

A light brown, torn-edge card with two punch holes at the top, pinned to a larger piece of aged paper. The background of the entire slide is a desert landscape with sand dunes and mountains under a blue sky.

## **Lesson 1:**

A large, rectangular piece of aged, textured paper pinned to the background with four grey triangular corner tabs. The text is centered on this paper.

# **The UAE Economy before Oil**

**Grade 4**

**Our UAE, Our World:** Understanding our Past,  
Present and Future

**Lesson Objectives: In this lesson, students will**

- ✿ Examine ways people earned money before the oil was discovered in the Trucial States.
- ✿ Explain pearl diving
- ✿ List means of trade and transportation.

**Key Vocabulary:** Trucial States; economy; pearl diving; trading; dhows; merchants; souq;



## Activity 1: Brainstorm

Do you recognize the picture below? What does it represent? Summarize your ideas.

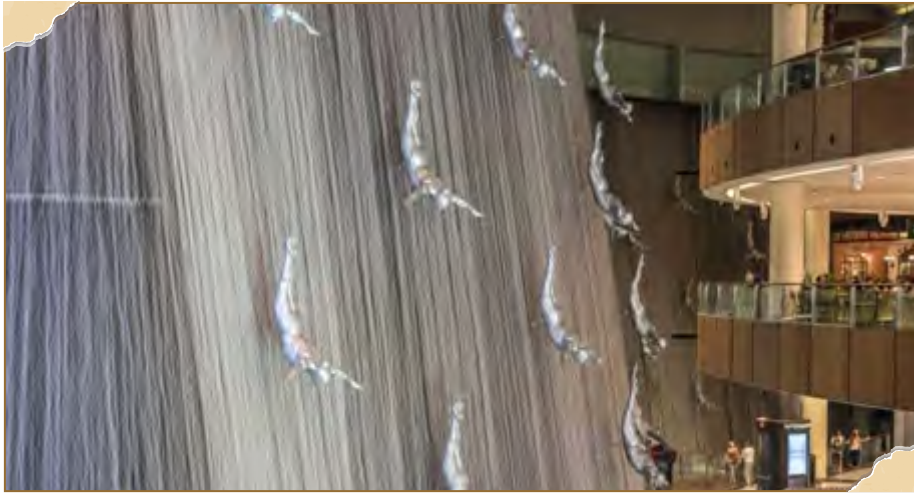


Figure 1 Fountain in Dubai Mall

| Summary of ideas |
|------------------|
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### Economy of Trucial States

Before the United Arab Emirates (UAE) became a country, each emirate was considered a separate state. The separate emirates were called the Trucial States because each had a treaty or truce with Britain.

Before oil was discovered, the main source of income was the pearling industry up till about the 1930s. Men were diving for pearls to make a living. During the pearling season, men travelled to the sea and spent weeks on ships.



Pearling was a dangerous job. The divers did not have oxygen masks. They only used nose clips. Around their necks, they had woven bags to put the clams in. Around their waist, they had ropes. Each diver spent about three minutes in the water. When he was ready to be pulled out, he tugged the rope and signalled to his mates that he was ready to be pulled out. Many divers drowned or were attacked by sharks. After the dive, clams were checked and pearls were taken out.



Figure 2 Natural Pearl in a Shell

Pearls come in different shapes and colours. The ship captain sorted them and then sold them. The profit was shared among the shipmates according to their job.



Figure 3 Pearls of Different Shapes and Colours

In the 1930s, the natural pearl industry collapsed. Men had to look for other sources of income. Some men traded goods such as fish, dates, or frankincense resin. People who lived in oasis areas grew food crops like dates, fruits, and vegetables to sell. Others went to other countries to buy goods and sell them in the *souqs* in their emirate.

Fishing and pearling fleets used dhows (sturdy wooden ships). Trading by sea was also a source of income. Merchants sailed on dhows, taking local goods to other countries and trading them for other goods. For example, they traded the dates and dried fish for goods they needed at home.



Figure 4 Pearls of Different Shapes and Colours



## Activity 2: Concept check

Use the text to answer the questions.

1. What was the name of the UAE before unification? .....
2. What was the main source of income before 1930s? .....
3. What did the local farmers grow? .....
4. What is a dhow? .....





### Activity 3: Matching

Match the new vocabulary words with their definitions:

| Vocabulary |
|------------|
| Merchants  |
| Dhow       |
| Economy    |
| Souq       |

| Definitions                              |
|--|
| the system of how money is made and used |
| people who buy and sell goods            |
| marketplace                              |
| sturdy wooden ships                      |



### Activity 4: Use Your Creativity

Using the description of the diver from the reading, draw a picture of a diver collecting the pearl oysters in their shells.

[illegible]

## Lesson 2:

# Discovery of Oil

Grade 4

**Our UAE, Our World:** Understanding our Past,  
Present and Future



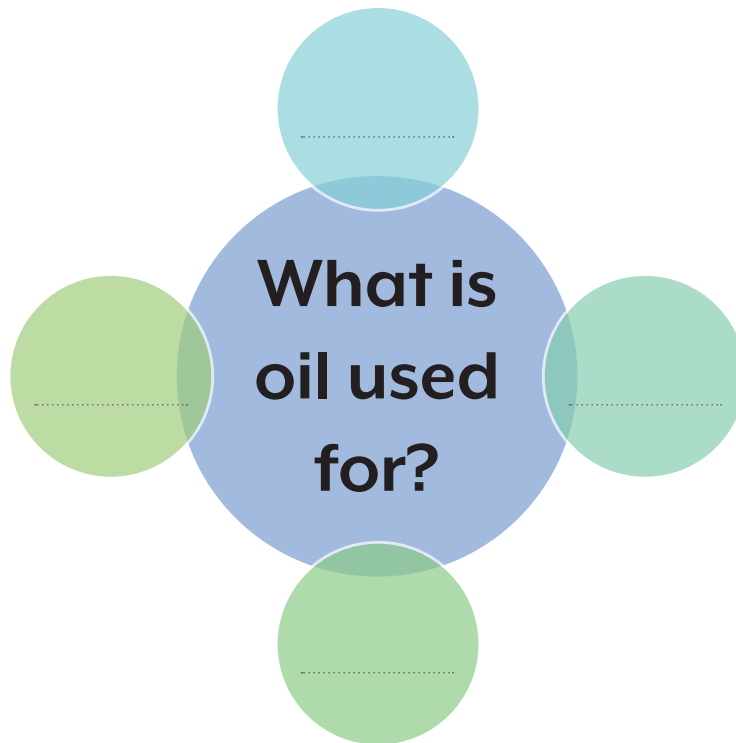
**Lesson Objectives:** In this lesson, students understand how discovery of oil changed the country's development.

**Key Vocabulary:** crude oil; His Highness Sheikh Zayed bin Sultan Al Nahyan; pipeline; oil tanker; oil well; port; oil platform; profits



## Activity 1: Mind Map

What is oil used for? Try to find four uses.



### Oil Discovered in the UAE

Oil was discovered in the sea close to Abu Dhabi in 1958. Shortly after that, life in the Trucial States began to change. In 1963, the first oil tanker carrying crude oil departed from Abu Dhabi. In 1966, His Highness (H.H.) Sheikh Zayed bin Sultan Al Nahyan became the ruler of Abu Dhabi.



Figure 5 ADNOC Petrol Station

Oil revenues were used to develop the emirate of Abu Dhabi and improve the lives of people living in the Emirate. On December 2, 1971 the UAE was formed with H.H. Sheikh Zayed bin Sultan Al Nahyan named as the first president. The same year, the first oil company in the UAE, the Abu Dhabi National Oil Company (ADNOC) was formed.

After the union of all seven emirates to form the United Arab Emirates (UAE), oil revenues were used to help people in all seven emirates. Life began to change faster after the UAE was formed. Families began to move to cities to be closer to new job opportunities. Oil revenues were used to build roads, houses, hospitals, schools and markets.

During period of rapid growth, the UAE opened the country to people who wanted to work in the UAE. As more people came to work in the UAE, more jobs were created and needed. The economy was growing faster and faster.



### Activity 2: Concept check

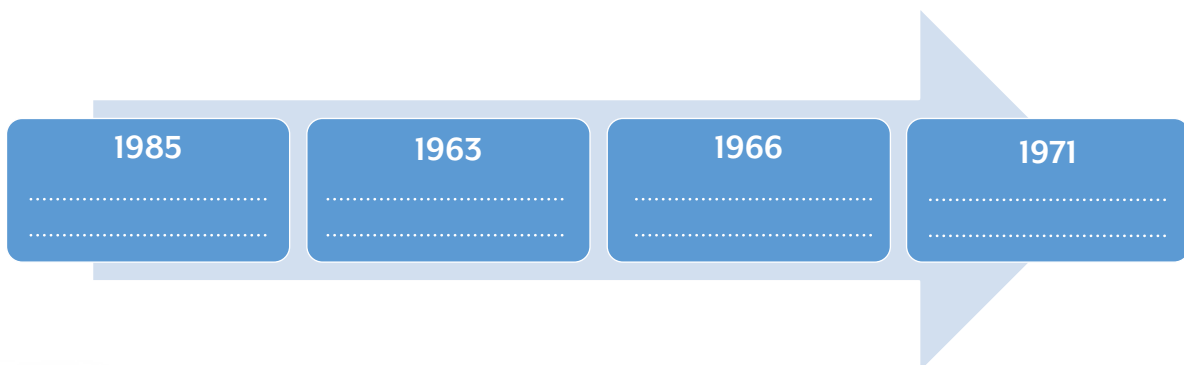
Fill in the blanks using words or phrases from the text.

1. Families started moving closer to cities to .....
2. The first president of the UAE was .....
3. There are ..... emirates in the UAE.
4. The first oil tanker departed from Abu Dhabi in .....
5. Oil profits were used for establishing ..... and opening .....  
to <Oil profits were used to build ....., .....,  
....., and .....



### Activity 3: Timeline

Fill in the events on the timeline from the text.







## Activity 4: Learning More

Why is crude oil or petroleum so important? Use the picture to help you list products made from petroleum. Are some of surprising? Discuss with classmates.

