







Multiple Category Scope and Sequence: Scope and Sequence Report For Course Standards and Objectives, Content, Skills, Vocabulary

Wednesday, August 20, 2014, 1:27PM



| | Unit | Course Standards and Objectives | Content | Skills | Vocabulary |
|--|---|---------------------------------|---|--|--|
| District Intermediate <u>Aviation History (District)</u> 2014-2015 <u>Readicker, Carl</u> | <u>Early Aviation (1783-1914)</u>  (Week 1, 2 Weeks)  | | <u>How did aviation begin</u> <ul style="list-style-type: none"> ▪ Dreamers and Mythology ▪ Joseph and Etienne Montgolfier <u>Who were the Montgolfier Brothers</u> <ul style="list-style-type: none"> ▪ Wealthy family of papermakers <u>Hot Air Development</u> <ul style="list-style-type: none"> ▪ What was the progression of events ▪ Who competed <u>Manned flight</u> <ul style="list-style-type: none"> ▪ Who is credited as the first to fly ▪ How brave were these people | <ul style="list-style-type: none"> ▪ Outline the early history of aviation ▪ Compare early idea's of flight ▪ Evaluate early successes of flight ▪ Record early successes and failures ▪ Draw conclusions as to what they think early inventors were thinking | <ul style="list-style-type: none"> ▪ Ornithopter ▪ Hot Air Balloon ▪ Hydrogen Balloon ▪ Aerostat ▪ Aerostier ▪ Aerostation ▪ Dirigible ▪ Zeppelin |
| | <u>Wright Brothers (1896-1914)</u>  (Week 2, 3 Weeks)  | | <u>Progression of Flight from Lighter Than Air to Heavier Than Air</u> <ul style="list-style-type: none"> ▪ Man wanted to fly from his first thoughts and dreams ▪ Lighter than air ▪ Heavier than air <u>Sustained and Controlled Flight</u> <ul style="list-style-type: none"> ▪ Wright Brothers solved this problem <u>Problems of Mechanical Flight</u> <ul style="list-style-type: none"> ▪ Stability | <ul style="list-style-type: none"> ▪ Ask questions about mans dreams to fly ▪ Guess mans first dream of flight ▪ Recognize advancements in lighter than air ▪ Research heavier than air ▪ Apply aerodynamic principles ▪ Differentiate stability and maneuverability | <ul style="list-style-type: none"> ▪ Propeller ▪ Fuselage ▪ Empennage ▪ Monoplane ▪ Tractor Propeller ▪ Dihedral ▪ Stability ▪ Maneuverability ▪ Canard |

Early Flight (1904-1914)

 (Week 4, 3 Weeks) 

- Maneuverability

Airplanes and Airmen in Europe

- First Airplane flights in Europe
- Production: Short Brothers, Farman, Voisin, Louis Bleriot
- Helicopter development, Igor Sikorsky
- German Aircraft

American Development

- Aerial Experiment Association
- Wright Brother Aircraft
- Glenn Curtiss Airplanes
- Exhibition and Stunt Flying

Flying Competitions

- Air Races
- Distance competitions
- Air Shows
- Aero Clubs

Aviation Industry

- Commercial Aviation
- Military Air Forces
- Airports
- Flight Schools

Military Airplanes

- Combatant Air Forces
- Airfields
- Military Aviation Development

Aircraft Production

- British Production
- United States Production

Armistice and Peace

- Record historic events
- Test aerodynamic theory
- Recognize events leading to Wrights flight
- Make comparisons between country involvement
- Research flight schools
- Organize aero clubs
- Angle of Incidence
- Chord
- Hydroplane
- Seaplane
- Powerplant
- Pusher Airplane
- Angle of Attack

World War I (1914-1919)

 (Week 6, 2 Weeks) 

- Distinguish between combatant air forces
- Recognize developments in airfields
- Analyze advancements in military development
- Assess United States aircraft production
- Research the Treaty of Versailles
- Check air clauses
- Nationalism
- Wunderwaffen
- Reparations
- Drachenballoons

- Treaty of Versailles
- Air clauses
- Aerial Navigation Clauses

Peacetime Aviation (1919-

1927)  (Week 8, 2 Weeks) 

Peacetime and Distance Flying

- Crossing the Atlantic
- Flying higher faster and further

The Great Airships

- Development and use as a commercial vehicle

Barnstorming and Competition

- Surplus of airplane and pilots
- Giving America a ride in an airplane
- Entertaining and competition

Airlines and Airmail

- The airplane being used as a commercial vehicle
- Paying passengers aboard aircraft

Adventure Exploration and Sport

- Homebuilt airplane movement
- Light aircraft, two and four place trainers and utility aircraft
- Speed flights
- Altitude records
- Distance records
- Polar flights

Commercial Airlines and Airliners

- Hindenburg explosion
- German airships
- Jaun Trippe of Pan American opens the Pacific

