary from ship to ship. The lead ship was commissioned in 1980. Four of these cruisers were completed. However, due to funding problems, the Russian Navy operates only a single Kirov class cruiser. Furthermore, there are signs that Russia struggles to maintain it. Planned initially to find and _____, it became a much more capable warship when it was equipped with the long-range. Its powerplant is unique in being a combined nuclear and steam system. Two reactors are coupled to _____.

Type 055 class

The lead ship of the new Type 055 class was commissioned with China's navy in 2019. Four more Type 055 class cruisers are being built at 2 shipyards and are nearing completion. Two more cruisers are planned. These new cruisers will form a core of China's naval battle groups. Even though these warships are officially called "destroyers", the Type 055 class is actually larger in terms of size and displacement than US Ticonderoga class cruisers and similar to the Russian Slava class cruisers. Most likely that these warships are called destroyers for political reasons. The Type 055 class warships are larger and have nearly twice

the displacement of the latest China's Type 052D class destroyers. Furthermore, the _____ of the Type 055 class increased exponentially comparing with the Type 052 class. These new cruisers have superior _____.

Ticonderoga class

Designed as an advanced area-defense platform, the Ticonderoga class has evolved over the years into what was possibly the most _____ ever built. The USS Ticonderoga was originally designated as a destroyer but was redesignated as a cruiser in 1980. The lead ship was commissioned in 1983. A total of 22 Ticonderoga class _____ were built. The last warship of the class entered service in 1994. These cruisers were built to support and protect US carrier battle groups, amphibious assault groups, perform _____ and _____. Since its introduction, the class has seen action in most US Navy operations. The Ticonderogas were the first _____ combatant ships equipped with the AEGIS weapon system. It was the most sophisticated air defense system in the world.

Slava class

The Slava class cruisers were designed as a less expensive complement to the massive Kirov class battle cruisers. These ocean-going warships were designed to operate in _____ and travel over significant ranges. The lead ship was laid down in 1976 and was commissioned in 1982. Initially, at least eight and as many as 20 cruisers were planned. However, with the collapse of the Soviet Union, the Russian Navy virtually went bankrupt and only 3 of these cruisers were ever commissioned. These 3 cruisers are in service with the Russian Navy. At some point, all of them were _____ in order to extend their service life. There is one more incomplete Slava class cruiser that belongs to Ukraine. This warship was never completed due to limited funding. Ukraine has no requirement for such a powerful ocean-going warship. For a number of years, this 4th cruiser of the class is awaiting its disposal.

Task 3. Group discussion.

1. Are cruisers still relevant in the world of aircraft carriers and advanced submarines?
2. How do cruisers compare to other warships, such as destroyers or aircraft carriers?
3. How does stealth technology, such as the radar signature of the Zumwalt class, impact naval warfare?
4. What role do cutting-edge technologies play in making cruisers more effective?
5. Compare the strengths and weaknesses of the Kirov, Type 055, Ticonderoga, Zumwalt, and Slava classes. Which class is the most versatile, and why?

UNIT 3: DESTROYERS

Source: watch the video at this website

<https://www.youtube.com/watch?v=IrwKSZa6XCI&t=11s>

Task 1. Watch the video and choose the correct answers for the questions.

1. What is the primary purpose of a destroyer in a naval fleet?
 - A) To launch intercontinental missiles
 - B) To serve as a carrier for fighter jets
 - C) To escort larger vessels and defend against various threats
 - D) To conduct amphibious landings
2. What unique feature makes the Sejong the Great class destroyers stand out?
 - A) They carry exoatmospheric ballistic missiles
 - B) They have stealth technology to reduce radar cross-section
 - C) They are equipped with BrahMos supersonic missiles
 - D) They operate using a combined gas and diesel propulsion system
3. Which destroyer class has the most missiles onboard?
 - A) Atago class
 - B) Kolkata class
 - C) Sejong the Great class
 - D) Arleigh Burke class
4. What is the main radar technology used in the Luyang III class destroyers?
 - A) SPY-1D(V) radar
 - B) MF-STAR multi-function radar
 - C) Active electronically scanned array radar
 - D) OPS 28E surface and air search radar
5. Which destroyer class features the BrahMos supersonic missile?
 - A) Arleigh Burke class
 - B) Atago class
 - C) Kolkata class
 - D) Luyang III class
6. What distinguishes the Atago class destroyers in Japan's fleet?
 - A) They are primarily defensive, sticking to Japan's traditional doctrine
 - B) They are capable of intercepting ballistic missiles outside Earth's atmosphere
 - C) They use diesel engines instead of gas turbines
 - D) They are built for long-range submarine operations

7. Which destroyer class is known for being constructed with components from around the world?

- A) Sejong the Great class
- B) Kolkata class
- C) Luyang III class
- D) Arleigh Burke class

8. What feature allows the Arleigh Burke class destroyers to integrate their sensors and weapon systems?

- A) The SPY-1 radar system
- B) The MF-STAR radar system
- C) The Aegis combat system
- D) The BrahMos missile system

9. What propulsion system is used by the Kolkata class destroyers?

- A) Diesel-electric propulsion system
- B) Combined gas and diesel propulsion system
- C) Combined gas and gas propulsion system
- D) Nuclear-powered propulsion system

10. What was the primary purpose of designing the Atago class destroyers?

- A) To support long-range submarine operations
- B) To counter missile threats from North Korea and aggressive actions by China
- C) To enhance stealth capabilities in modern naval warfare
- D) To provide advanced anti-submarine warfare capabilities

Task 2. Watch the video and fill in the gaps in the text.

Destroyer is a fast, maneuverable, long endurance warship intended to _____ larger vessels in a fleet, convoy a carrier battle group and defend them against a wide range of general _____. As the guardians of the seas, these boats were carefully built with the latest technology and the most powerful guns available. With their sleek designs, _____ weapons and cutting-edge systems these ships are the pinnacle of military engineering. They show the unmatched strength and unwavering determination of their countries.

Arleigh Burke class destroyers

They are the foundation of United States Navy and arguably the best in the world. They maintain superiority on the seas by using cutting edge _____, advanced radars and _____ warfare capabilities. Since first entering service in 1991 the Arleigh Burke class destroyers have been built in three

versions, each with significant technological improvements. The multi-mission guided missile destroyers are equally exceptional in all three essential types of warfare, with _____ and defensive capabilities in anti-air warfare, anti-submarine warfare and anti- surface warfare.

Propulsion is provided by four _____, generating a total of 100,000 shaft horsepower. Measuring 155 meters long and displacing over _____ tons Arleigh Burke can reach speeds of 30 knots and has a range of 4,400 nautical miles. The Arleigh Burke class ships use a state-of-the-art Aegis combat system to integrate the ship sensors and the weapon systems. The offensive and defensive arsenal is exhaustive with the MK 41 vertical launching system for firing Tomahawk _____, surface to air missiles, anti submarine warfare missiles, torpedoes and various close-in combat weapons.

Sejong the Great class destroyers

Many people think that Sejong the Great class destroyers are some of the most powerful ships in the world, because they were created and built with cutting-edge technology that is typical of South Korean goods. The most unique thing about these warships is probably their _____, which was carefully intended to reduce their _____ and infrared signatures. With a length of over 165 meters and a full displacement of over 11,000 tons these warships are real sea behemoths.

It has a _____ gas and gas turbine propulsion system that generates 75 megawatts of power, giving the ship a top speed of more than 30 knots. Like the Arleigh Burke design, Sejong the Great class destroyers use the Aegis weapon system which includes SPY-1 radar the MK99 fire control system and the MK 41 _____. The system _____ multiple targets such as aircraft ARM missiles and response to these threats. The Destroyer is also equipped with goalkeeper close-in weapon system, anti-submarine rockets and torpedoes. The massive destroyer can carry two super links or SH60 Seahawk helicopters. It also packs more firepower than other dominant destroyers with _____ missiles compared to 96 missiles on the Arleigh Burke class.

Luyang III class destroyers

Over the past 10 years the people's Liberation Army Navy of China has made a lot of progress in improving its Navy power. The Luyang III or type 052D class _____ destroyers, which went into service in 2014 may best show the progress. The Luyang III is 157 meters long and weighs _____ tons when it is fully loaded. The ship can reach a top speed of 30 knots thanks to its mixed gas and diesel propulsion system.

The Chinese destroyer can fight well with the most advanced US Navy destroyers, because it has active _____ scanned array radar. This type of

radar uses a computer controlled array of antennas to send the _____ in different directions. The ship is also fitted with weaponry for a variety of mission types. These include cruise missiles, surface to air missiles, as well as anti-ship and anti-submarine missiles, two _____ tube launch; while four 18-tube launchers fire decoy rockets, a helo deck can hold a single Kamov Ka-28 or Harbin Z-9c helicopter. As of August 2022, 25 Luyang III class destroyers were in service.

Kolkata class destroyers

The Kolkata class destroyers play a key role in India's Navy as a deterrent to potentially aggressive _____. These destroyers were designed and constructed using state-of-the-art components from sources all over the world. With a _____ of 7,500 tons, the Destroyer measures 163 meters long. A combined gas and gas _____ system employs four Zoria DT 59 gas turbines and two KVM diesel engines, powering the ship to a top speed of 30 knots and has a range of 6,000 nautical miles.

The vertical launch system on the Kolkata class destroyer is what makes its offensive power so strong. It is a shipborne missile canister that can quickly fire _____ surface-to-air missiles, anti-ship missiles and land attack cruise missiles. The weaponry includes the BrahMos supersonic missile – the fastest cruise missile in the world. The destroyer defense feature the MF-STAR – multi-function radar for surface and air search, tracking, missile guidance and gunnery; LW 08 2D radar provides long range _____. The Barak 8 Surface to air missile system defends against aerial threats such as aircraft, helicopters and incoming missiles. The system is capable of intercepting high altitude targets as well as supersonic _____ anti-ship missiles.