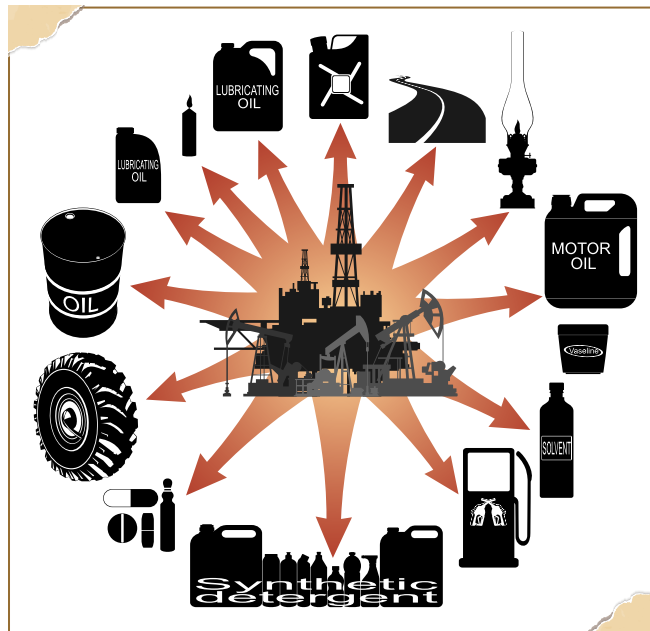


Figure 6 Uses for Petroleum

List uses for petroleum

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### Notes:

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## Lesson 3

# Rapid Economic Growth

Grade 4

**Our UAE, Our World:** Understanding our Past,  
Present and Future



### **Lesson Objectives: In this lesson, students will**

- 🌀 Understand the rapid economic growth
- 🌀 Define Gross Domestic Product (GDP)

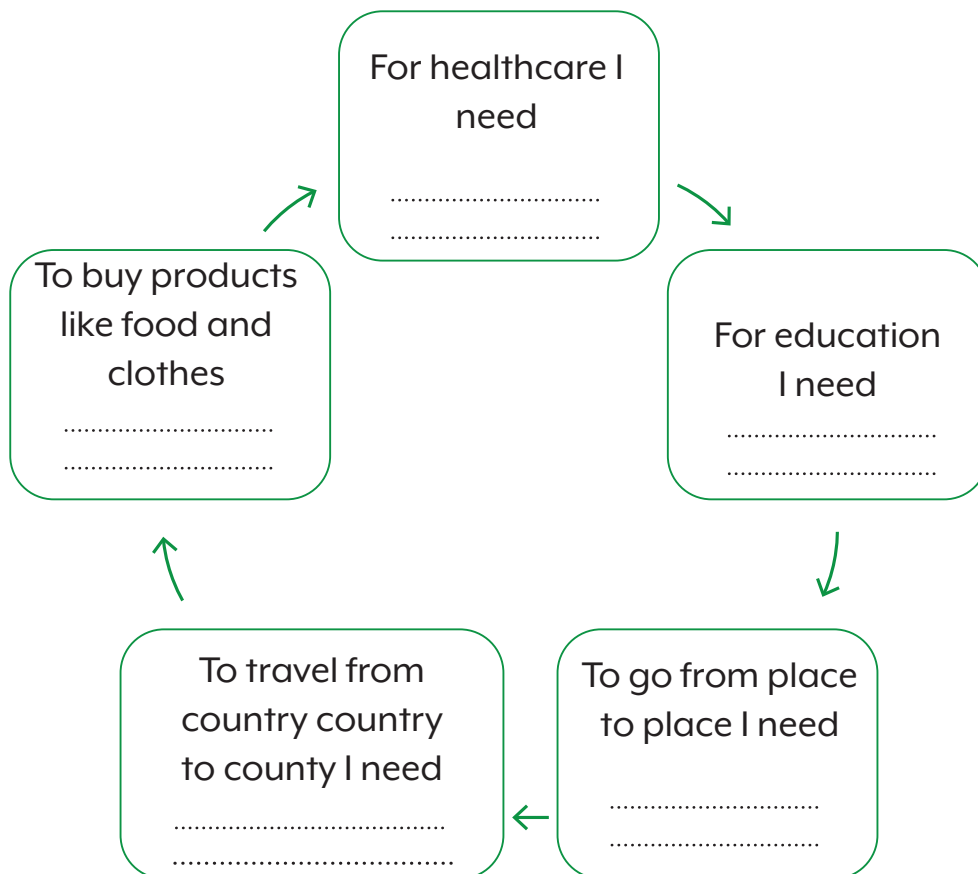
**Key Vocabulary:** Gross Domestic Product (GDP); oil refinery; self-sufficient; infrastructure; business hub; free zone



## Activity 1: Mind Map

What does developing a country mean? Developing a country means to establish all the services people need to live comfortable, successful, and happy lives.

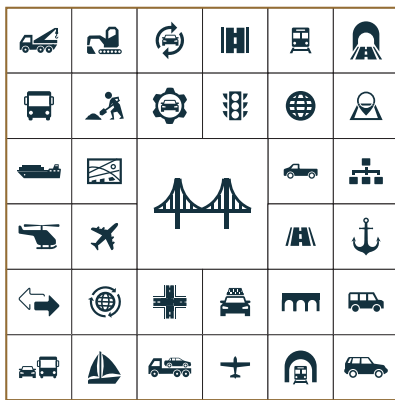
Think of things you need to live a comfortable happy life and add them to the mind map. Discuss with your classmates.



## Rapid Growth in the UAE

The leadership of the UAE started to build the infrastructure of the country. The infrastructure includes roads, airports, communications systems, hospitals, schools, markets, and others. The infrastructure helps people in the country produce goods and services to sell. The total of everything that is sold, including goods and services, is called the country's Gross Domestic Product (GDP). Because the infrastructure was getting better, the GDP was increasing.

The first refinery was built. A refinery is a factory where crude oil is processed into petroleum and other oil products. Using the refinery, the UAE produced its own gasoline or petrol for cars.



### Figure 7 Types of Infrastructure

The leadership of the UAE continued to improve, expand, and upgrade the infrastructure. The UAE exported oil and petroleum and used the money they made to invest in new businesses and the infrastructure.

The country invested in hospitality and tourism. The beaches, parks, museums, amusement parks, and other attractions drew more tourists. Luxury hotels catered for wealthy tourists but the country was more affordable than many other comparable destinations.

Many new jobs were created, but there were not enough people in the country to do all the work. In addition, few Emiratis were trained to do service work such as doctor, lawyer or professor, in the early years. Other workers had to be imported.

Many international companies opened branches in the UAE. The country became the regional business hub (center). Free zones opened. A free zone is an area where large businesses open their centers. In a free zone, companies can import and sell goods with little or no tax.



### Figure 8 Skilled Service Workers





## Activity 2: Concept Check

Work with a partner to answer the questions.

1. After the UAE built its first refinery, what new oil product did it have?

.....

2. What does the GDP stand for? What is it an indication of?

.....

3. Why did the UAE need to bring people to work in the country?

.....

4. What is a free zone?

.....



## Activity 3: Vocabulary

Write the word from the text for each meaning in the table

| Meaning or example  | Word from Text |
|---|----------------|
| a plant where crude oil is purified into petroleum                                |                |
| a place where business pay little or no tax                                       |                |
| facilities such as roads, ports, airports, buildings                              |                |
| business center   |                |
| people coming to visit a country to see the sights or attend an activity or event |                |



#### Activity 4: Use Your Creativity

If you were planning a city, what infrastructure would you need? Think of all the things that people need to be safe, secure, healthy, and happy.

Draw your city with its infrastructure. Be sure to label what you have drawn.

A large, empty rectangular box with a thin brown border, intended for a student to draw their city and its infrastructure.

## **Lesson 4:**

# **Many Come to Work in the UAE**

**Grade 4**

**Our UAE, Our World:** Understanding our Past,  
Present and Future

### **Lesson Objectives: In this lesson, Students will**

- Describe migrant workers or expatriates and their jobs in the UAE
- Explore the different jobs that are available in the UAE
- Predict how the job opportunities may change in the future.

**Key Vocabulary:** migrant workers; expatriates; domestic help; job opportunities; construction; professional





## Activity 1: Brainstorming

How many people do you know that come from different countries?

Which countries are they from? Summarize your ideas.

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Figure 9 Working together in the UAE

Migrant workers are workers that come from one country to work in another. Migrant workers are also called expatriate workers or employees. Expatriates who come to work in the UAE become residents. Residents are people who come from one country but live and usually work in another country.

Expatriates came to the UAE to work in many areas that did not have enough Emirati employees. Many expatriates came to work in the UAE in service jobs. Service jobs include office workers, restaurants, laundries, tailors, car mechanics, repair people, shop keepers, and many more.

Domestic help was needed, especially as more Emirati and expatriate women started working outside the home. Some families hired nannies to look after their children while their parents were at work. Housemaids were hired to help with the housework. Personal drivers were hired to drive families and commercial drivers were hired to drive taxis, buses, and company vans.



Figure 10 Working Mothers

People came to the UAE to build new buildings, the new airport, the metro, apartment buildings, villas, and the roads. Communications experts were hired to improve communications and create new forms ways to keep people in touch with each other.

Teachers came to teach a growing number of students in newly-built public and private schools. Doctors, nurses and medical professionals came to fill the new hospitals and clinics around the country.

Skilled professionals provided services to help improve the lives of all people living in the UAE. By working together Emiratis and expatriates, built and improved all areas of the infrastructure in the UAE.



Figure 11 Building Infrastructure



Figure 12 Cooperation



## Activity 2: Concept check

Answer the questions.

1. What is another word for migrant workers? What do they do?

.....

2. What is domestic help?

.....

3. Why did the country need more doctors and teachers?

.....

4. Give examples of infrastructure.

.....

5. Give examples of service workers.

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### Activity 3: Underline Text

Read the text and underline all the job opportunities in the text.

Write the jobs in a list.

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### Activity 4: Class Discussion

Review the list of jobs you underlined in Activity 3.

1. Which of these jobs do you think will exist in future?

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2. Which if these jobs do you think will be done by robots or computers?

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Compare your answers with other students and summarize your discussion.

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## Lesson 6:

# Overcoming the Challenges of Growth

Grade 4

**Our UAE, Our World:** Understanding our Past,  
Present and Future

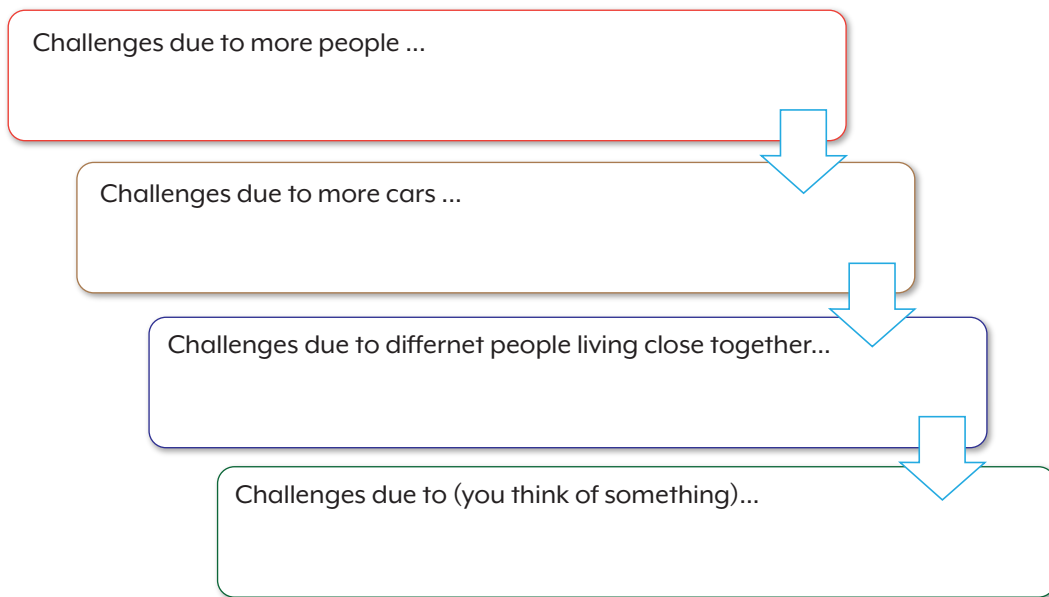
**Lesson Objective:** In this lesson, students will discover the challenges of growth the UAE faced and how they were overcome.

**Key Vocabulary:** population growth; congestion; waste generation; landfills; wildlife; urbanization; water shortage; carbon footprint; law enforcement



## Activity 1: Brainstorming

Growth and prosperity of a country are positive impacts of a good economy. What are some challenges of growth?



### Overcoming Challenges of Rapid Development

The infrastructure and basic services were rapidly developed in the UAE. This meant that people who lived in the UAE could have better opportunities and live healthier and happier lives. However, there were challenges. By understanding challenges the leadership of the country has put into place ways to overcome the challenges.