- Research the barnstorming era
- Investigate deeper into areas of interest
- Explain what a first ride in an airplane must be like
- Relate to early aviators
- Differentiate uses of commercial aircraft
- Research the great dirigible era
- Barnstorming
- Autogiration
- Cyclic Control
- Collective Control

Golden Age of Aviation

(1927-1939)  (Week 9, 2 Weeks) 

- Record progress made in homebuilt movement
- Check speed and endurance records
- Map routes flown by early explorers
- Recognize advancements in general aviation
- Observe the speed at which new technology progressed
- Analyze the challenges faced by early exploration
- Raid
- Hindenburg
- Fascism
- Authoritarian
- Third Reich
- Totalitarian

World War II (1939-1945)



(Week 10, 2 Weeks)

Aviation Radio and Navigation

- Amelia Earhart and Fred Noonan lost on round the world attempt
- Four-Course Radio development
- Early radio
- Jimmy Doolittle flies the first true instrument flight

Build up of Hitlers War Machine

- Establishment of the Third Reich
- Military expansion

What lead the World into World War Two

- Germanys invasion of Poland
- Britain and France aligned with Poland

Military Research & Development Production

- Who were some special fighting groups such as Tuskegee Airmen
- What role did women play in World War Two
- Some of the developments in aircraft and radar

The Western Air War

- What battles took place along the Western Front
- What were German Vengeance Weapons

The Pacific Air War

- Atomic Bomb
- Strategic Bombing
- Divine Wind

- Recognize the importance of aviation history
- Understand the progress made in civil rights
- Compare the role differences between men and women in war
- Investigate new advancements
- Ask what is the future of atomic power
- Blitzkrieg
- Luftwaffe
- Strategic Tactical Missions
- Sortie
- Blitz
- Kamikaze

Cold War (1945-1958)



(Week 11, 3 Weeks)

Resumption of Civil Aviation

- New aircraft become available
- Improved navigation aids
- Landing systems are created

Commercial Aviation

- The birth of the modern airliner
- Routes are expanded
- Nations are connected by air

Hot Spots and Nuclear Weapons

- Jet Fighters are developed and improved
- Korea is divided Communist north, Anti-communist south
- Gail Halvorsen candy bomber
- U.S. viewson Nuclear Weapons

Advancements in Rockets, Missiles, and Satellites

- Captain Charles Yeager breaks the sound barrier
- The Soviets launch Sputnik
- High altitude reconnaissance (U2-spy plane)
- Advancements in electronics (transistor to integrated circuit)

The Race to Space (A Red Moon?)

- President Kennedy issues a challenge to put man on the moon
- Soviet Cosmonaut Yuri Gagarin first man in space

The Jet Age

- The FAA and Deregulation
- How fast is fast enough, the Concorde
- Pure Jet, Turbo-prop, and

- Understand commercial aviation
- Explain general aviation
- Sort out historical events
- Evaluate new forms of navigation
- Investigate differing thoughts and cultures
- Communicate the urgency of the cold war resolution
- Instrument Landing System
- Localizer
- Glide Slope
- Approach
- Navigational Aids
- Homebuilt
- Communism
- Containment
- Deterrence
- Nuclear
- Sputnik

Space Age Aviation(1959-

1989)



(Week 13, 3 Weeks)



- Categorize events
- Outline advancements
- Consider possible outcomes
- Name contributions
- Draw conclusions about historical events
- Guess what may be the next great advancement
- Cosmonautics
- Gravity assist
- Astronaut
- Cosmonaut
- Trajectory
- Turbofan
- Intercontinental
- Variable Geometry
- Stealth

Turbofan

The Cold War Continues

- Wars conflicts and rumors of war
- A divided Vietnam
- Cuban Missile Crisis
- Reconnaissance Aircraft

Contributions from Private and General Aviation

- Elbert L "Burt" Rutan
- Advancements in helicopter production and training
- William Lear
- Air Shows and Agricultural Applications

Modern Aerospace (1990-

present)  (Week 15, 4

Weeks) 

General and Commercial Aviation

- Long duration flights
- New generation of personal aircraft
- Challenges in airline safety
- New and improved forms of navigation

- Name specific aircraft
- Examine accident causes
- Evaluate pilot error
- Ask what is our future
- Explain some challenges in airline safety
- Relate the past with future advancements

- Regional Airlines
- Major Airlines
- Regional Jets
- Mergers
- Acquisitions
- Legislation
- Smart Bombs

Military Aerospace

- Exploration and new developments in aircraft
- Operations in rapid deployment
- Frontline fighters
- Unmanned aerial vehicles

Space Exploration

- Interplanetary exploration
- Hubble Space Telescope
- International Space Station
- Human Presence in Space

The Future of Aviation

- What advancements will be made in General Aviation
- What direction will Commercial Aviation take us