Atago class destroyers

Japan added four Atago class ships to its fleet in reaction to a threat of missiles from North Korea and aggressive actions by China. The Atago was put into service in March 2007. Japan doesn't have any carrier based _____ that could have been used for long range air defense, but the new 10,000 tons destroyers will make up for that.

A combined gas and gas propulsion system with four Ishikawajima-Harima LM 2,530 gas engines produce a total of 75,000 kilowatts which gives the ship a top speed of 30 knots. The Atago class destroyer is an _____ over the previous Congo class. Improved radar systems include the SPY-1D(V) passive electronically scanned array _____, the OPS 28E surface and air search radar and several others. Weaponry improvements feature the use of the _____ system and the reliable MK-41 vertical launching system used by the best destroyers in the world. The new destroyers will also carry exoatmospheric ballistic missiles capable of performing hit-to-kill _____ of ballistic missiles

while outside the Earth's atmosphere. The design gives Japan a more offensive military capacity, – a deviation from its defensive Naval Doctrine.

Task 3. Group discussion.

1. Compare the key features, strengths, and limitations of the Arleigh Burke, Sejong the Great, Luyang III, Kolkata, and Atago classes.
2. How have advancements in propulsion, weaponry, and radar systems improved the capabilities of modern destroyers?
3. What makes destroyers capable of performing anti-air, anti-ship, anti-submarine, and land-attack roles?
4. Why is the Aegis combat system considered a game-changer for destroyers?
5. Why is the VLS a common feature across many modern destroyer classes?

UNIT 4: FRIGATES

Source: watch the video at this website

<https://www.youtube.com/watch?v=ErvjtkVC53U>

Task 1. Watch the video and choose the correct answers for the questions.

1. Why are frigates considered the backbone of most navies?
A) They are heavily armed with missiles
B) They are smaller, cheaper, and more numerous than cruisers and destroyers
C) They have stealth capabilities
D) They carry more helicopters than other ships
2. What is the primary role of the Sachsen class frigates?
A) Land attack operations
B) Anti-air warfare and fleet defense
C) Coastal patrol and escort duties
D) Submarine detection only
3. Which frigate class is equipped with the Aegis air defense system?
A) Admiral Grigorovich class
B) Aquitaine class
C) Alvaro de Bazan class
D) Sachsen class
4. What makes the Aquitaine class frigates stand out?
A) They were developed solely for France's navy
B) They have a radar cross-section larger than most frigates
C) They are capable of land attacks over 1,000 km away
D) They lack stealth capabilities

5. How does the Admiral Grigorovich class compare to other frigates?

- A) It is stealthier than all other frigates
- B) It is less powerful than many contemporary general-purpose frigates
- C) It has the highest radar detection range
- D) It carries the most helicopters in its class

6. What is the key feature of the Sachsen class frigates' weaponry?

- A) A 533 mm torpedo tube
- B) SCALP Naval cruise missiles
- C) A 32-cell vertical launch system for air defense
- D) Harpoon anti-ship missiles

7. Which frigate class incorporates elements from the Talwar class built for the Indian Navy?

- A) Sachsen class
- B) Admiral Grigorovich class
- C) Fridtjof Nansen class
- D) Alvaro de Bazan class

8. Which frigate class includes ships optimized specifically for anti-submarine and air-defense roles?

- A) Admiral Grigorovich class
- B) Aquitaine class
- C) Sachsen class
- D) Fridtjof Nansen class

9. Which frigate class has been exported to Egypt and Morocco?

- A) Sachsen class
- B) Admiral Grigorovich class
- C) Aquitaine class
- D) Alvaro de Bazan class

10. What unique feature is included in the Admiral Grigorovich class for anti-submarine warfare?

- A) A RIM-116 missile launcher
- B) A 12-barrel RBU-6000 rocket launcher
- C) SCALP Naval land-attack missiles
- D) EUROTORP MU90 lightweight torpedoes

Task 2. Watch the video and fill in the gaps in the text.

Most modern navies operate _____. These ships are smaller and less expensive to build and maintain than cruisers and destroyers. Due to this fact frigates are usually the most numerous _____ in naval fleets and form the backbone for most navies worldwide. These ships are typically used _____ larger battleships, such as destroyers and aircraft carriers.

Sachsen class

The Sachsen class is of _____ frigates was developed in Germany. The design of the Sachsen class is based on that of the Brandenburg class. The class comprises three frigates. Their main role is fleet defense from _____ and air attacks. Secondary roles are _____ and anti-submarine warfare.

In terms of _____ and firepower, the Sachsen class frigates are closer to destroyers. Actually, these warships have much ship platform commonality with the Dutch De Zeven Provinciën class anti-air warfare destroyers. Most likely that these ships are _____ frigates for political reasons.

The primary _____ armament is carried in the 32-cell vertical-launch system: this carries a mix of Standard SM-2 missiles "range 150 km" as well as RIM-162 Evolved Sea Sparrow missiles "range 50 km" in designated cells. Local defense against _____ is entrusted to two 21-cell Rolling Airframe Missile (RAM) launchers with RIM-116 _____ surface-to-air missiles.

_____ capability is provided by two helicopters and two triple 324-mm mountings for EUROTORP MU90 lightweight torpedoes for submarine detection.

Alvaro de Bazan class

The Alvaro de Bazan is a class of Spanish anti-air warfare frigates, developed for _____. Spain desired to create a technologically advanced _____, which would also feature a high degree of national industrial input. A total of 5 Alvaro de Bazan class frigates are in service with the Spanish Navy.

The Alvaro de Bazan is fitted with Aegis's world-class air defense system. This system is in service with the US Navy. The Aegis is also present in Japan's Kongo class, South Korea's Sejong the Great class. It controls the _____ and _____ of hostile air, surface, and submarine threats. It can detect air targets at a range of more than 300 km. The system can _____ hundreds of targets simultaneously. The system controls the detection and engagement of hostile air, surface, and submarine _____.

The surface-to-air system is the Evolved Sea Sparrow Missile (ESSM). Area air defense is also provided by the Standard SM-2MR missiles. The Alvaro de

Bazan is also _____ with Harpoon _____ missiles. Additionally, the vessels are fitted with a 127 mm gun, torpedoes, and some other weapons.

Aquitaine class

The French Aquitaine class warships were developed as a part of the Franco-Italian multi-mission frigate program. The same program led to the development of the Italian Carlo Bergamini class. So far France has ordered 8 of these warships. The lead ship was _____ in 2012. The last one is planned to be commissioned in 2022. Once in service, the Aquitaine class frigates will form a backbone of the French Navy. Two more ships were built for Egypt and Morocco. These French Aquitaine class ships are called _____ frigates but are clearly destroyers. They are being called so for political reasons. The Aquitaine class vessels are capable of carrying out various missions, such as anti-air warfare, anti-submarine warfare, and even attack the land of targets located more than _____ km away. A total of 6 French warships will be optimized for the anti-submarine warfare role and 2 optimized for the air defense role. Both export ships are optimized for the anti-submarine role.

The Aquitaine class warships have a number of design features to reduce their radar cross-section and noise levels. These French ships are stealthier than many other frigates. Also, these are hi-tech ships with extreme automation levels. Land attack capability is provided by another 16-cell VLS, loaded with SCALP Naval _____ cruise missiles. These have a _____ of more than 1 000 km. A total of 16 of these missiles are carried and are ready to use. Only a few other frigates in the world pack such a formidable punch.

Fridtjof Nansen class

The Fridtjof Nansen is a Norwegian class of multi-role frigates, based on the Spanish Alvaro de Bazan class. A total of five ships were built in Spain for the Norwegian Navy. The first one was commissioned in 2006. All of these frigates are named after the famous Norwegian explorers.

These _____ frigates have both anti-submarine, anti-ship, land attack, and _____ capabilities. A number of design features were incorporated in order to reduce the radar cross-section of these frigates, and thus increase their _____. However, the Fridtjof Nansen class ships are not true stealth vessels.

These Norwegian frigates have very advanced weapons and sensors. The ships' weapons feature the Lockheed Martin Naval Electronics AN/SPY-1F AEGIS radar. The multi-function phased array radar can detect air targets at a range of around 160 km and track hundreds of _____ simultaneously. The system controls the detection and engagement of _____ air, surface, and submarine threats.

Admiral Grigorovich class

It is the latest class of frigates, ordered by the Russian Navy. It is referred to as Krivak IV class in the West. It is based on the Talwar class frigates, that were built in Russia for the Indian Navy. So far six ships have been ordered. The first of the class, Admiral Grigorovich, was commissioned in 2016.

These are general-purpose frigates. Their functions are air defense, _____ of other warships, and anti-submarine _____. Some measures were taken to reduce the radar cross-section of these new Russian warships. Though these frigates are not true stealthy vessels in any way. Also, the Admiral Grigorovich class warships are not as powerful as many contemporary general-purpose frigates.

There are two twin 533 mm torpedo tubes for heavyweight _____. These can be used to engage enemy warships and submarines. Also, there is a single 12-barrel RBU-6000 anti-submarine _____ in front of the bridge. Reload rockets are stored below the deck. These warships can accommodate a single helicopter. It can be a Ka-27 anti-submarine warfare helicopter or a Ka-31 airborne early warning helicopter.

Task 3. Group discussion.

1. Why are frigates considered the backbone of most navies?
2. Compare the key features of the Sachsen, Alvaro de Bazan, Aquitaine, Fridtjof Nansen, and Admiral Grigorovich classes. Which class is the most versatile, and why?
3. How does the Aegis system improve air and missile defense capabilities of frigates?
4. How do modern frigates incorporate anti-air, anti-ship, anti-submarine, and land-attack roles?
5. Analyze the weaponry on different frigate classes, including torpedoes, cruise missiles, and vertical launch systems.

UNIT 6: AMPHIBIOUS WARFARE SHIPS

Source: watch the video at this website

<https://www.youtube.com/watch?v=NqIhEpO2BJ4>

Task 1. Watch the video and choose the correct answers for the questions.