#### Challenge 1: Population Growth and Congestion

The population growth in the UAE is not only from people coming to the UAE to work. Over the last 30 years, the health care available in the UAE has improved. New hospitals with modern technology were built in the country. Doctors from all over the world moved to the UAE to work in the new hospitals. Better healthcare means that less people die as children and people may live longer and healthier lives.



People like to live close to their jobs. In cities, huge skyscrapers have offices, shops, restaurants, and more. People who work in those skyscrapers may choose to live in apartment buildings close to their workplace. Other people may want to live in less crowded places and drive to work. Both of these situations can cause traffic congestion in cities. Using public transportation such as the metro or buses helps reduce congestion in cities.



Figure 17 Skyscrapers in Dubai

### **Challenge 2: Waste**

As the population grows, more waste is produced. Most of the waste in the UAE goes in landfills. In the landfills the waste is covered up but that does not really solve the waste problem. Waste should be reduced. The leadership of the UAE have introduced recycling programs. Bee'ah recycling containers are available in most areas.

### **Challenge 3: Loss of Wildlife**

Animals such as camels, Arabian oryx, and others are native to the UAE. When the country started developing, land was used for building. Expanding cities into desert areas has changed the way many animals live. Some animals have adapted to living close to large, well-developed cities. Others are endangered. To protect the endangered animals in the UAE, nature reserves were created.



Figure 18 Arabian Oryx in Desert

### **Challenge 4: Water Shortage**

The growing population of the UAE created high demand for water resources. Desalination plants were built to produce more water. In desalination plants, the salt is removed from sea water making it safe to use. Some of the processed wastewater is used in irrigation. Programs have begun to teach adults and children to conserve water.

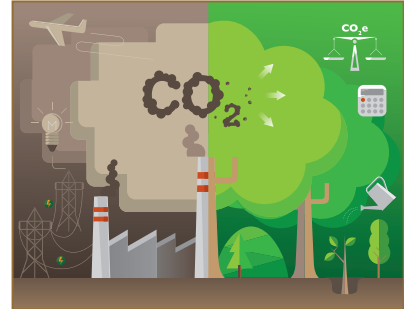


Figure 19 Desalination Plant in UAE



### Challenge 5: Carbon Footprint

The carbon footprint is used to measure the amount of pollution in the environment. The carbon footprint in the UAE is one of the largest in the world. Programs have started to teach adults and children how to reduce the carbon footprint. Some things you can do to reduce the carbon footprint are: use reusable bags at the grocery store, turn off the lights when you go out of a room, and others.



### Challenge 6: Law Enforcement in the Modern Age

With so many people in one place, law enforcement can be a challenge. Cities in the UAE have used technology to make cities safer and to enable police to be more efficient. Traffic cameras catch drivers who speed on the roads. Cameras in public places are monitored centrally for dangerous activity. Law enforcement in the UAE also catch people committing crimes using their computers. This is called cybercrime. Thanks to the police and the law makers, the country is one of the safest countries in the world.



### Activity 2: Concept Check

Answer the questions.

1. What is the main idea of the text?

.....

2. What happened when cities were expanded into desert areas?

.....

3. When it comes to waste generation, what is one way to protect the environment?

.....

4. What is desalination?

.....

5. Why was law enforcement challenging as the UAE developed?

.....

6. What is cybercrime?

.....



### Activity 3: Challenges and Solutions

List the major challenges in the text and at least one solution mentioned.

| Challenges | Solutions |
|------------|-----------|
| 1          |           |
| 2          |           |
| 3          |           |
| 4          |           |
| 5          |           |



### Activity 4: Search and Draw

With a partner, search for information about the indigenous animals in the UAE. Select 1 animal. Draw the animal, and find out where you can see it today.

Animal: ..... Where can you see it today? .....

## **Lesson 7:**

# **Education in UAE**

**Grade 4**

**Our UAE, Our World:** Understanding our Past,  
Present and Future

**Lesson Objective:** In this lesson, students will describe the development of education in the UAE.

**Key Vocabulary:** education, university, military service, banking, aviation





### Activity 1: Discussion

Read a famous quote and discuss what it means.



Figure 20 H.H. Sheikh Zayed Bin Sultan Al Nahyan

*“The greatest use that can be made of wealth is to invest it in creating generations of educated and trained people.”* – H.H. Sheikh Zayed Bin Sultan Al Nahyan

What do you think this quote means?

## Education Develops in the UAE

In the time of the Trucial States, there was no organized public education. Children learned how to read the Quran at home or in neighborhood mosques. Education was very basic.

After the formation of the UAE, establishing schools and an educational system was a high priority. The leadership wanted to make sure that all the citizens were literate and educated. The leadership of the UAE believed oil money should be used to develop education for males and females.



Figure 21 College Students

The first university, United Arab Emirates University, was the established in 1977. As the economy developed, there was a need for more higher education institutions. ADNOC Technical Institute opened in 1978 and Higher Colleges of Technology opened 1988. Graduates of these two educational institutions had the technological skills that the economy required.

The banking industry also developed, so the Emirates Institute for Banking and Financial Studies was established in 1983. In 1985, Emirates Airlines was founded. This demanded a new type of education – aviation. In 1991, the Emirates Aviation College opened its doors.

In the years to follow, University of Sharjah (1997), Zayed University (1998), Abu Dhabi University (2003) and Khalifa University (2007) were established. Other universities include New York University of Abu Dhabi, American University of Sharjah, American University of Dubai, the British University in Dubai, and the Canadian University. There are only a few universities that offer degrees that are useful in the UAE economy.



Figure 22 Aviation Students



Figure 23 Military Service in UAE

Military service in the UAE is mandatory for Emirati males and optional for Emirati females. The military trains the people and prepares them for the future. It educates them about their culture and tradition, and helps them develop discipline and positive behaviours. Some Emiratis decide to make a career in the military. The country thanks the men and women of the UAE Armed Forces for their service.



## Activity 2: Concept Check

Answer the questions.

1. In the time of the Trucial States, what was education like?

.....

2. What did the UAE leadership want to do about education?

.....

3. What was the first university in the UAE?

.....

4. Why is military service important to the country?

.....

5. Why is military service important to those who are serving?

.....



### Activity 3: Timeline

Make a list of universities that opened in the years listed below.

| Year | Event                                       |
|------|---|
| 1977 | United Arab Emirates University established |
| 1978 |   |
| 1983 |   |
| 1985 |   |
| 1988 |   |
| 1997 |   |
| 1998 |   |



### Activity 4: Challenge Question:

Describe the relationship of the growing economy to the growing number and type of educational institutions.

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## **Lesson 8:**

# **Diversification of the Economy**

**Grade 4**

**Our UAE, Our World:** Understanding our Past,  
Present and Future



**Lesson Objective:** In this lesson, students will explore the changes in the UAE economy based on needs and wants.

**Key Vocabulary:** commerce; heritage centre; ecotourism; entrepreneurship; needs; wants; goods; services; unification



## Activity 1: Brainstorm

Have you visited the Dubai Frame? Did you see the old part of the city? What else did you see? Summarize your ideas.



Figure 24 Dubai Frame

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## Development of the Emirates

After the UAE formed, each of the seven emirates developed in its own way. The way each emirate developed was based on its location, its natural resources, its history, and the preferences of the people in the Emirate.

Abu Dhabi, once a quiet costal area became a modern city that offered many new jobs and opportunities for prosperity to its citizens. Today, oil is still an important source of income in Abu Dhabi, but tourism is growing. Tourists come to the emirate to enjoy its sandy beaches and to visit the icons of the city.

The development in Dubai focused more on trade than oil. Dubai developed into a regional center for commerce located in Dubai Creek. Small dhows used to be the most common way to receive goods in Dubai. As the business increased, larger ships were needed to carry more goods. The creek bed was cleared and made deeper, so that large cargo ships could reach the port to load and unload the goods. In 1979, Jebel Ali port was opened enabling the UAE to expand international trade. Tourism is also a large part of the economy of Dubai.



Figure 25 Jebel Ali Port

The first airport in the region was in Sharjah. People travelling from Great Britain to India or Australia made a stop in Sharjah to refuel. There, they spent the night and then continued their trips.

Today, Sharjah is the cultural and heritage centre of the region. It offers many museums that allow us to learn about the country's past. Additionally, it is the home to many manufacturing and real-estate companies. Ecotourism is the newest tourist attraction this emirates has to offer. Visitors can enjoy nature and wildlife at the Kalba Conservation Reserve. Sharjah is also the home of many universities such as Sharjah University, Higher Colleges of Technology, American University of Sharjah, etc. Many are located in Sharjah University City.



Figure 26 Pink Rock in Sharjah – Ecotourism Destination

Umm Al Quwain is located on the coast so hotels were built near the beach. Tourist attractions include museums or the waterpark.

Ajman opened up to local and foreign investors in the areas of real-estate and business development. The emirate focused on an urban planning strategy to develop outlying areas of the emirate. Entrepreneurship (opening a business) is an option for Emiratis to explore in Ajman.

Located on the east coast of the country, the emirate Fujairah served as a port. The oil industry largely impacted its development. There was a need for oil storage, so large storage facilities were built in Fujairah.



Figure 27 Bidya Mosque

Ras Al Khaimah was an area where the pearling industry thrived. Even today, one can book a tour to learn about pearl diving.

Both Fujairah and Ras Al Khamiah are popular tourist destinations. They offer a number of luxury resorts, as well as heritage sites. For example, Al Bidya Mosque, the oldest mosque in the region is located in Fujairah. Ras Al Khamiah has added adventure tourism. It is the home of the longest zip line in the world.



### Activity 2: Concept Check

1. In addition to oil, what other industry developed in Abu Dhabi?

.....

2. Which part of the country developed into a regional center for commerce?

.....

3. Where was the first regional airport?

.....



4. Which emirate encourages the Emiratis to explore entrepreneurship?

.....

5. Which emirate is the home of the longest zip line in the world?

.....



### Activity 3: Extended Activity

The UAE economy diversified based on the needs and wants of the people and the businesses. Diversify means adding more ways of making money to an economy. Review the terms and definitions and complete the table of needs and wants.

| Term      | Definition  |
|-----------|---|
| goods     | something that is produced (cars, furniture, shoes and computers)                             |
| services  | work that companies or people do (maid service, gardening, and teaching)                      |
| needs     | something we have to have to live (water and food)  |
| wants     | something we would like to have but do not need to survive (new toys)                         |
| producers | people who make the goods and provide the services (car company, furniture store and farmers) |
| consumers | people who buy the goods and services   |

Using the definitions above, sort the following into a list of needs and wants:

|          |       |            |         |
|----------|-------|------------|---------|
| medicine | house | television | toy     |
| candy    | milk  | shirt      | cupcake |

| Needs | Wants |
|-------|-------|
|       |       |
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#### Activity 4: Term Practice

Using the definitions in Activity 3, label each statement as a good or as a service.

| Statement                                   | Circle one |         |
|---|------------|---------|
| You went to the salon to get your hair cut. | good       | service |
| You got a new backpack for school.          | good       | service |
| Your father pays to get his car washed.     | good       | service |
| Your mother bought a new car.               | good       | service |
| A mechanic is fixing your father's car.     | good       | service |

### Notes:

This image shows a single page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, leaving small margins at the top and bottom. There is no handwriting or other markings on the paper.