1. What is the primary role of amphibious assault ships?
 - A) Conducting anti-submarine warfare
 - B) Supporting amphibious warfare and troop deployment
 - C) Engaging in long-range missile attacks
 - D) Patrolling territorial waters

2. Which type of aircraft can operate from amphibious assault ships?

- A) Only fixed-wing aircraft
- B) Only helicopters
- C) Both VTOL aircraft and rotary-wing aircraft
- D) Only drones

3. What is the main difference between WASP-class and America-class ships?

- A) WASP-class ships have a well deck, while America-class ships focus more on aviation
- B) America-class ships have larger well decks than WASP-class ships
- C) WASP-class ships cannot carry fixed-wing aircraft
- D) America-class ships are smaller than WASP-class ships

4. Which feature allows LHD ships to deploy amphibious vehicles directly to shore?

- A) Flight deck
- B) Well deck
- C) Hangar bay
- D) Cargo hold

5. Which of the following best describes the role of LHD ships?

- A) They focus on aerial combat operations
- B) They serve as command centers for naval fleets
- C) They prioritize marine landings and amphibious operations
- D) They are mainly used for intelligence gathering

6. Why do LHDs typically carry more troops than LHAs?

- A) LHDs have a design that accommodates both aviation and amphibious vehicle operations
- B) LHAs are much smaller than LHDs
- C) LHDs do not carry aircraft, making more room for troops
- D) LHAs prioritize carrying submarines instead of troops

7. Which of the following best describes the role of LHA ships?

- A) They focus on air support
- B) They serve as command centers for naval fleets
- C) They prioritize marine landings and amphibious operations
- D) They are mainly used for intelligence gathering

8. Why are LHAs considered similar to aircraft carriers?

- A) Because they operate large numbers of aircraft
- B) Because they are larger than supercarriers
- C) Because they only transport aircraft and not troops
- D) Because they do not participate in amphibious operations

9. What happens when a well deck is flooded?

- A) The ship becomes more stable in rough seas
- B) The ship can launch and recover landing craft
- C) The ship is able to carry more fuel
- D) The ship increases its speed

10. What is the function of a well deck?

- A) To store additional aircraft fuel
- B) To launch and recover amphibious landing craft
- C) To protect the ship from missile attacks
- D) To store extra aircraft parts

Task 2. Watch the video and fill in the gaps in the text.

Amphibious assault ships resemble smaller aircraft carriers, but are specifically tailored for amphibious warfare. They can operate various aircraft types, including vertical short takeoff and landing, and _____ aircraft. These ships also feature well decks for launching landing craft and amphibious vehicles, enabling rapid deployment of troops and equipment _____. Obviously, this makes supercarriers look easy to do their job.

The US Navy operates several classes of amphibious assault ships: primarily, the WASP class and America class.

1) WASP class.

These ships can carry a mix of _____ aircraft, like the F-35B, and helicopters, alongside various landing craft. They have a well deck that supports multiple landing craft _____ vehicles.

2) America class.

America class designed for enhanced aviation capabilities. These ships lack a traditional well deck, but support extensive _____. They focus on air support for _____, rather than direct amphibious landings.

The Landing helicopter assault (LHA) and Landing helicopter dock (LHD) while similar in appearance and capabilities serve distinct roles within the US Navy. The primary difference lies in their design and mission focus.

LHDs are equipped with a _____ that allows for the launch and recovery of landing craft and amphibious vehicles, facilitating direct _____ from the ship to shore.

In contrast, newer America class LHAs do not have a well deck and prioritize enhanced aviation capabilities, focusing on air operations, rather than direct _____.

While both classes can transport marines and their equipment, LHDs typically carry a _____ of troops due to their design, accommodating both aviation and amphibious vehicle operations. Additionally, LHAs are designed to support a larger number of aircraft, including VTOL jets, like the F-35B, making them more akin to _____ in terms of mission profile. Overall LHDs emphasize marine landings with significant support for amphibious operations, whereas LHAs prioritize air support for ground forces during operations.

Do you know the well deck or well dock?

It is a critical feature of many amphibious assault ships, specifically designed to facilitate the launch and _____ of amphibious vehicles in landing craft. Located at the _____ of the ship, the well deck is a large garage-like space that can be flooded with water, allowing vessels such as landing craft, air cushion, amphibious assault vehicles and other small boats to dock within the ship. When the well deck is _____, the ship can lower its stern, enabling these craft to easily depart for shore landings or return after completing their missions.

Task 3. Group discussion.

1. What are the main differences between the WASP-class and America-class amphibious assault ships?
2. How does the absence of a well deck in the America-class ships affect their operational role compared to LHDs?
3. Why are LHAs considered more similar to aircraft carriers in terms of their missions?
4. What types of aircraft can operate from amphibious assault ships, and how do they contribute to missions?
5. Why is the well deck considered a critical feature for amphibious operations, and how does it function?

UNIT 7: PATROL COMBATANTS

Source: watch the video at this website

<https://www.youtube.com/watch?v=p63kD-zjP8Y>

Task 1. Watch the video and choose the correct answers for the questions.

1. What is the primary purpose of the coastal command boat (CCB)?

- A) To transport supplies to remote areas
- B) To assist in maritime security and interdiction operations
- C) To replace all existing naval vessels in the Fifth Fleet
- D) To conduct long-range airstrikes

2. What is one of the main goals of the CCB in relation to the Fifth Fleet Commander's objectives?

- A) To conduct scientific research in the oceans
- B) To support partnership, strength, and presence in the region
- C) To eliminate all enemy forces from the area
- D) To focus on humanitarian missions exclusively

3. How does the CCB contribute to maritime security operations?

- A) By engaging in direct combat with enemy fleets
- B) By providing logistical support to land forces
- C) By assisting in sea control, power projection, and tactical deterrence
- D) By acting as a civilian rescue vessel

4. What does the CTF-56 adaptive force package aim to do?

- A) Build warships for the U.S. Navy
- B) Clear, secure, build, and protect battle spaces
- C) Train new recruits for naval missions
- D) Replace traditional naval forces with autonomous systems

5. According to the text, what is one reason the U.S. Navy is confident in the effectiveness of the CCB?

- A) The vessel is equipped with advanced technology and well-trained personnel
- B) The vessel has already won multiple naval battles
- C) It is the largest ship in the fleet
- D) It is designed exclusively for stealth operations

Task 2. Watch the video and fill in the gaps in the text.

The coastal command boat is the first in the next generation of coastal patrol and _____ vessels that will come to Fifth Fleet. And, we utilize that boat, – that CCB (coastal command boat), in conjunction with our other forces in integrated packages to support the Fifth fleet commanders objectives: partnership, strength, and presence, assist in the struggle against _____ extremism, maritime security operations.

Its arrival as the next generation of _____ and interdiction capabilities to give us the legs up and the endurance to get out to some of the blue water areas. We have a special and unique capability, that applied in the correct fashion can assist in _____ operations, that can be a part of maritime security operations, that can be a part of power projection, especially amphibious assault, and finally can be a part of tactical _____.

Clear, secure, build, protect – that's how we apply our CTF-56 (Commander, Task force 56) adaptive force packages to reinforce blue water operations and to dominate in the _____ areas, which is one of our domains. We clear the battle space of explosive security and physical _____. We secure the battle space for the US Navy. We build the battle space domain awareness, so we understand the threats to that _____, and then we continue to protect the battle space to eventually be turned back over whenever we're told to move on in our mission assets.

It's a one-of-a-kind vessel – we have some great equipment; we're lucky enough to be getting some of the new technologies, like the vessel you see behind me that improved our _____. More importantly we have some of the best warriors in the United States Navy and these guys are _____, and well equipped to do the mission. The platforms like this and capabilities that we provide can provide the Fifth Fleet Commander with more options and help the nation of the Navy get to their objectives.

Task 3. Group discussion.

1. What makes the coastal command boat (CCB) a unique addition to the Fifth Fleet?
2. What are the main objectives of the Fifth Fleet Commander that the coastal command boat (CCB) helps to achieve?
3. What are the key functions of the CTF-56 adaptive force package in naval operations?

UNIT 8: MISSILES AND ROCKETS

Source: watch the video at this website

<https://www.youtube.com/watch?v=QZHOcGdbSEQ>

Task 1. Watch the video and choose the correct answers for the questions.

1. What distinguishes the trajectory of a ballistic missile?
 - A) It remains constantly powered throughout its flight
 - B) It follows a curved path into space and then descends
 - C) It stays within the Earth's atmosphere
 - D) It moves in a straight horizontal line

2. How do cruise missiles differ from other missile types?

- A) They can only be launched from ground platforms
- B) They are propelled by rocket engines
- C) They can fly very low, making detection difficult
- D) They always carry nuclear warheads

3. What characteristic defines a hypersonic missile?

- A) It can only be launched from sea platforms
- B) It travels slower than the speed of sound
- C) It moves at least five times faster than sound
- D) It is exclusively used by the United States

4. What do ballistic, cruise, and hypersonic missiles have in common?

- A) They all follow identical trajectories
- B) They can be launched from multiple platforms
- C) They are exclusively used for nuclear warfare
- D) They can only be launched from ground platforms

5. Which countries are actively developing advanced hypersonic weapons?

- A) Only the United States
- B) Russia and China exclusively
- C) The United States, Russia, and China
- D) European nations primarily

Task 2. Watch the video and fill in the gaps in the text.

In general there are three types of missiles used to attack targets at various distances. Here are five things to know about ballistic, cruise and hypersonic missiles.

1. A ballistic missile is powered initially by a _____, or a series of rocket engines in stages. But then, follows an unpowered trajectory that _____ upwards into space, before descending back through the atmosphere to reach its intended target. Ballistic missiles can fly to short, medium and long ranges. They can be fired from ground or _____, in some versions can be launched from the air.