## **Lesson 9:**

# **Entertainment and Tourism**

**Grade 4**

**Our UAE, Our World:** Understanding our Past,  
Present and Future



**Lesson Objective:** In this lesson, students will describe tourist attractions in the UAE.

**Key Vocabulary:** entertainment; tourism; ecotourism; medical tourism; shopping; sightseeing



## Activity 1: Brainstorm

List 5 attractions that tourists would like to see in the UAE. Why do you think these attractions are important to see?

| Attraction | Why should tourists see it? |
|------------|-----------------------------|
| 1.         |                             |
| 2.         |                             |
| 3.         |                             |
| 4.         |                             |
| 5.         |                             |

### Tourism in the UAE

The UAE is a very popular tourist destination. Tourism is a growing part of the country's GDP, so it is very important to offer a variety of choices for people to visit. People from all over the world come to the country for the entertainment, and to enjoy shopping and sightseeing. Lately, two additional branches of tourism have developed: ecotourism, and medical tourism.

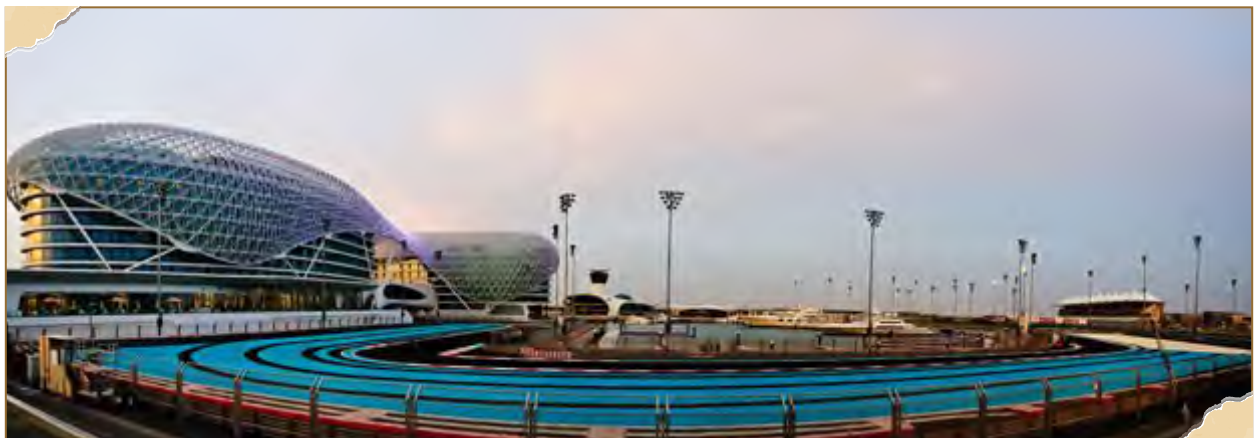


Figure 28 Formula 1 Grand Prix Circuit

Entertainment in the UAE is so varied that there is something for everyone. Racing fans can attend the Formula 1 Grand Prix in Abu Dhabi, camel races, or the Dubai World Cup, the richest horse race in the world.

Others may find concerts at the Du Arena in Abu Dhabi or the newly opened Coca-Cola Arena in Dubai more interesting. For those who enjoy a night of ballet or opera, there is the Dubai Opera House.

Adults and children enjoy the themed amusement parks. There are several waterparks throughout the country: Yas Waterworld in Abu Dhabi, Atlantis Aquaventure Waterpark and Wild Wadi Waterpark in Dubai, Dreamland Aqua Park in Umm Al Quwain, and Wadi Adventure in Al Ain. There are theme parks such as Motiongate, Bollywood Park and IMG World of Adventure in Dubai, Ferrari World in Abu Dhabi, and more.



Figure 29 Atlantis Hotel

Global Village is a combination of shopping and amusement. Visitors can step into different pavilions to visit one of the many countries represented there. They can taste different dishes and buy clothing and other items.

Tourists can join desert safaris where they can enjoy riding the dunes, traditional Arabic food, and riding camels. Wildlife reserves showcase the native wildlife of the region including endangered species.



Many tourists travel to the UAE for shopping. Dubai Mall is a popular destination. It is not only home to many international brands, it is next to the Dubai fountain and the Burj Khalifa. Mall of the Emirates is often visited by tourists. It has an indoor ski resort. Many enjoy the idea of skiing in the desert. Old Souq in Dubai is a tourist hotspot. To get there, tourists must cross the creek. A very popular way to do that is taking an abra (small boat). Dubai Museum is conveniently located in that area, so the tourists can learn about the country's past and experience the souq on the same day.



Figure 30 Ski Dubai in Mall of the Emirates

The idea of ecotourism is to explore nature but not harm the environment. The UAE recognizes this as an important branch of tourism. For example, the government of Sharjah invested a lot of money to develop a nature reserve that tourists can visit. It also serves to preserve animals and plants that are endangered. Mangroves also attract tourists. Tourists can go kayaking and bird watching. Ras Al Khaimah has developed adventure tourism. Similar to ecotourism, in addition to being outside in the nature, tourists can visit Jebel Jais, the highest mountain in the UAE and try the longest zipline in the world.



Figure 31 zipline at Jebel Jais

One way to learn about a country is to visit its cultural and heritage centres. They offer a glimpse into the past. Qasr Al Hosn in Abu Dhabi dates back to 18<sup>th</sup> century. It was among the first permanent structures in the region. Other heritage sites include: the UAE Heritage Village in Abu Dhabi, Qasr Al Muwaiji (the birthplace of H.H. Sheikh Zayed bin Sultan Al Nahyan) in Al Ain, Heritage Village in Dubai, Sharjah Museum of Islamic Civilization in Sharjah, Al Bithnah Fort in Fujairah, and the Dhow Yard in Ajman.



Figure 32 Qasr al Hosn

Over the years, the UAE has developed into a leading power in many aspects. One of them is the medical field. Many well-equipped hospitals were open. They employ highly qualified doctors, surgeons and nursing staff. Visitors from other countries come to the UAE for medical treatments.

All these tourist attractions are good for the UAE economy. Some tourists have to pay for a visa. They pay for the hotels they stay in, consume food and drinks, and use public



transportation. They spend money on souvenirs, entertainment and park tickets. All this money stays in the country and can be used to develop more attractions that will bring even more tourists.



### Activity 2: Concept Check

Answer the questions.

1. Why is tourism important in the UAE?

.....

2. Where would you go if you wanted to see a horse race?

.....

3. Name one arena that hosts big concerts in the UAE.

.....

4. What are the different things a tourist can do in the Old Souq area?

.....

5. What is ecotourism?

.....

6. List two places one can go to enjoy ecotourism.

.....

7. What can we learn in the culture and heritage centres?

.....

8. What is medical tourism?

.....



### Activity 3: Expressing an Opinion

What is your favourite type of tourism? Which activities do you like the most? Explain with at least two reasons.

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### Activity 4:

Plan a weekend trip for your family. Include a location where you can learn about local history, a place where everyone can have fun, a place where you can see a show, a place where you can see endangered species, and a place where you can try food from another country. Explain why you have selected these particular locations.

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## Notes:

This image shows a full page of a handwriting practice worksheet. It consists of multiple rows of horizontal dashed lines spaced evenly down the page, providing a guide for letter height and placement. The background is plain white, and there are no other markings or text present.

## **Lesson 10:**

# **Electronic Commerce**

**Grade 4**

**Our UAE, Our World:** Understanding our Past,  
Present and Future



**Lesson Objective:** In this lesson, students will understand what electronic commerce is and how it changed the way we shop today.

**Key Vocabulary:** electronic commerce; logo; online shopping; advantages; money transfer; online banking



## Activity 1: Brainstorm

Have you paid for anything online? What was it? How did you do it?



Figure 33 Online Commerce

### Online Commerce

Electronic commerce (e-commerce) is buying and selling goods and services on the Internet. The payments are done online. People use their credit or debit cards when ordering goods.

Electronic commerce has many advantages. The biggest advantage is that people can shop whenever they want to shop. It is even open on holidays. Another advantage is that people can pay for goods and services over the Internet. Prices are usually lower because less people are employed by the company, so they can reduce the prices. Electronic commerce is global. This means that people can buy goods from all over the world.

Traditionally, people went to banks and withdraw money to buy goods. Today, the transactions can be over the Internet using a debit or credit card. Online transactions are very common, so the banks have developed online banking systems. Customers can manage their own accounts, pay their bills and send money to other countries without going into a bank. Online banking has made this possible.



## Activity 2: Concept Check

Using the text, answer the questions below.

1. What is electronic commerce?

.....

2. List two advantages of electronic commerce.

..... and .....

3. What is online banking?

.....



## Activity 3: Compare and Contrast

How are traditional commerce and electronic commerce similar and different?

Using table below, list characteristics of each one in the appropriate column. Write the characteristic that they have in common in the centre column.

| Electronic commerce only | Both electronic commerce and traditional commerce | Traditional commerce only    |
|--------------------------|---|------------------------------|
| You shop online.         | You have to pay for both.                         | You have to go to the store. |
|                          |   |                              |
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#### Activity 4: Use Your Creativity

The text mentioned that items in a physical store are often more expensive than items bought online. List the reasons.

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### Notes:

This image shows a full page of a worksheet designed for handwriting practice. It features 20 evenly spaced, horizontal dashed lines across the entire width of the page. The background is plain white, and there are no margins or additional markings present.



A graphic of a wooden tag with two holes at the top, pinned to a larger piece of aged, textured paper. The tag contains the text 'Lesson 11:'. The paper is pinned to the background with four grey triangular corner tabs.

## **Lesson 11:**

# **Emiratization and Giving Back**

**Grade 4**

**Our UAE, Our World:** Understanding our Past,  
Present and Future

**Lesson Objective:** In this lesson, students describe Emiratization. You will discover the reasons for this initiative and the needs and wants of the workforce and the government.

**Key Vocabulary:** Emiratization; initiative; government sector; private sector



An illustration of stacks of gold coins and bundles of green banknotes. There are several stacks of coins of varying heights and several bundles of banknotes, some standing upright and one lying flat. The background is a solid blue color with a small orange and white torn-paper-like detail in the bottom right corner.

[illegible]

## Emiratization and Giving Back

Emiratization is a government initiative to employ Emiratis in the private sector and empower them to start their own business. The initiative aims at providing training programs and education funding for Emirati men and women to prepare them for the new job opportunities.

Emiratization efforts encourage companies and businesses to employ and develop Emirati employees. With only 20% of the total population being Emirati, it is very important for Emiratis to work to contribute back to their society. Programs like Tawteen and Absher help Emiratis find jobs.

Making money is important to every person in society. By making money, people can pay for the goods and services that they need to live. What we have to have to live are called our needs. Needs are food, water, clothes, shelter, protection, and education. Our wants are things we would like to have but are not necessary. Wants can also be similar to needs but with more luxury or expensive style. For example we need food, but eating ice cream is a want because it is not necessary for life.

In order for Emiratis to satisfy their wants and needs, is it important to be employed and making money. By spending money on goods and services, Emiratis and expatriates contribute to the UAE economy.



### Activity 2: Concept Check

1. What is Emiratization? .....
2. What percentage of the population are Emiratis? .....
3. Why is it important to make money through work?.....



### Activity 3: Definition

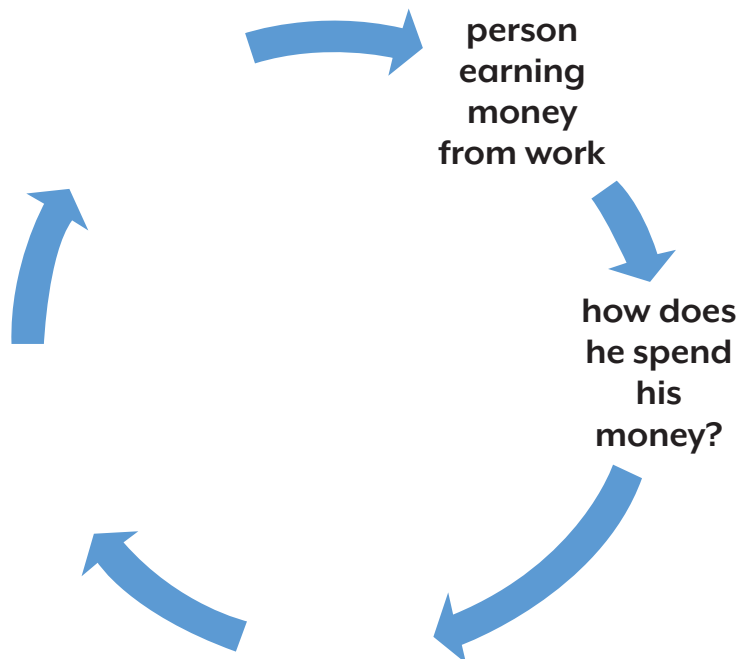
Explain the difference between wants and needs.

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### Activity 4: Use Your Creativity

Draw a diagram showing how earning money and spending money supports the UAE economy. Start with a person making money from work. What does that person spend money on?






## Notes:

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A light brown, torn-edge paper tag with two punch holes at the top, featuring the text "Lesson 12:".

## Lesson 12:

A large, rectangular piece of aged, textured paper with a light brown color, held in place by four grey triangular corner tabs. The text "Growth in Entrepreneurship" is centered on the paper.

# Growth in Entrepreneurship

Grade **4**

**Our UAE, Our World:** Understanding our Past,  
Present and Future

**Lesson Objectives:** In this lesson, students will

- 🌀 Define entrepreneurship
- 🌀 Explain how entrepreneurship works

**Key Vocabulary:** entrepreneurship; entrepreneur; innovative ideas; innovation; stakeholders



## Activity 1: Brainstorm

What is the most important thing you need to open a business? List your ideas.

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Figure 35 Starting a Business



People who start businesses are called entrepreneurs. An inspiring idea is the most important starting point for an entrepreneur. The idea motivates him to do the research to show that the product or service is needed. He brainstorms how to implement his business idea. He develops a strategy and sets goals that lead him to open up his start-up. These are the steps describing entrepreneurship. Entrepreneurs can be men or women, old people or young people. Individuals can be entrepreneurs and groups can be entrepreneurs.



Figure 36 Starting a Business

Entrepreneurs take risks and often create new goods and services. Sometimes entrepreneurs use an existing good or service in a new way. They are usually very creative and energetic. They believe that their ideas will improve the lives of people community and work very hard to make this happen.

There are many successful entrepreneurs in the UAE. The leadership of the UAE encourages young people to think of innovative ideas and try to implement them. Successful entrepreneurs often create jobs in the economy, making the economy stronger.

The government supports entrepreneurs through training, workshops and funding. In colleges and the universities throughout the country, young men and women participate in Innovation Challenges. They develop business plans and prototypes and present them to experts and potential stakeholders (people/business interested in investing money). If the ideas are well thought out and sound promising, the stakeholders may decide to invest into them.



Figure 37 Innovation Challenge



Students are invited to participate in the events organized by the government or private entities throughout the UAE. Every year in February, all of the UAE celebrates innovation. Events are organized throughout the country by the government, private sector and individuals. The aim of this is to celebrate innovation and support the entrepreneurs to work harder and achieve more.

The benefits of being an entrepreneur are many. First and foremost, this is owning your own business. This means that all the time and energy you invest into it pays off. Your company grows if you invest into it. You set your goals and know that you have to reach them.



### Activity 2: Concept Check

Answer the questions.

1. In your own words, describe entrepreneurship.

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2. How does the government of the UAE encourage entrepreneurship?

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3. What is an Innovation Challenge?

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4. Who are stakeholders?

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5. What is celebrated in the month of February?

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### Activity 3: Making a Connection

List all the benefits of being an entrepreneur mentioned in the reading. Can you think of some more?

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Why do you think entrepreneurship is an option for a person looking for a job?

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List some risks of being an entrepreneur.

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#### Activity 4: Planning a Budget

Imagine that you are planning to open a business. You need to save 60,000 AED to get started. You earn 8,000AED per month at your current job. Your monthly expenses are listed in the table. How long will it take you to reach your target?

| Expense       | Amount budgeted (per month) |
|---------------|-----------------------------|
| Rent          | 4,000                       |
| Food          | 500                         |
| Utilities     | 600                         |
| Gas           | 400                         |
| Entertainment | 100                         |
| Car insurance | 100                         |
| Phone bill    | 100                         |
| Dining out    | 200                         |
| TOTAL         |                             |

How much can you save each month? .....

You need to save 60,000. How many months will it take? .....

How can you reduce your spending to save money faster? .....  
(think of needs and wants)



### Activity 5: Use Your Creativity

Imagine that you are an entrepreneur. What new product or service would you like to create? Discuss with a partner then draw it.

Answer the questions about your business idea.

|  |  |
|--|--|
| What is your business? Are you selling goods or services? What are they? |  |
| What would you need to start the business?                               |  |
| Do you need help from others? What kind of help?                         |  |
| How would you advertise your business?                                   |  |



## Lesson 13:

# Business Leaders in the UAE

Grade 4

**Our UAE, Our World:** Understanding our Past,  
Present and Future

**Lesson Objective:** In this lesson, students will understand what makes a successful business leader.

**Key Vocabulary:** business leader; leadership; DAMAC; catering; Emaar; Dubai Shopping Festival; Dubai Design District; ski resort; Mall of the Emirates

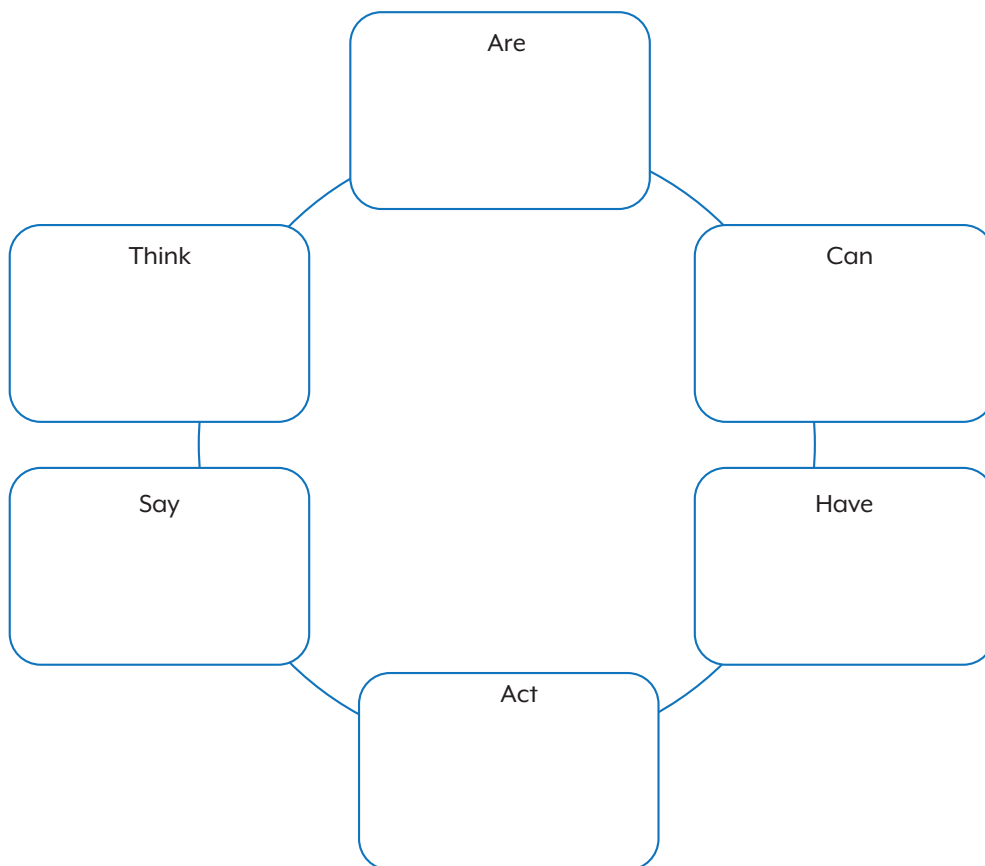


## Activity 1: Mind Map

A leader is a person who leads or guides others.

Leadership are the abilities and skills of a leader. Complete the mind map with two abilities or skills for each area.

### Business Leaders



### Meet Business Leaders

Business is booming in the UAE. Several business leaders emerged and started an organization called the Arab Business Leaders (ABL). The organization was founded in 2011 by Hussain Nasarwin. It has many partners and representatives in Asia, Africa and Europe. The organization has many initiatives in the Middle East. For example, it supports women entrepreneurs in Arab countries.

Their companies employ thousands of people from all over the world. Their goods and services are in demand in the UAE and abroad. Here are a few prominent businessmen and businesswomen:

Hussain Sajwani, Founder and Chairman of global property development company, DAMAC Properties and Founder and Chairman of the DICO Group of Companies.

Mr. Sajwani studied in the United States. When he returned to the UAE, he worked at ADNOC. In 1982, he opened his own company that focused on catering (providing food and drink at social events). His company is the market leader today. It serves food in the Middle East, Africa and the CIS. In the mid-90s, Mr. Sajwani noticed that more and more people were visiting Dubai. He started his new company, DAMAC Properties. Today, Mr. Sajwani employs around 2000 employees and his company has projects not only in the UAE, but also in neighbouring countries.



Figure 38 DAMAC Metro Station

Mohamed Alabbar, Founder and Chairman of Emaar Properties and Founder and Director of noon.com

Mr. Alabbar studied business at Seattle University in the United States. His career started in the banking industry. He also served as the funding director of the Department of Economic Development. It was in his position as chief economic advisor to H.H. Sheikh Mohammed bin Rashid Al Maktoum that he greatly contributed to the development of Dubai. His work boosted tourism. After he initiated the Dubai Shopping Festival in 1996, many more visitors came to Dubai. In 1997, Mr. Alabbar founded Emaar, the property development company responsible for opening the Dubai Mall and Burj Khalifa.

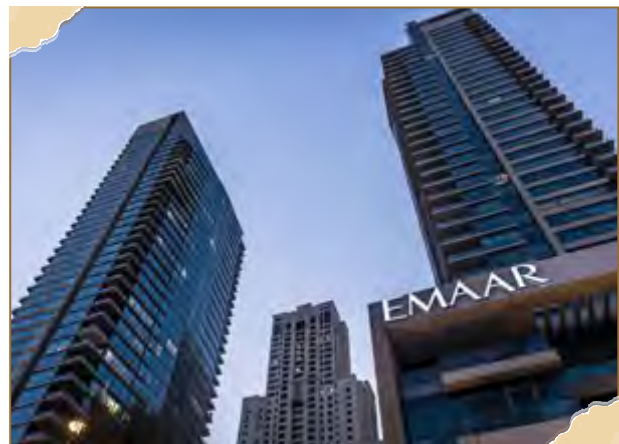


Figure 39 Emaar



Dr. Amina Al Rustamani, President and Chairwoman of Dubai Institute of Design and Innovation

Dr. Al Rustamani obtained her PhD in engineering at Georgetown University in the United States. She worked for TECOM for over 10 years. In 2013, she became the CEO of the company. Dr Al Rustamani sits on many boards in the UAE: Dubai Media Incorporated, Empower, Higher Colleges of Technology, Dubai Free Zone, etc. To sit on a board means to supervise the activities of the company. Dr. Al Rustamani was involved in the development of Dubai Design District. It is an urban development in Dubai that brings together artists, designers and creative thinkers. This is where a lot of fashion shows take place.