2. Cruise missiles are propelled by _____, much like airplanes. They can be launched from ground, air or sea platforms. Cruise missiles do not leave the atmosphere, it can fly as low as a _____ off the ground, making them very difficult to detect.

3. Any missile that travels at _____ or more times faster than the speed of sound is considered hypersonic. While most ballistic and some cruise missiles are classified as hypersonic, the most commonly discussed hypersonic weapons are boost glide vehicle – they are _____ into space via rocket engines, but re-enter the atmosphere more quickly and then _____ to their target.

4. Ballistic, cruise and hypersonic missiles can deliver conventional or nuclear _____.

5. The United States, Russia and China are all developing advanced _____ weapons. Many experts fear that without effective control we may face a dangerous hypersonic arms _____.

Task 3. Group discussion.

1. How does a ballistic missile work, and what are the different platforms from which it can be launched?
2. What distinguishes a cruise missile from other types of missiles, and what makes them difficult to detect?
3. What defines a hypersonic missile, and what is a boost glide vehicle?
4. How do the different missile types compare in terms of their trajectories and propulsion systems?
5. Why might the development of hypersonic weapons lead to a dangerous arms race?

UNIT 9: BOMBS AND MINES

Source: watch the video at this website

<https://www.youtube.com/watch?v=3dsF-QMNPjk>

<https://www.youtube.com/watch?v=LEIWfbQfBfQ>

Task 1. Watch the video and choose the correct answers for the questions.

1. How do moored mines differ from bottom mines?
 - A) They are completely stationary
 - B) They float a set distance from the seafloor
 - C) They are always used in shallow waters
 - D) They cannot be deployed in deep waters
2. What typically happens to old moored mines that break loose?
 - A) They sink immediately
 - B) They explode underwater
 - C) They float to the surface
 - D) They disappear completely

3. What is a key characteristic of drifting mines?

- A) They are carefully controlled
- B) They float on the water surface
- C) They are always successful
- D) They are commonly used in modern warfare

4. Which type of mine delivery is considered the most economical?

- A) Aircraft-laid mines
- B) Submarine-laid mines
- C) Surface-laid mines
- D) All three are equally economical

5. What is the main advantage of using aircraft to deliver mines?

- A) Aircraft can carry a large number of mines
- B) Aircraft can rapidly replenish minefields
- C) Aircraft can deploy mines with little risk
- D) Aircraft can deploy mines in offensive operations

6. Why are submarine-laid mines not the best technique for laying large minefields?

- A) Submarines can only carry a small number of mines
- B) Submarines require control of the waters to operate
- C) Submarine mines are typically used for defensive purposes
- D) Submarine mines are not as effective as other delivery methods

7. What is the primary purpose of using surface-laid mines according to the video?

- A) To sink enemy ships in offensive operations
- B) To defend harbors and coastal areas
- C) To scare off enemies without engagement
- D) To rapidly replenish minefields

8. Which type of mine delivery technique is best suited for offensive covert operations?

- A) Aircraft-laid mines
- B) Submarine-laid mines
- C) Surface-laid mines
- D) All three techniques are equally suited for offensive covert operations

9. What was the documented impact of surface-laid mines during World War II?
- A) They resulted in the sinking of many enemy ships
 - B) They were ineffective in deterring enemy vessels
 - C) They did not cause any casualties but prevented enemy access
 - D) They were not commonly used due to the lack of water control
10. Which characteristic of mines is highlighted as one of their essential qualities in the video?
- A) Their ability to be rapidly deployed
 - B) Their versatility in delivery methods
 - C) Their psychological impact on the enemy
 - D) Their effectiveness in sinking enemy ships

Task 2. Watch the video and fill in the gaps in the text.

Among the naval mine weapon type, there are various different types of mines in how they are deployed and used. These usually relate to their final _____ or, in other words, where they rest in the water awaiting detonation. Mines will fall into one of three main categories: bottom, moored or drifting.

Bottom mines are those that rest on the seafloor, usually in comparatively _____. These mines tend to have large negative buoyancy. They sink, which means that after they are deployed, they fall and rest on the _____.

Moored mines are used against submarines and ships, and float a _____ from the seafloor, thanks to a weight and a mooring, or a tether. The mine itself is held in a case that floats, which is attached to an _____ that sits on the seafloor. This mine type allows for deeper water deployment, as well as other specific use cases. Mines that are found on beaches that usually make the news are typically old moored mines that have _____ off their mooring and floated to the surface.

Drifting mines are those that float on the surface of the water, and _____ usually on contact with a ship. Due to their _____ nature these types of mines were actually outlawed at the Hague Convention of 1907. They've been sparingly used since then.

Each type of mines can be deployed in one of three ways: either by aircraft, submarine or surface laying.

Aircraft-laid mines are typically designed to be _____ in nature and are suited for rapid deployment, similar to bombs. Aircraft can be used to rapidly provide _____ replenishment without having to send vulnerable ships to the frontlines and put them in danger from _____ mines. Today aircraft are seen as an ideal mine delivery technique as the process requires little overall risk

and can be done quickly. Essentially any aircraft that can carry and deploy bombs can also carry and deploy mines.

Submarine-laid mines like aircraft-laid mines are typically used in offensive _____ operations. These types of mines will fit in submarine _____ and can be deployed at depth. Typically, submarines can only hold a small number of mines which makes this technique not the best suited for laying large minefields. During World War II submarines planted a total of _____ mines, that we know about, which directly resulted in the sinking of _____ ships and the damage of another 27.

Surface-laid mines or mines laid from ships are the most _____ due to the sheer volume of mines that can be transported on any given ship. However, surface-laying mines requires that the laying country has control of the waters and there's no _____ threats, like a previously laid minefield. This is not the case in many modern circumstances which often leads to submarines and aircraft to be more preferred _____ techniques. Surface-laying is typically used in _____ situations like defending your harbors. In World War II this was a very common practice. While there were no documented cases of these defensive minefields taking enemy _____, there's also no documented cases of enemy vessels getting through the minefields. This underscores one of mines most essential qualities, – their ability to scare off enemies without active _____ – a psychological weapon.

Task 3. Group discussion.

1. How do bottom mines differ from moored mines in terms of their deployment, positioning and purposes?
2. Why are drifting mines considered problematic and have been outlawed?
3. What are the ways in which different functional types of mines can be deployed?
4. How do submarine-laid mines differ from aircraft-laid mines in terms of their use and deployment?
5. What are the advantages and disadvantages of surface-laid mines compared to other mine delivery techniques?
6. What is one of the essential qualities of mines according to the video?

UNIT 10: GUNS

Source: watch the video at this website

<https://www.youtube.com/watch?v=yqUVzooXcpY&t=21s>

Task 1. Watch the video and choose the correct answers for the questions.

1. What is the primary function of the Phalanx close-in weapon system?

- A) Long-range missile strikes
- B) Neutralizing incoming missiles and immediate threats
- C) Submarine detection and tracking
- D) Transporting troops to shore

2. What is the maximum firing rate of the Phalanx system?

- A) 30 rounds per second
- B) 50 rounds per second
- C) 75 rounds per second
- D) 100 rounds per second

3. In which non-naval environments has the Phalanx system been used?

- A) Arctic research stations
- B) Space defense programs
- C) Land warfare in Iraq and Afghanistan
- D) Civilian air traffic control

Task 2. Watch the video and fill in the gaps in the text.

It's called the Phalanx close-in weapon system, and on a warship – the last line of defense. Designed to neutralize incoming missiles and other immediate threats.

Technologically advanced radar guided and computer assisted, Phalanx is installed in many Royal Navy vessels: from Albion class Landing platform docks to type 45 class destroyers and Queen Elizabeth class aircraft carriers. The centerpiece of Phalanx – a six barrel 20 mm Gatling gun. It can fire up to 75 rounds a second over a distance of 5.5 km. Guided by radar and optical tracking to hit rapidly moving targets, it is not only able to destroy missiles but also helicopters, planes and unmanned aerial vehicles, not to mention high-speed surface vessels and sea drones.

A landbased version of Phalanx was used in Iraq and Afghanistan often to defend against artillery rocket and mortar attacks.

Task 3. Group discussion.

1. Why is the Phalanx system an essential part of naval defense?
2. What types of threats can the Phalanx system neutralize, and how does it accomplish this?
3. What are the Phalanx system characteristics?

TEXT MATERIALS

UNIT 1: AIRCRAFT CARRIERS

Source: watch the video at this website

<https://www.youtube.com/watch?v=c0pS3Zx7Fc8>

Task 1. Read the text.

A single aircraft carrier is enough to markedly change the level of a nation's military might. These ships are one of the strongest single assets a military can have. In general, under international law, aircraft carriers can legally position themselves up to 14 miles or 22 kilometers from any country's coast. Clearly, the strategic influence of being able to place a military airbase just miles from any coast in the world is enormous especially given that 80% of the world's population lives within 60 miles or 100 kilometers from the ocean.

While plenty of military vessels are capable of launching helicopters, there are just 19 aircraft carriers worldwide currently in service capable of launching fixed-wing airplanes. China, Thailand, India, Russia, and France each have one; Italy has two; and the US has the eleven largest in the world. These largest carriers require over 6,000 people to operate and often stay deployed for up to a year. They are fully fledged cities at sea.

The most advanced aircraft carriers like the French Navy's Charles de Gaulle are capable of launching an aircraft every 30 seconds. That means that, for a brief period, when launching aircraft at its maximum rate, the aircraft carrier Charles de Gaulle becomes busier than Charles de Gaulle Airport in Paris. To be able to achieve such a capability on a moving ship is no easy feat.

While the operation of these vessels gives militaries enormous strategic advantage, they also represent one of their greatest operational challenges.

An aircraft carrier's offensive weapon is its aircraft. Onboard, carriers tend to only have a small number of defensive weapons such as surface-to-air missiles and machine guns. But of course, just like any powerful military asset, these carriers are big targets. It is for this reason that carriers never travel alone while on deployment. While the exact composition can change depending on the mission, the carrier strike groups, American carriers travel with, are typically made up of a guided missile cruiser equipped with tomahawk missiles, two guided missile destroyers, an attack submarine, and a supply ship.