Figure 40 Dubai Design District

Majid Al Futtaim, Founder and Owner of Majid Al Futtaim Holding

Al Futtaim family started their trading business in the 1930s. Mr. Al Futtaim founded Al Futtaim Holding in 1992. Today, he operates 13 hotels and 24 shopping malls in the UAE and abroad. His malls are in partnership with the French hypermarket chain Carrefour. One of the most popular malls owned by Mr. Al Futtaim is the Mall of the Emirates. It is the country's only mall that has a ski slope.



Figure 41 Majid Al Futtaim Holdings Carrefour

Fatima Al Jaber, Chief Operating Officer of Al Jaber Group

Ms. Al Jaber is a graduate of the United Arab Emirates University. She is a successful businesswoman. In 2007, Forbes Magazine named her the 7th most influential woman in the Arab world. The year 2009 was a very successful one for Ms. Jaber. She was



Figure 42 Abu Dhabi Chamber of Commerce

elected as the first ever female representative to serve on the board of directors at the Abu Dhabi Chamber of Commerce. That same year, she received the Arabian Business Businesswoman award. Today, Ms. Jaber still serves in the company construction business. She is the Chief Operating Officer.



### Activity 2: Concept Check

1. Which business leader worked for ADNOC?

2. Which property development company opened Dubai Mall and Burj Khalifa?

3. Which business leader was involved in the opening of the Dubai Design District?

4. Who is the developer of the only mall in the UAE that has a ski slope?

5. Who won the 2009 Arabian Business Businesswoman award?

6. Which business leader initiated the Dubai Shopping Festival?



### Activity 3: Group Discussion

In small groups, discuss how these business leaders might have succeeded in their businesses.

Summarize your discussion.

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### Activity 4: Poster

In the reading, you learned about 5 successful business leaders in the UAE. Create a poster about another business leader. He/she can be from the UAE or another country. Here is the template:

|                     |                    |
|---------------------|--------------------|
| <b>Photo</b>        | <b>Name, Title</b> |
| <b>Achievements</b> |                    |



### Activity 5: Extended Activity

Present your poster to the rest of the class. Summarize the people presented by your classmates.

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## Lesson 14:

# Alternatives to Oil: Development of Nuclear Power

Grade 4

**Our UAE, Our World:** Understanding our Past,  
Present and Future

**Lesson Objectives:** In this lesson, students will

- 🌀 Understand how a nuclear power plant produces electricity
- 🌀 Search for information about nuclear power plants in the UAE

**Key Vocabulary:** nuclear power; reactor; turbine; generator; atoms; fission



## Activity 1: Class Discussion

Discuss the types of energy sources listed on the picture.

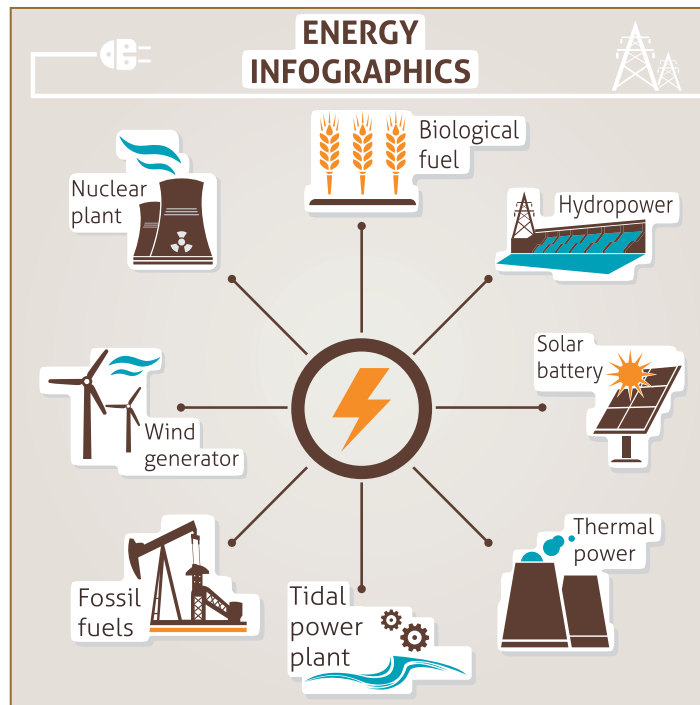


Figure 43 Energy sources

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What do you know about nuclear energy?

### Nuclear Power in the UAE

Electricity can be produced in nuclear power plants. The picture shows the steps. A power station, called a reactor (1), uses heat from nuclear energy to generate electricity. Nuclear reactions inside the containment building (9) produce a lot of heat. This heat produces steam. The steam powers the turbine (4) and the generator (7) to make electricity.

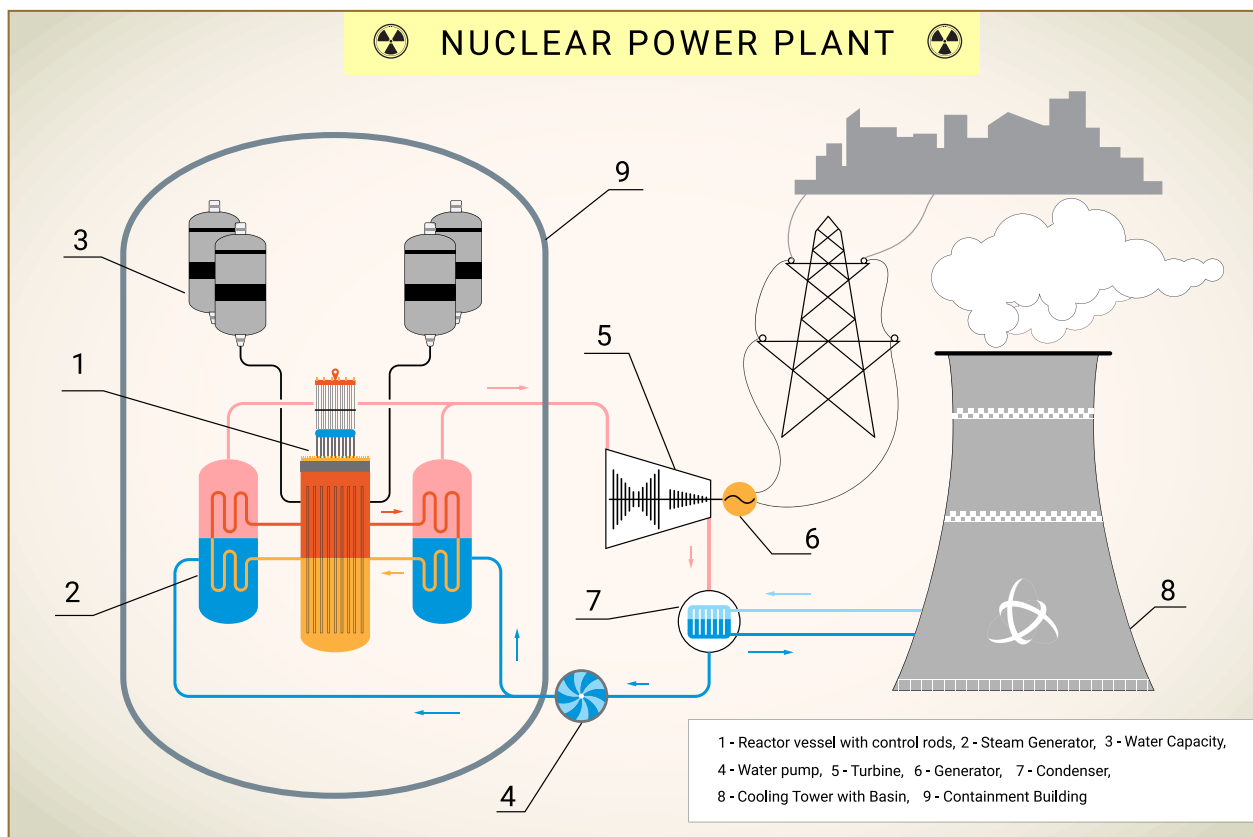


Figure 44 Nuclear Power Plant

To be able to run a nuclear power plant, we need uranium (a highly reactive material). The uranium atoms split into two and cause a reaction called fission. When the atoms split, they produce a lot of heat. Nuclear power plants are usually located near a body of water. The water is used to cool the heat that the reactor produces.



Some of the benefits of the nuclear power plant are: low carbon footprint and cleaner energy. Many countries select this to be one of the sources of energy.

The UAE government studied the electricity and water supply and demand. The study concluded that the population is growing and more water and electricity is needed.

Desalination plants that supply the country with fresh water run on electricity, so electricity is very important. The government has to ensure that there are no power shortages. Oil supplies are getting lower. To meet the demands, the government looked into alternative sources of electricity. Keeping climate change in mind, the government wanted to invest into a cleaner energy source with low-carbon technologies. Nuclear energy was the answer. It met all the demands and has proven to be safe and commercially available.



Figure 45 Nuclear Energy Clean Energy

Barakah nuclear power plant is the first nuclear power station in the UAE. It is located in Abu Dhabi. This is the very first commercial nuclear power plant in the Arab world. The plan is to finish it by 2020. Emirates Nuclear Energy Corporation (ENEC) is the organization that deals with nuclear energy in the UAE.



## Activity 2: Comprehension Check

Answer the questions.

1. What is a reactor?

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2. Why is steam important in the production of electricity at a nuclear power plant?

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3. What is the material used to run a nuclear power plant?

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4. Why are nuclear power plants usually located near a body of water?

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5. Why did UAE government decide to build a nuclear power plant?

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6. When is the first nuclear power plant expected to be ready?

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### Activity 3: Search for Information

With assistance from your teacher, search for information about another country that successfully uses nuclear power. List the country and give facts about the country's nuclear program.

Country: .....

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#### Activity 4: Extended Activity

Nuclear energy is safe and technology is constantly improving and making it safer. Unfortunately, there are a few examples of accidents.

In pairs, search for information about a nuclear mishap. Examples include Chernobyl and Fukushima and others. What caused the mishap? How could it have been avoided?

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#### Activity 5: Class Discussion

Discuss the pros and cons of nuclear energy. Summarize the discussion.

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### Notes:

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



A graphic of a torn piece of light brown paper with two punch holes on the left side, pinned to a larger piece of textured brown paper with grey triangular corner tabs. The background is a gradient from blue at the top to orange at the bottom, with a desert landscape at the bottom.

## Lesson 15:

# Energy and Environmental Protection

Grade **4**

**Our UAE, Our World:** Understanding our Past,  
Present and Future

**Lesson Objective:** In this lesson, students will understand more about energy is and how it is used in the UAE.

**Key Vocabulary:** energy; renewable; non-renewable; hydropower; biomass; fossil fuels; environment; pollution; carbon dioxide; sustainability



### Activity 1: Class Discussion

How does the picture illustrate energy and what it does? How important is electric energy to modern society? Summarize the discussion.