An aircraft carrier is the flagship of this strike group meaning that, in its command area, it not only has a bridge and air traffic control center, it also has a flag bridge where an admiral commands the entire strike group. Each of the group's ships serve some combination of offensive and defensive roles. The only exception is the supply ship.

Most aircraft carriers don't need regular refueling. All eleven American carriers and the French one are nuclear powered, meaning they can sail an unlimited distance for twenty-five years without refueling. Even conventionally powered aircraft carriers like the UK's HMS Queen Elizabeth can travel up to 12,000 miles or 18,000 kilometers without refueling making the need for stops infrequent.

While an American or French carrier could hypothetically sail nonstop for years or even decades, what they can't do is carry enough food, which is always needed, and aviation fuel, which is needed for combat operations, to stay at sea for more than a few weeks at a time.

It would be inefficient to place the carriers in a position of vulnerability to have to visit a port every few weeks to restock especially during combat operations. So, they don't – they restock while at sea. The supply ships that move as part of the strike group will sail off to a nearby port to take on fuel, ammunition, food, and mail, sail back to the strike group, then match speed and maneuver alongside the carrier. From there the two ships will shoot lines across to each other. These lines are used to pull hoses over to the carrier which are used to transfer aviation fuel.

To transfer solid supplies, there are two methods. The first is attaching pallets to dollies that wheel cargo across to the carrier, like a zip line. The second method, which is considered simpler, yet more dangerous, is using helicopters to pick up pallets from the resupply ship and flying them over to the carrier. These transfers bring both crucial supplies like food and some less crucial items like mail.

The longest aircraft carrier in the world, which also happens to be the newest, is the USS Gerald R. Ford, but even she is only 1,106 feet or 337 meters long. With commercial airports, a runway of 5,000 feet or 1,500 meters, like the one at London City Airport in London, is considered short; while large airports like London Heathrow will have runways longer than 10,000 feet or 3,000 meters. So how do C-2 Greyhounds and other aircraft on carriers deal with having runways of only 1,100 feet or 330 meters long? They don't. They take off with just 325 feet or 99 meters of space.

All US and French carriers use a system of catapults to get aircraft up to takeoff speed within three to four seconds. This allows these carriers to launch decently sized aircraft, like the C-2 Greyhound, with their relatively short decks. Other carriers, like the Chinese and Indian ones, don't have catapults so they can only launch lighter, shorter range aircraft capable of taking off with a very short runway. Both these two types of carriers have arrestor wires that aircraft catch on landing to decelerate with the short distance given. Every other aircraft carrier out there can only operate with aircraft capable of vertical landing.

The flight deck is a dangerous place given its small size. It's so small that all the carrier's aircraft can't fit on it but of course just below the flight deck is the hangar. A large carrier can carry up to 100 aircraft so massive elevators bring aircraft from the flight deck to the hangar for storage when not in use.

About 6,000 people work and live aboard each American carrier. 3,200 of them have jobs relating to running the ship itself. That includes everything from working in the engine room, maintaining the nuclear reactor, clearing the decks, to actually working up in the bridge commanding the ship. Many of these jobs are below deck and, since all the above deck space is used for flight operations, many people onboard can spend weeks without seeing sunlight. 2,500 other personnel are part of the carrier's air wing. If this was an airbase on land, these would be everyone working there including air traffic controllers, aircraft mechanics, aircraft fuelers, pilots, and more. The few hundred remaining personnel work assorted other jobs.

In terms of personal space, enlisted personnel, the vast majority of those onboard, only get a single bunk in a room with sometimes more than a hundred others. Higher ranked individuals, though, of course have more spacious accommodations. As long-term homes for thousands of people, these ships also have a few small luxuries like stores, gyms, barber shops, lounges and more.

Task 2. Choose the correct answers according to the text.

1. What makes an aircraft carrier one of the strongest military assets?

- A) Its ability to launch nuclear missiles
- B) Its ability to function as a mobile airbase anywhere in the world
- C) Its speed and maneuverability compared to other warships
- D) Its ability to remain undetected by enemy forces

2. How close can an aircraft carrier legally position itself to a country's coast under international law?

- A) 5 miles (8 km)
- B) 10 miles (16 km)
- C) 14 miles (22 km)
- D) 20 miles (32 km)

3. Which country has the most aircraft carriers in service?

- A) China
- B) France
- C) Russia
- D) United States

4. What is one of the biggest challenges of operating an aircraft carrier?

- A) Refueling the carrier every few days
- B) Limited onboard weaponry for self-defense
- C) The inability to launch aircraft at night
- D) Difficulty in navigating through deep waters

5. How do aircraft carriers restock supplies while at sea?

- A) By docking at a port every few weeks
- B) By sending helicopters to land-based supply depots
- C) By receiving supplies from accompanying supply ships
- D) By using submarines to transport supplies underwater

6. What is one of the methods used to launch aircraft from aircraft carriers?

- A) Ski-jump ramps
- B) Catapults
- C) Jet propulsion boosters
- D) Tow cables

7. What is a key limitation of aircraft carriers without catapult systems?

- A) They can only launch lighter, shorter-range aircraft
- B) They cannot carry more than 10 aircraft at a time
- C) They are unable to operate in deep waters
- D) They cannot refuel aircraft in midair

8. Why do aircraft carriers always travel with a strike group?

- A) To increase their speed across the ocean
- B) To help with aircraft maintenance
- C) To provide offensive and defensive support
- D) To act as a backup in case the carrier malfunctions

9. How long can nuclear-powered aircraft carriers operate without refueling?

- A) Up to 1 year
- B) Up to 5 years
- C) Up to 10 years
- D) Up to 25 years

10. What is one challenge for personnel living on an aircraft carrier?

- A) Limited access to communication with family
- B) The need to constantly change locations

C) Crowded living conditions with little personal space

D) The inability to leave the ship for months at a time

Task 3. Group discussion.

1. How does the ability of aircraft carriers to operate without frequent refueling impact global military strategies, especially in prolonged conflicts?
2. What are the logistical challenges involved in maintaining an aircraft carrier and its crew during extended deployments at sea?
3. How does the composition of a carrier strike group influence the defensive and offensive capabilities of an aircraft carrier?
4. In what ways do the operational challenges of aircraft carriers, such as their limited runway length, influence the design and technology used in their aircraft?
5. Considering the intense living conditions aboard an aircraft carrier, how might the daily life of personnel affect their overall performance and morale during long deployments?

UNIT 5: SUBMARINES

Task 1. Read the text.

Nuclear Powered Submarines:

The Navy launched the first submarine powered by radioactive material in 1954. In 1958, the USS Nautilus became the first submarine to travel to the North Pole.

Submarines previously used diesel engines and had to return to port for fuel. Nuclear power enabled submarines to operate for approximately twenty years without refueling. The only constraint on a nuclear submarine's time at sea became food supplies. Onboard nuclear reactors power atomic submarines. Energy from reactors is transformed into a high-pressure stream. The steam powers propulsion turbines, which power the propeller. Additional turbines generate electricity for the ship as well.

Attack Submarines:

The Navy operates three types of SSNs. Thirty Los Angeles-class SSNs are equipped with 12 Vertical Launch System tubes used to launch Tomahawk cruise missiles.

In addition, the Navy has three Seawolf-class submarines. The USS Seawolf is exceptionally quiet, fast, well-armed and equipped with advanced sensors. Despite the lack of Vertical Launch Systems, the Seawolf class has eight torpedo tubes and a torpedo room that can hold up to 50 weapons.

The USS Jimmy Carter, – the third ship in the class, has a 100-foot hull extension known as the multi-mission platform. This hull section allows to house advanced technology used in classified research and development, and enhance war fighting capabilities.

Cruise Missile Submarine (SSG):

A cruise missile submarine is a submarine that primarily carries and launches cruise missiles (submarine-launched missiles and anti-ship missiles). Missiles provide a long stand-off range and the ability to engage multiple targets on different headings simultaneously.

Many cruise missile submarines retain the ability to deploy nuclear warheads on their missiles. Still, they are different from ballistic missile submarines due to significant differences in the characteristics of the two weapons systems. Early cruise missile submarines had to surface every time when they needed to launch their missiles, whereas later designs can do launch missiles underwater via vertical launching system (VLS) tubes. However many modern attack submarines can also launch cruise missiles from their torpedo tubes.

Cruise missile submarines are typically quite extensive and slow boats designed for long-distance surface strikes.

Ballistic Missile Submarines (SSBNs):

The Navy's ballistic missile submarines serve as a hidden launch platform for intercontinental missiles. They are specifically designed for precise delivery of nuclear warheads.

Each Ohio-class SSBN can carry a maximum of 20 missiles. Ohio-class submarines have three large-diameter logistic hatches that allow sailors to quickly transfer supply, equipment and machinery components, reducing the time required for replenishment and maintenance and thus increasing operational availability.

The submarines spend an average of 77 days at sea, followed by 35 days in port for maintenance. Each SSBN has two crews, Blue and Gold alternating, commanding and patrolling the submarines. This increases the strategic availability of the SSBN, reduces the number of submarines needed to meet strategic requirements, and allows proper crew training, readiness and morale.

Task 2. Choose the correct answers according to the text.