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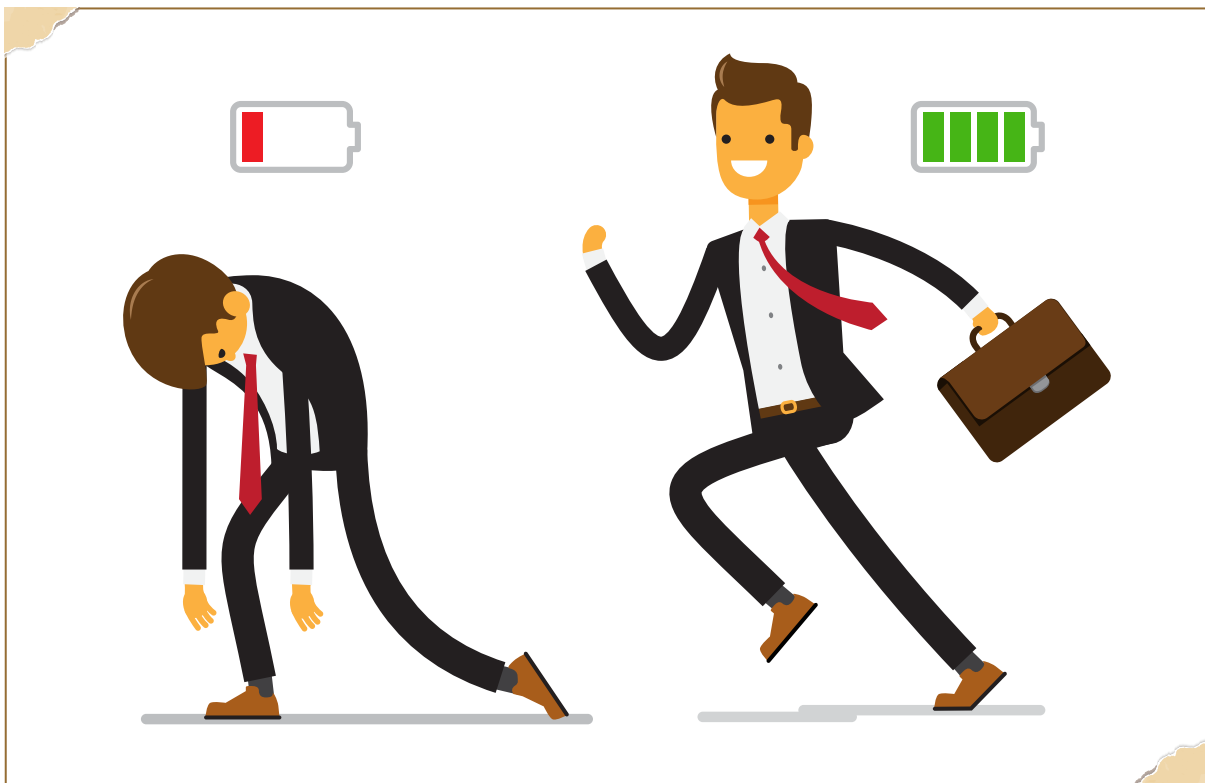


Figure 46 Running out of Energy

### Energy in the UAE

Energy is the ability to do work. It is everywhere. It makes things move. In the picture above, it is clear that the person on the left is running low on energy and has a hard time moving. If he had some food, his energy would increase.

There are two types of energy: stored (potential) and working (kinetic) energy. Stored energy is something that is saved for later. Working energy is the energy we use for doing work around the house, playing sports, and so on.

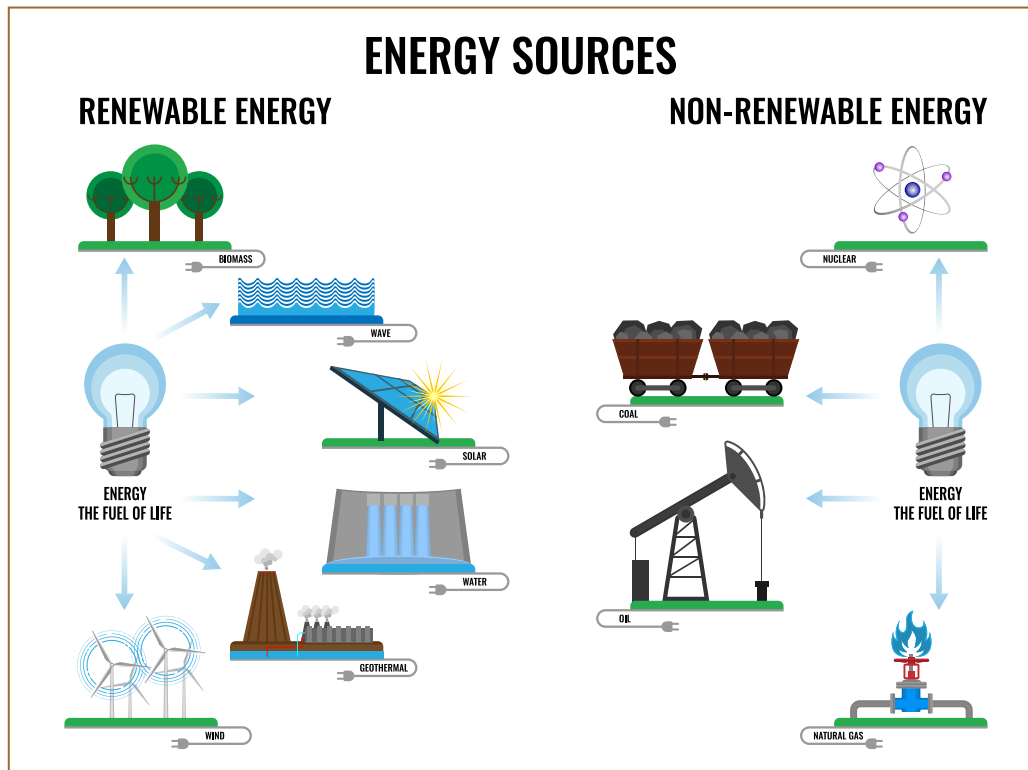


Figure 47 Energy sources

Energy sources are also divided into two types: renewable and non-renewable.

Renewable energy comes from sources that can be replenished (refilled). Solar energy is a renewable energy. It can be used to create electricity and heat. Another renewable energy is hydropower. This is the energy we get from water. Biomass (energy from plants), wind energy, and geothermal energy (energy from inside the earth) are also renewable.

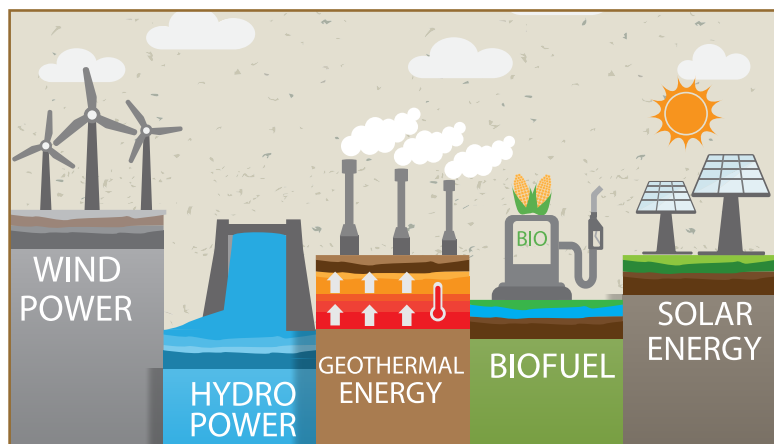


Figure 48 Renewable Energy



Non-renewable energy is the source of energy that is not replenished. It is a source that will eventually run out. Fossil fuels are an example of non-renewable energy. We call them fossil fuels because it took millions of years for them to form. They are the remains (fossils) of dead animals and plants. Oil, natural gas, coal, uranium (nuclear) are examples of non-renewable sources of energy.

Our environment (everything that is around us) is endangered by non-renewable energy sources. When a lot of chemicals or gasses are released into the air, it becomes polluted. Factories release chemicals and waste into the rivers and oceans. This pollutes the water.

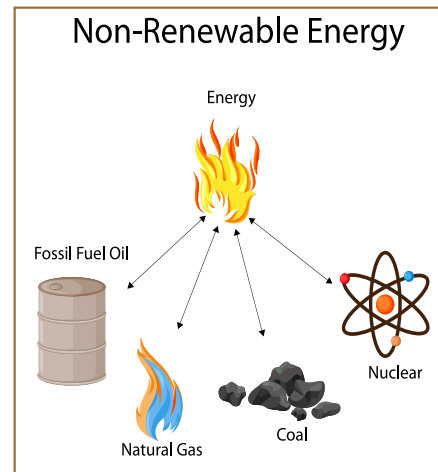


Figure 49 Non-Renewable Energy



Figure 50 Air Pollution

Pollution causes many problems: people have a hard time breathing and can get sick, animals are endangered, and plants die. Pollution released into the environment is measured in carbon footprint. Carbon footprint is the amount of carbon dioxide ( $\text{CO}_2$ ) released into the atmosphere (air that surrounds our planet). The more  $\text{CO}_2$  in the air, the more polluted it is.

To help protect the planet, many countries are spreading awareness. Children learn in school what pollution is and what can be done to protect the environment. One of UAE's main objectives is the environmental protection. The government has created laws that introduced an efficient use of natural resources. Additionally, it has created nature reserves where endangered animals find rescue, protected marine and costal environment, and introduced sustainability. Sustainability is the idea that human beings should act responsibly to save the resources. This will ensure that these resources are also available for future generations.



Figure 51 Sustainability





## Activity 2: Concept Check

Fill in the blanks using the following words in the boxes.

|                          |              |                  |                |
|--------------------------|--------------|------------------|----------------|
| non-renewable            | biomass      | carbon footprint | sustainability |
| environmental protection | fossil fuels | hydropower       | renewable      |

1. The two types of energy sources are ..... and .....
2. .... is the energy we get from water.
3. The energy we get from plants is called .....
4. The remains of dead animals and plants are called .....
5. .... is used to measure the amount of pollution in the environment.
6. .... is one of the main objectives in the UAE.
7. .... means using the resources in a manner that will ensure that future generations can enjoy them too.



## Activity 3: Making a Connection

List three ideas of things you can do to help save the environment.

| Idea           | How can this idea affect the environment?  |
|----------------|--|
| Using bicycles | Using bicycles instead of cars can reduce the release of CO <sub>2</sub> into the air. |
|                |  |
|                |  |
|                |  |



#### Activity 4: Search for Information

In groups of 4, visit the Ministry of Climate Change and Environment website provided by your teacher.

Identify one area related to environment protection and write a short summary. Answer the following questions.

1. Which area are you focusing on?
2. Give a brief description.
3. How will this help the environment?



#### Activity 5: Create a Poster

Create a poster using your answers.

## Notes:

This image shows a full page of a handwriting practice worksheet. It consists of multiple rows of horizontal dashed lines spaced evenly down the page, providing a guide for letter height and placement. The background is plain white, and there are no other markings or text present.

## Lesson 16:

# Carbon-free Energy

Grade 4

Our UAE, Our World: Understanding our Past,  
Present and Future

**Lesson Objective:** In this lesson, students will understand how the UAE is working on developing an environment friendly and sustainable smart city.

**Key Vocabulary:** sustainable infrastructure; clean energy mix; smart city; environment friendly; zero carbon footprint; e-cars; hydrogen; Tesla Model S





### Activity 1: Brainstorm

What is a smart city? How is it different from a traditional city? Summarize your ideas.

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### Carbon-free Cities

Population growth is causing the increase of power demand. The UAE government is looking into building a new, sustainable, infrastructure that produces energy using renewable resources. Pollution is also a big concern, so this new infrastructure will also help in that aspect.

The UAE is trying to move from using fossil fuels, such as oil and gas, to a different, environment friendly, energy sources. One such energy source is the clean energy mix. It consists of renewable, nuclear and clean energy sources. UAE Energy Strategy 2050 is aiming at using the clean energy mix in the future.



Figure 52 SMART City

Masdar City is an example of where the future of the UAE is going. It is a smart, environment friendly, and sustainable community near Abu Dhabi airport that offers a living and working space that uses less energy. The goal is that the city has a zero carbon footprint. For example, the buildings in Masdar city are built in such a way that they save a lot of electricity and water. The windows of the buildings are designed in such a way that they protect the buildings from direct sun. The buildings are powered by clean energy and the people living there can enjoy walking around or taking

driverless buses from place to place. E-cars are also part of Masdar city. Residents will not use their petrol fuelled cars in the city. The plan is to open up new businesses and a free zone that will attract foreign investments.