1. What was the first submarine powered by nuclear energy?
A) USS Seawolf
B) USS Jimmy Carter
C) USS Nautilus
D) Ohio-class submarine

2. What is the primary limitation on how long nuclear-powered submarines can stay at sea?

- A) Fuel availability
- B) Food supplies
- C) Maintenance requirements
- D) Electricity generation

3. How does the USS Jimmy Carter differ from other Seawolf-class submarines?

- A) It is the only submarine equipped with Vertical Launch Systems
- B) It has a 100-foot hull extension for advanced technology
- C) It has fewer torpedo tubes than other submarines in its class
- D) It can carry more weapons than other Seawolf-class submarines

4. What distinguishes a cruise missile submarine (SSG) from a ballistic missile submarine (SSBN)?

- A) Cruise missile submarines launch missiles underwater, while ballistic missile submarines surface to launch
- B) Cruise missile submarines are designed for surface strikes, while ballistic missile submarines deliver nuclear warheads
- C) Cruise missile submarines cannot launch missiles from torpedo tubes, while ballistic missile submarines can
- D) Cruise missile submarines are faster than ballistic missile submarines

5. What is the purpose of having two alternating crews (Blue and Gold) on an SSBN?

- A) To increase the submarine's missile capacity
- B) To train new recruits while at sea
- C) To allow simultaneous operation of two submarines
- D) To enhance readiness, crew morale, and strategic availability

6. What is a key feature of the Los Angeles-class attack submarines?

- A) A 100-foot hull extension for research
- B) Vertical Launch System (VLS) tubes for Tomahawk missiles
- C) Eight torpedo tubes with a room for 50 weapons
- D) Intercontinental ballistic missile launch capability

7. How do modern cruise missile submarines launch missiles?

- A) Only from the surface
- B) Through Vertical Launch Systems or torpedo tubes

- C) Using intercontinental ballistic missile systems
- D) By surfacing for each missile launch

8. How is energy from nuclear reactors used in nuclear-powered submarines?

- A) To power diesel engines for propulsion
- B) To create high-pressure steam for propulsion turbines and electricity generation
- C) To charge batteries that operate the propellers
- D) To produce water for the crew

9. What was the primary advantage of switching from diesel engines to nuclear power in submarines?

- A) Submarines could remain at sea for decades without refueling
- B) Submarines could travel faster underwater
- C) Submarines became more compact and easier to maintain
- D) Submarines could launch missiles from a greater distance

10. What is a unique feature of Ohio-class SSBNs that improves their operational availability?

- A) Their ability to carry Tomahawk cruise missiles
- B) Advanced stealth technology for avoiding detection
- C) Three large-diameter logistic hatches for faster replenishment
- D) A hull extension for carrying additional weapons

Task 3. Group discussion.

1. How did the transition from diesel engines to nuclear power change submarine operations?
2. What are the differences between attack submarines, cruise missile submarines, and ballistic missile submarines?
3. How have advancements in missile technology changed the way cruise missile submarines operate?
4. How does Vertical Launch Systems (VLS) contribute to submarine performance?
5. What challenges do submariners face during extended deployments, especially on nuclear-powered submarines? How does the alternating crew system (Blue and Gold) impact readiness and morale?

ANSWER KEY

UNIT 1: AIRCRAFT CARRIERS

Task 2. Complete each sentence with the correct term from Task 1.

1. Aircraft carriers provide a strategic **forward presence**, ensuring military presence in key areas.
2. The **aircraft carrier** is a large military ship equipped to carry, launch, and land aircraft.
3. Maintaining **maritime security** is crucial for protecting international waters and trade routes.
4. **Power projection** is the ability of a nation to apply its military power in areas far from its own territory.
5. The presence of an aircraft carrier in a region often serves as a **sortie deterrence** to potential enemy units preventing the latter from launching aircraft.
6. Aircraft carrier was assigned a **bombardment mission** to neutralize enemy artillery positions along the coastline.
7. An **aircraft carrier task group** is a group of ships, including an aircraft carrier, that operate together for a specific mission.
8. The navy conducted a **reconnaissance** mission to gather intelligence information on enemy positions.
9. In an **antisubmarine operation**, the navy uses specialized equipment to detect and destroy enemy submarines.
10. The **close-in weapon systems** on an aircraft carrier help protect it from incoming missile threats.
11. The aircraft carrier conducted a **rescue mission** to save sailors from a sinking ship.
12. **Antiair warfare** involves operations to protect against enemy aircraft and maintain control of the skies.
13. The carrier's **surface-to-air missiles** are crucial for fighting with and destroying enemy aircraft.
14. The **unmanned aerial vehicle** can provide surveillance without risking pilot lives.
15. Ensuring **sea control** allows naval forces to dominate in the sea zone and prevent enemy forces from operating there.

Task 3. Match words and word combinations with their definitions.

1. **Fleet:** A group of ships sailing together, engaged in the same activity, or under the same ownership.

2. **Displacement:** The weight of the water a ship displaces when it is floating, used to measure the size of the ship.
3. **Crew:** The group of people who operate a ship or aircraft.
4. **Robust:** Strong and unlikely to break or fail.
5. **Deployment:** The movement of military forces for a specific mission or operation.
6. **Oil-fired Boiler:** A type of boiler that uses oil as fuel to produce steam for propulsion.
7. **Nuclear-powered plant:** Power plant which is powered by nuclear energy.
8. **Flight Deck:** The upper deck of an aircraft carrier where aircraft take off and land.
9. **Hangar Deck:** The deck below the flight deck where aircraft are stored and maintained.
10. **To launch:** To send something out, such as a new ship onto water or a missile into air.
11. **Arresting Wire:** A wire used to quickly stop an aircraft as it lands on a flight deck.
12. **Escort Ship:** A ship that accompanies and protects other ships.
13. **Fighter jet:** Military aircraft designed for air-to-air combat with other aircraft.
14. **Recovery:** The process of getting something back.
15. **Maintenance:** The work needed to keep a machine, etc. in good condition.

UNIT 2: CRUISERS

Task 2. Complete each sentence with the correct term from Task 1.

1. **Naval surface fire support (NSFS)** provides gunfire support to land forces from a ship.
2. **Undersea warfare (USW)** is combat that takes place under the sea.
3. A **cruise missile** is a long-range missile used to hit land or sea targets.
4. A **naval gun** is a large gun mounted on a ship for naval combat.
5. **Air warfare (AW)** involves defending against or attacking enemy aircraft.
6. **Aegis Combat System (ACS)** is a highly advanced system that allows cruisers to track and destroy multiple targets simultaneously.
7. A **cruiser** is a powerful naval ship used in many missions.
8. **Surface warfare (SUW)** involves fighting enemy ships on the sea's surface.
9. **Survivability** helps a ship stay safe and continue to operate in combat.
10. **Stealth technology** makes a ship harder to detect by enemy radar.
11. **Vertical launching systems (VLS)** is a missile firing system installed on a submarine or surface combat ship that launches missiles from a vessel's deck.

12. The primary function of **Ballistic missile defense (BMD)** is to protect naval vessels from incoming ballistic missile threats, ensuring their safety during combat operations.
13. **Harpoon missiles** are designed for anti-ship engagements.
14. A **torpedo** is an underwater weapon used to destroy submarines.
15. A ship with a small **radar cross-section** is less visible to radar systems.

Task 3. Match words and word combinations with their definitions.

1. **Naval warship:** A military vessel specifically designed and equipped for naval warfare.
2. **Displacement:** The weight of the water a ship displaces when it is floating, used to measure the size of the ship.
3. **Battle force:** A coordinated group of various types of ships, organized and deployed together for combat operations.
4. **Gas turbine engine:** An internal combustion engine that uses gas turbines to generate power.
5. **Weaponry:** The collective term for weapons and armaments used in military operations.
6. **Reconnaissance missions:** Military operations conducted to gather information about enemy forces; often involve surveillance, intelligence, and analysis of gathered data.
7. **Versatility:** Ability to adapt and perform various tasks.
8. **Tactical advantage:** Favorable circumstances in combat which include superior firepower, better positioning, or access to advanced technology.
9. **Maritime environment:** The area related to the sea, including oceans, seas, coastlines, and other bodies of water.
10. **To enhance:** To improve the quality, effectiveness, or performance of something.
11. **Advanced:** Having progressed beyond basic levels in terms of development or complexity.
12. **Sophisticated:** Characterized by complexity or advanced design.
13. **Integrated:** Combined or unified into one unit to achieve a common goal or function efficiently.
14. **Simultaneously:** Occurring at the same time.
15. **To engage:** Confront or participate in a military operation or battle.

UNIT 3: DESTROYERS

Task 2. Complete each sentence with the correct term from Task 1.

1. Modern destroyers use **gas-turbine-drive** engines to obtain high speed and maneuver effectively.

2. During **search and rescue (SAR)** operation, ships help to find and rescue people in distress at sea.
3. To protect against enemy aircraft, ships engage in **anti-aircraft warfare (AAW)**.
4. The **engineering plant** on a destroyer includes the machinery and systems for propulsion.
5. Scientists work on developing advanced **weaponry** to protect against new threats.
6. The **sonar system** helps to detect underwater objects like enemy submarines.
7. In **anti-submarine warfare (ASW)**, ships attack enemy submarines using special equipment.
8. The **vertical launching system (VLS)** enables ships to launch missiles vertically.
9. An **advanced gun system (AGS)** allows destroyers to fire at long-range targets with great accuracy.
10. A **screen unit** provides protection for larger ships in a group.
11. During an **amphibious assault operation**, naval forces support troops landing on a beach.
12. The newer Arleigh Burke class **destroyers** are equipped with the Aegis system.
13. **Surface warfare (SW)** involves combat between naval ships on the surface of the water.
14. A **depth charge** is an explosive device used to attack submarines.
15. In **humanitarian assistance and disaster relief (HADR)** operations, the Navy provides medical aid and supplies during emergencies.

Task 3. Match words and word combinations with their definitions.

1. **Firepower:** The amount of destructive power that a weapon or military unit can deliver.
2. **Agility:** The ability to move quickly and easily.
3. **Rapid:** Happening in a short time or at a fast pace.
4. **Acceleration:** The process of increasing speed.
5. **Maneuverability:** The ability of a ship or vehicle to change direction easily and effectively.
6. **Torpedo:** A self-propelled underwater missile designed to be launched from a ship or submarine to target and destroy other ships or submarines.
7. **Maritime security:** The protection of the seas, oceans, and other navigable waters from threats such as piracy, terrorism, illegal fishing, and smuggling.
8. **To escort:** To accompany and protect a ship, convoy, or person as they travel.
9. **Subsurface threat:** A danger or potential attack that comes from below the surface of the water, such as submarines or underwater mines.

10. **To handle:** To manage or deal with a situation, object, or task.
11. **Distressed vessel:** A ship or boat in trouble or experiencing difficulties, often requiring assistance.
12. **To contribute:** To give or provide something, such as effort, resources, or support, towards a common goal.
13. **Relief supplies:** Essential goods provided to people during or after a disaster, including food, water, medicine, and shelter materials.
14. **Natural disaster:** A catastrophic event caused by natural forces, such as earthquakes, hurricanes, floods, or tsunamis.
15. **Precision:** The ability to target or hit a specific point with great accuracy.

UNIT 4: FRIGATES

Task 2. Complete each sentence with the correct term from Task 1.

1. The **advanced gun system** on modern ships allows them to engage enemy targets with precision.
2. **Short-range combat** involves engaging enemy forces at close range.
3. An **anti-air missile** is designed to destroy incoming enemy aircraft or missiles.
4. A **cruise missile** is a guided weapon used to attack targets at great distances.
5. The **advanced electronic warfare system** helps a ship detect and disrupt enemy communications and radar.
6. A **frigate** is a type of warship designed for protecting other ships and conducting various missions.
7. The **Combined Diesel Electric and Gas (CODLAG) propulsion system** allows the ship to switch between different types of engines for better efficiency.
8. The Navy ensures the safety of commercial ships through **Protection of Shipping (POS)**.
9. **Amphibious forces** are specialized units that carry out beach landings and support ground troops.
10. During a **replenishment operation**, naval vessels refuel or resupply while at sea.
11. Naval forces must be ready to respond to any **threat** that could endanger their mission.
12. **Armor** is the protective layer on a warship that helps resist damage from attacks.
13. The concept of **Power Projection** involves projecting military force far from a nation's own territory.
14. The **merchant ship convoy** relied on naval escorts to navigate safely through areas known for hostile activity.
15. A **long-range strike** is a military attack from a distance, often using missiles.

Task 3. Match words and word combinations with their definitions.

1. **Naval gun:** A large-caliber weapon mounted on a warship.
2. **Advancement:** The process of making progress or moving forward, especially in technology.
3. **Significant:** Noticeable, important, especially in leading to a different result or an important change.
4. **To counter:** To defend against an attack or threat.
5. **Survivability:** The ability of a ship, vehicle, or system to remain functional after a damage.
6. **Enhancement:** The process of improving or increasing the quality or effectiveness of something.
7. **Valuable:** Having great worth, usefulness, or importance.
8. **Maneuverability:** The capability of a ship, aircraft, or vehicle to change direction easily.
9. **Sophisticated:** Highly developed, complex, or advanced.
10. **Cutting-edge technology:** The most innovative technology currently available.
11. **Robust:** Strong and capable of withstanding difficult conditions.
12. **Offensive:** Designed for attacking, particularly in a military context.
13. **Defensive:** Designed to protect or defend against attack or harm.
14. **Armament:** The weapons and military equipment that a ship, aircraft, or military unit carries for combat.
15. **To boast:** To speak too proudly about what you have done or what you own.

UNIT 5: SUBMARINES

Task 2. Complete each sentence with the correct term from Task 1.

1. A **wire-guided torpedo** can be directed to its target through a wire connected to the submarine that launched it.
2. **Attack submarines (SSNs)** are designed to hunt and destroy enemy submarines and ships.
3. Submarines equipped with an **electronic warfare system** can detect enemy radar and communications.
4. The primary mission of **nuclear deterrence** is to prevent enemy nuclear attacks.
5. Submarines often provide **task-force support** to larger naval groups by offering protection and firepower.
6. An **ISR (intelligence, surveillance, and reconnaissance)** mission involves gathering information and monitoring enemy activities.

7. A **submarine** is a vessel capable of underwater operations, often used for stealth missions.
8. During a **landing-force support** mission, submarines help secure the area where troops are landing.
9. The **fleet ballistic-missile submarine (SSBN)** can launch ballistic missiles and plays a crucial role in nuclear deterrence.
10. Some submarines are designed to support **SOF (special operations forces)** by transporting and deploying special operations teams.
11. In the event of a **nuclear missile exchange**, submarines could be involved in launching nuclear missiles.
12. The **guided-missile submarine (SSGN)** is equipped to perform intelligence gathering and precision strikes with cruise missiles.
13. The **sonar system** on a submarine helps to detect other underwater objects and threats.
14. A submarine might conduct a **mine laying mission** to lay mines in strategic locations.
15. The ship's **propulsion system** combines diesel engines and gas turbines, providing both high speed and fuel efficiency.

Task 3. Match words and word combinations with their definitions.

1. **Substantial:** Large in size, value or importance.
2. **Depth:** The distance which refers to how deep a vessel can go underwater.
3. **Warfare:** The activity of fighting a war, often including the weapons and methods that are used.
4. **Nuclear powered:** A vessel or device which is driven by nuclear energy.
5. **Land attack:** A military operation aimed at striking targets on land, often involving missiles or artillery launched from ships, submarines, or aircraft.
6. **Strategic mission:** A high-priority operation planned to achieve long-term objectives, often with significant impact on the overall success of a military campaign or national security goals.
7. **Submersible:** A vessel designed to be used or to operate underwater.
8. **Range:** The maximum distance a ship or vehicle can travel on a full tank of fuel or within its operational capabilities.
9. **Endurance:** The ability of a vehicle, vessel, or aircraft to operate without being refueled, resupplied, or maintained.
10. **Stealth:** The ability to move, operate, or conduct activities in a way that avoids detection.
11. **Rescue operation:** An organized effort to save people from dangerous or life-threatening situations, often conducted by military or emergency services.

- 12. **Pivotal:** Central or key; important because other things depend on it.
- 13. **To alternate:** To take turns or switch between two or more things, actions, or states.
- 14. **Hostile:** Unfriendly, aggressive; often used to describe enemy forces or environments in a military context.
- 15. **Supplies:** Essential items, such as food, equipment, or ammunition, that are necessary for a military operation or survival.

UNIT 6: AMPHIBIOUS WARFARE SHIPS

Task 2. Complete each sentence with the correct term from Task 1.

- 1. During an **assault landing** soldiers move from ships to land to start an attack.
- 2. A **bow ramp** is a part of the ship that lowers to let vehicles or soldiers get onto land.
- 3. **Sea control** is important for keeping the ocean safe for allied ships.
- 4. An **air-cushion landing craft** is fast and can move across both water and land.
- 5. A **well deck** is a space in a ship that can be filled with water to launch smaller boats.
- 6. A **waterborne** vehicle can move easily on rivers or the sea.
- 7. **Deployment** means sending soldiers and equipment to a place where they are needed.
- 8. A **tank landing ship** is used to carry heavy equipment, like tanks, directly onto a beach.
- 9. An **antisubmarine helicopter** can find and attack submarines to protect the fleet.
- 10. The **amphibious warfare ship** is a vessel designed for operations that involve both sea and land, typically used for troop landings and coastal assaults.

Task 3. Match words and word combinations with their definitions.

- 1. **Floodable:** Able to be flooded.
- 2. **Assault Landings:** Military operations where troops land on a hostile shore to attack or establish a foothold.
- 3. **Navy-Marine Corps Teams:** Combined teams comprising both navy and marine personnel, working together on amphibious operations.
- 4. **Versatility:** Ability to adapt or be used for various purposes.
- 5. **Operational Demands:** The specific requirements or needs of a military operation.
- 6. **Large-Scale Amphibious Warfare Operations:** Extensive military operations involving multiple amphibious warfare ships and personnel.

- 7. **Operational Experience:** Knowledge and lessons gained from previous military operations.
- 8. **To boast:** To speak too proudly about what you have done or what you own.
- 9. **Simultaneous:** Happening or being done at exactly the same time.
- 10. **To offload:** Remove something from a container or vehicle and put somewhere else.
- 11. **V/STOL Aircraft:** Aircraft capable of vertical or short takeoff and landing.
- 12. **Complex Logistics:** Complicated planning and coordination of resources and movements in amphibious operations.
- 13. **Well Decks:** Enclosed areas on ships that can be flooded to launch and retrieve landing craft and vehicles.
- 14. **Helicopter Capacity:** Ability to carry and deploy helicopters.
- 15. **Aerial Operations:** Military activities conducted in the air, such as reconnaissance or air support.

Task 5. Complete each sentence with the correct term from the text above.

- 1. **Amphibious Command Ships (LCC)** are like floating headquarters, which provide control and communication facilities for commanders from sea, air, and land forces.
- 2. **Dock Landing Ships (LSD)** are designed to carry troops and equipment, and obtain decks that can be flooded to allow the deployment of smaller waterborne craft and vehicles during assault landings.
- 3. **Amphibious Transport Docks (LPD)** play a crucial role in deploying troops and equipment, and are similar to LSD but can carry more helicopters for operations requiring air support.
- 4. **Tank-Landing Ships (LST)** can drive right onto shores and unload heavy equipment, tanks, artillery, and logistic vehicles.
- 5. **General-Purpose Assault Ships (LHA)** have both flight and well decks, thus can launch helicopters and landing craft at the same time.
- 6. **Multipurpose Assault Ships (LHD)** are like upgraded LHAs which can operate air-cushion landing craft and can even control the sea by using special helicopters.

UNIT 7: PATROL COMBATANTS

Task 2. Complete each sentence with the correct term from Task 1.

- 1. **Patrol combatant ships (PCs)** are superior in littoral observation and small-scale warfare operations.
- 2. **Littoral areas** are critical for the operations of PCs, allowing them to patrol ports and coastlines effectively.