Sustainable City in Dubai is another example. It is a property in Dubai designed for zero carbon emissions. Greenhouses and solar-powered villas are some of the features.

The UAE government is investing into electric vehicles, such as e-cars. These vehicles run on battery (using electric supply), solar cell (using solar energy to run the car), and fuel cell (using hydrogen made from water or natural gas). Tesla Model S is an example of an electric car. It is one of the fastest and most popular electric cars. Many other car manufacturing companies are also investing into the development of such vehicles.



### Activity 2: Comprehension Check

1. What is the clean energy mix?

2. What is Masdar City?

3. Where is Masdar City located?

4. Where is Sustainable City located? What are some of its features?

5. What are the three types of electric cars?



### Activity 3: Compare

Can you think of some advantages and disadvantages of electric cars? One of each is done for you. List at least two more for each.

| Advantages                     | Disadvantages   |
|--------------------------------|---|
| Do not produce CO <sub>2</sub> | There are not many trained mechanics to fix them if they are broken |
|                                |   |
|                                |   |
|                                |   |



### Activity 4: Critical Thinking

Masdar City and Sustainable City are examples of SMART cities. What are some of the smart gadgets or services you could find there?

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## Notes:

[illegible]

## **Lesson 17:**

# **Fifth-generation (5G) Technologies and Artificial Intelligence in the UAE**

**Grade 4**

**Our UAE, Our World:** Understanding our Past,  
Present and Future



**Lesson Objective:** In this lesson, students will describe Fifth-generation (5G) technology and Artificial Intelligence.

**Key Vocabulary:** Fifth-generation (5G) technology; machine to machine communication; ultra-reliable; mobile broadband; UAE Vision 2021; Artificial Intelligence (AI); intelligent decision



## Activity 1: Brainstorm

What is 5G technology? What is Artificial Intelligence? Summarize your ideas.

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Figure 53 Fifth Generation Technologies



Figure 54 Artificial Intelligence

## New Technologies

Technology is everywhere. We use it to make our everyday lives easier or for entertainment. Scientists and IT developers have worked very hard on developing a new technology that will reduce the time it takes to load an image or a video. It is called the Fifth-generation (5G) technology. It is almost perfect – real-time internet with hardly any delays.

5G technology was not only developed for reducing the time a video loads. It is useful in other areas, such as medicine. There are three major areas in which this new technology will be useful:

1. Massive machine to machine communication – connecting billions of devices without needing a human to do any work. For example, cars communicating with one another and helping reduce car accidents and traffic jams.
2. Ultra-reliable low latency communication – this means that the communication can be done in real-time. Without any delays, doctors from one hospital could be treating patients in another hospital.

- Enhanced mobile broadband – this would allow faster data exchange. For example, television crews could do live reporting without using broadcast vans.

In the UAE, Etisalat is working very hard to upgrade their network to 5G. It goes hand in hand with the UAE 2021 vision, as the UAE aims to become the regional leader in telecommunication infrastructure.

Artificial Intelligence is the ability of a machine to develop thinking and learning skills. Just like a human, a computer would learn to develop different thinking skills and solve problems. For example, if the human is caught in the rain without an umbrella, he gets wet. Next time, when he goes outside and sees that it is raining, he will remember to put on a raincoat, so that his clothes and hair do not get wet. This is an intelligent decision. Scientists are trying to develop smart devices that function this way.

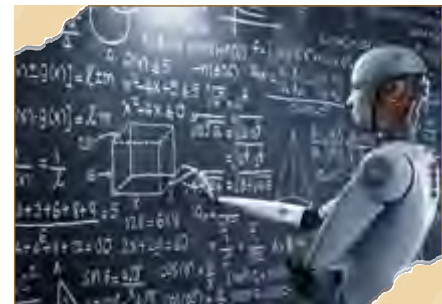


Figure 55 Artificial Intelligence

The UAE scientists are also on board. Following the AI strategy launched by H.H. Sheikh Mohammed bin Rashid Al Maktoum, Prime Minister of the UAE and Ruler of Dubai, the scientists are working on developing Smart Government. This new AI technology will make the government performance better and more efficient.



## Activity 2: Activity 2: Concept Check

- List three areas that 5G technology will be useful for and give an example for each:

| Area where 5G will be useful | Example |
|------------------------------|---------|
|                              |         |
|                              |         |
|                              |         |

- What is Artificial intelligence?

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- How is the UAE developing towards using the 5G technology and artificial intelligence?

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### Activity 3: Critical Thinking

Work in pairs to implement what you have learned in this lesson. Name two areas where 5G technology and/or Artificial Intelligence could be useful. What would change? Explain.

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### Activity 4: Applying Knowledge

Work in pairs. Name two areas where 5G technology and/or Artificial Intelligence could be dangerous. What would change? Explain.

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### Activity 5: Debate

Divide into teams and have a debate about how helpful and how dangerous Artificial Intelligence could be. Use activities 3 and 4 to help you explain your points.

Summarize your points.

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## **Lesson 18:**

# **The UAE Government's Vision for the Future**

**Grade 4**

**Our UAE, Our World:** Understanding our Past,  
Present and Future

**Lesson Objective:** In this lesson, students will explore the UAE Vision 2021 and six national priorities.

**Key Vocabulary:** UAE Vision 2021; competitive knowledge economy; judiciary; cohesive society; preserved identity; education; environment; infrastructure; healthcare



## Activity 1: Brainstorming

What is a vision?



Figure 56 Road to Vision 2021

A vision is a goal you would like to achieve. It has a strategy (how you will achieve it) and a deadline (when you would like to achieve it).

The UAE government set a number of goals to achieve by the year 2021. This set of goals is called UAE Vision 2021. In 2021, the country will celebrate its Golden jubilee (50 years) and by that time, the government would like to achieve all these goals. UAE Vision 2021 is divided into six priorities: Competitive Knowledge Economy, Safe Public and Fair Judiciary, Cohesive Society and Preserved Identity, First-rate Education System, Sustainable Environment and Infrastructure and World-class Healthcare. Everything you need to know about the UAE Vision 2021 can be found on the website provided by you teacher.



### Activity 2: Using Digital Resources

Identify UAE Vision 2021 national priorities and add keywords that can help you describe it. The first one was started for you.

| UAE Vision 2021 National Priority | Keywords                               |
|-----------------------------------|--|
| Competitive Knowledge Economy     | economy; oil industry; diversification |
|                                   |  |
|                                   |  |
|                                   |  |
|                                   |  |
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### Activity 3: Using Digital Resources

Make a list of all the national priorities. Go back to lessons 1-17 and match their topics with the national priorities. The first one was started for you. Can you add more lessons?

| Vision 2021 National Priorities | Lessons that focus on these priorities |
|---------------------------------|--|
| Competitive Knowledge Economy   | Diversification in Economy (Lesson 8)  |
|                                 |  |
|                                 |  |
|                                 |  |





#### Activity 4: Applying Vision 2021

Divide into 5 groups. Use the information you have collected in activities 2 and 3, and the UAE Vision 2021 website. Each group will focus on one of the national priorities. Prepare a PowerPoint/poster presentation answering the following questions:

1. Which UAE Vision 2021 national priority are you presenting?
2. Briefly describe the national priority. What are some of the goals?
3. How can the people and the government achieve these goals?
4. What could you do to help?

One priority is done for you:

| UAE Visions 2021 National Priority | Safe Public and Fair Judiciary   |
|------------------------------------|--|
| Brief description                  | UAE the safest place in the world<br>Reliable police force<br>Businesses follow through with contracts<br>Lawsuits resolved in timely manner<br>Reduce the number of deadly car accidents<br>Prompt emergency service response |
| How can these goals be achieved?   | Presence of police officers<br>Strict laws and law enforcement<br>Educate the population about texting and driving and road rage<br>Educate the population how to create a safe passage for emergency vehicles                 |
| What can I do to help?             | Be a good citizen<br>Be safe on the road (even as a pedestrian)<br>Follow the rules  |





## Activity 5: Creating Your Own Vision

What are some improvements in the school that you would like to see?

Work with in a group of 4 and list 8 improvements. Write your vision (goals) that you would like to achieve by the end of the school year.

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## **Lesson 19:**

**Project: Create a  
timeline showing  
the major economic  
developments in the  
UAE**

**Grade 4**

**Our UAE, Our World: Understanding our Past,  
Present and Future**

**Lesson Objective:** In this lessons, you will use all the lessons in this unit to create a timeline that shows major economic developments in the UAE from just before the discovery of oil until the present day. You will also use other sources that your teacher approves. Using the information you collect, in groups of four, you will make a poster. Each team member will be responsible for part of the poster.

**Key Vocabulary:** Timeline; economic development; presentation; discovery of oil; present; Including all vocabulary words you have collected this term.



### Activity 1: Dividing into groups & exploring the materials & the scoring rubric

Your teacher will divide you into groups of four. Each group member will get one quarter of the timeline to work on. Your groups will create posters that will reflect the timeline covered in this term. In addition to the Student book, you will receive approved materials from the teacher that you can use to add more details to your timelines.

Below is the scoring rubric your teacher will use to grade you. Please read the details in the rubric to understand the expectations and ask your teachers any questions you may have about the rubric. The poster will be a group grade, while the presentation is graded individually (see scoring rubric below).

| Category                             | 4  | 3  | 2   | 1  |
|--------------------------------------|--|--|---|--|
| Content/Facts<br>(Group grade)       | Facts were accurate for all events reported on the timeline.                       | Facts were accurate for almost all events reported on the timeline.                | Facts were accurate for most (~75%) of the events reported on the timeline.       | Facts were often inaccurate for events reported on the timeline.         |
| Dates<br>(Group grade)               | An accurate, complete date has been included for each event.                       | An accurate, complete date has been included for almost every event.               | An accurate date has been included for almost every event.                        | Dates are inaccurate and/or missing for several events.                  |
| Preparedness<br>(Individual grade)   | Student is completely prepared and has obviously rehearsed.                        | Student seems pretty prepared but might have needed a couple more rehearsals.      | The student is somewhat prepared, but it is clear that rehearsal was lacking.     | Student does not seem at all prepared to present.                        |
| Speaks clearly<br>(Individual grade) | Speaks clearly and distinctly all (100-95%) the time, and mispronounces 2-3 words. | Speaks clearly and distinctly all (100-95%) the time, but mispronounces 4-5 words. | Speaks clearly and distinctly most (94-85%) of the time. Mispronounces 6-7 words. | Often mumbles or cannot be understood OR mispronounces more than 7 word. |



### Activity 2: Using Digital Resources and the Student Book

In your groups, divide the timeline, so that every student has one quarter of the work to complete. Decide on the design of your poster and start developing the timeline. In case you need help with the design, speak to your teacher. They can make some suggestions.



### Activity 3: Creating the Poster

Once each student is done with their part of the poster, put all the information together.



### Activity 4: Presentation Practice

In a quiet area, practice your poster presentation.



## **Lesson 20:**

**Give a presentation  
on the economic  
development of the  
UAE from just before  
the Discovery of Oil to  
the Present**

**Grade 4**

**Our UAE, Our World:** Understanding our Past,  
Present and Future

**Lesson Objective:** In this lesson, students will present their timelines.

**Key Vocabulary:** Timeline; economic development; presentation; discovery of oil; present;



### Activity 1: Presentations

Your teacher will share the presentation schedule. Each group will be expected to work as a team and present their timelines. Each team member will be responsible for part of the presentation.



### Activity 2: Displaying the posters

After the presentations, display your posters around the classroom.

### Notes:

[illegible]