3. The navy deployed patrol combatant ships for a **small-scale operation** to monitor areas close to the shore.
4. PCs can navigate and operate in **shallow water environment**, such as rivers and coastal regions.
5. Each ship is armed with a **machine gun** to defend against a variety of threats.
6. One of the primary missions of PCs is to conduct **coastal interdiction operation**, preventing illegal activities near the coast.
7. The patrol combatant ships were on high alert to prevent any potential **terrorist attack** in the busy port area.
8. The patrol combatant ships delivered food and medical supplies as part of a **humanitarian assistance mission** to the affected region.
9. In a **special warfare operation**, PCs may be tasked with neutralizing significant threats to national security.
10. During the special warfare operation, the patrol combatant ships successfully neutralized a **high-value target** that posed a significant threat to national security.
11. The patrol combatant ships took part in a **disaster relief mission** to help people after the earthquake.
12. The patrol combatant ships were quickly deployed to conduct a **search and rescue operation** after the fishing boat sent a distress signal.
13. After a **natural disaster**, PCs can deliver critical aid and assist affected populations.
14. Their agility and speed make them perfect for any kind of **waterway**.
15. The patrol combatant ships participated in **joint exercises** with allied navies to enhance their operational capabilities and strengthen cooperation.

Task 3. Match words and word combinations with their definitions.

1. **Agility**: Ability to move quickly and easily.
2. **Versatility**: Ability to adapt to many different functions or activities.
3. **Firepower**: The destructive capacity of guns, missiles, or other weapons.
4. **Piracy**: The act of attacking and robbing ships at sea.
5. **Smuggling**: The illegal transportation of goods or people.
6. **Illegal Fishing**: Fishing activities that are against the law or regulations.
7. **Interoperability**: The ability of military forces to work together effectively.
8. **Observation**: The act of watching carefully for specific purposes.
9. **Trade Route**: A sea or land route used by traders to transport goods.
10. **To Deter**: To discourage or prevent someone from taking action.
11. **To Safeguard**: To protect something from harm or damage.
12. **To Emerge**: To come into view or become apparent.

13. **Adversary**: An opponent or enemy.
14. **To Engage**: To enter into combat or conflict with an enemy.
15. **To Intercept**: To stop or seize something on its way from one place to another.

UNIT 8: ROCKETS AND MISSILES

Task 2. Complete each sentence with the correct term from Task 1.

1. The **airframe** of a missile is the main structure that holds its components together.
2. The missile's **powerplant** provides the propulsion needed to reach its target.
3. The **warhead** is the part of a missile that carries payload, which can be conventional or _____ explosive.
4. An **air-to-ground missile** is a specifically designed missile that strikes targets on land from an aircraft.
5. The **guidance system** of a missile ensures it can reach an intended target accurately.
6. **Inertial guidance** uses sensors inside the missile to navigate, while **homing guidance** makes the missile follow its target by detecting its position.
7. In **command guidance** a missile is controlled by signals sent from outside, like from a radar or an operator.
8. Submarines use an **underwater-to-surface guided missile** to hit targets above water.
9. Some missiles use **active homing** to follow and track the target's movements by themselves.
10. Pilots may launch missiles designed to **intercept** incoming threats, such as enemy aircraft or projectiles.
11. Some missiles use **radar beam** to follow a path set by radar waves.

Task 3. Match words and word combinations with their definitions.

1. **Rocket**: A weapon or vehicle that flies through the air using an engine but cannot change its path after being fired.
2. **Missile**: A weapon like a rocket but with a system that allows it to change direction while flying to hit a target.
3. **Explosive**: A material that can cause a big burst of energy, like an explosion.
4. **To withstand**: To stay strong against something, like heat or pressure, without breaking.
5. **Extended range**: The ability to go a longer distance than usual.
6. **Constantly**: Happening all the time or very often without stopping.

7. **To propel:** To push something forward with force, like a rocket being pushed into the air.
8. **Direction:** The way something is moving or pointing.
9. **To track:** To follow or watch the movement of something, like using radar to follow a plane.
10. **To emit:** To send out something, like light, heat, or a signal.
11. **Heat pattern:** A shape or signal made by heat that can be used to find something.
12. **Disadvantage:** A problem or something that makes it harder to succeed.
13. **To launch:** To send something into the air, like firing a missile or rocket.
14. **Airborne:** Flying in the air.
15. **Heat:** Warmth or high temperature.

UNIT 9: BOMBS, TORPEDOES AND MINES

Task 2. Complete each sentence with the correct term from Task 1.

1. The **guided bomb** is equipped with technology that allows it to change its flight path to hit a target more accurately.
2. A **non-guided bomb** relies solely on gravity and does not have a system to steer it toward a target.
3. A bomb's **fuze** is carefully designed to activate under specific conditions, such as impact or proximity to a target.
4. A **practice bomb** is filled with sand or water and is used during training exercises to minimize damage.
5. **Bomb clusters** are often dropped in groups to spread smaller explosives across a wide area.
6. A **fragmentation bomb** is designed to break apart into sharp fragments, making it highly effective against enemy troops.
7. During an attack on a fuel depot, **incendiary bombs** are often used to create intense fires.
8. **Chemical Warfare Bombs**, such as mustard gas bombs, are used to disable enemy forces through harmful chemicals.
9. Torpedoes equipped with a **wire-guided system** can be directed in real time by a thin wire connected to the firing vessel.
10. A **homing torpedo** uses onboard sensors to locate and follow its target automatically.
11. A **surface ship** is a vessel that operates on the water's surface and can deploy various weapons.
12. The **ASROC (anti-submarine rocket) system** fires a torpedo through the air to locate and destroy enemy submarines.

13. A **contact mine** is designed to explode when struck directly by a ship or submarine.
14. Mines that detect changes in sound or pressure to detonate are known as **influence mines**.
15. A **moored mine** is anchored underwater and floats at a specific depth to target passing ships.

Task 3. Match words and word combinations with their definitions.

1. **Bomb:** A weapon that explodes.
2. **Explosive charge:** The substance in a bomb or weapon that causes the explosion.
3. **Torpedo:** An underwater weapon that moves on its own to attack ships or submarines.
4. **Self-propelled:** Able to move by itself.
5. **Mine:** An underwater explosive weapon.
6. **Target:** Something aimed at to attack.
7. **To detonate:** To cause a bomb or explosive to explode.
8. **Trigger:** To start or cause something to happen, especially a reaction or process.
9. **To contribute:** To help or play a part in achieving something.
10. **Blast:** A powerful explosion or the shockwave caused by it.
11. **Smoke bomb:** A device that produces thick smoke, often used for signaling or concealment.
12. **To ignite:** To catch fire or cause something to start burning.
13. **Compressed air:** Air stored under high pressure, often used to power certain weapons or machines.
14. **Adjustment:** A small change made to improve accuracy or functionality.
15. **Proximity:** The state of being near to something.
16. **To trap:** To catch or block someone or something from escaping.
17. **Pressure:** The continuous physical force produced on or against an object.
18. **Vulnerable:** Easily harmed, damaged, or attacked.

UNIT 10: GUNS

Task 2. Complete each sentence with the correct term from Task 1.

1. A **gun** is a weapon used to fire objects called projectiles.
2. The grooves inside a gun barrel, called **rifling**, help make the shot more accurate.
3. A **bullet** is a small metal object that is fired from a gun.

4. A **Gunfire Control System (GFCS)** is a system that helps aim guns for targets far away.
5. The **Close-In Weapon System (CIWS)** protects ships by shooting down missiles or aircraft that come too close.
6. **Spin stabilization** helps a projectile stay stable by spinning it as it moves.
7. **Shore bombardment** is when naval guns are used to fire at targets on land.
8. **Target detection** is important for finding enemy ships, planes, or missiles.
9. Guns are still used in many **naval operations**, even though missiles are more advanced.
10. In a battle, **engagement** means attacking or defending against an enemy.
11. Early **cannons** were not very accurate because they did not have grooves inside the barrel.
12. **Precision** means hitting the target exactly where you aim.
13. Using guns for **shore bombardment** can help soldiers on land during a fight.
14. Modern guns focus on **accuracy** to make sure their shots are effective.
15. A **projectile** is anything that is thrown or fired through the air.

Task 3. Match words and word combinations with their definitions.

1. **Gunpowder:** An explosive substance in the form of powder, used for making explosive devices and fireworks.
2. **Atmospheric conditions data:** Information about the weather in a specific area.
3. **Smoothbore cannon:** Early guns with a smooth internal barrel, lacking rifling.
4. **Barrel diameter:** The internal width of a gun barrel, measured in inches or millimeters.
5. **Barrel length:** The length of a gun barrel, calculated by multiplying the barrel diameter by a specified factor.
6. **Surface engagement:** A naval mission involving direct combat with surface targets.
7. **Shore bombardment:** The use of naval guns to attack land-based targets.
8. **Ceremonial saluting gun:** A gun used for formal occasions without combat capability.
9. **Advanced weaponry:** Modern military equipment, such as missiles and guided systems.
10. **Versatility:** The ability to adapt to various functions or tasks.
11. **Reliability:** The quality of being trustworthy or of performing consistently well.
12. **Cost-effective:** Providing good results without excessive expense.

13. **Incoming missiles:** Missiles approaching a target, typically requiring defensive countermeasures.
14. **Manually:** By hand rather than automatically or electronically.
15. **Sophisticated:** Developed to a high degree of complexity.

Навчальний посібник «Ship types: missions and weapons» адресовано курсантам, які опановують військово-морські спеціальності, науково-педагогічним працівникам, що викладають англійську мову за професійним спрямуванням для майбутніх офіцерів, а також тим, хто бажає вдосконалити свої знання з англійської мови. Представлений навчальний посібник розроблено згідно з вимогами Робочої програми навчальної дисципліни «Англійська мова (за професійним спрямуванням)» і складається з автентичних фахових текстів та комплексів завдань до них: списки лексичних одиниць, тексти для читання, аудіо та відеоматеріали, вправи для опанування тематичного матеріалу, а також тести і переліки питань для перевірки знань курсантів.

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