

Exercise 1.1

a.

Pre-modifier	Head noun	Post-modifier
1.43m hybrid Prius and Lexus CT200h	cars	
a possible airbag inflator	defect	
2010-2012	vehicles	with air bag inflators that could have a small crack in a weld
air bag	inflators	that could have a small crack in a weld
The air	bag	
the vehicle	interior	
the	risk	of injury

b.

Deictic	Numerative	Epithet	Classifier	Head noun
	1.43m		hybrid Prius and Lexus CT200h	cars
a		possible	airbag inflator	defect
			2010-2012	vehicles
			air bag	inflators
The			air	bag
the			vehicle	interior
the				risk

c.

- *vehicles with air bag inflators that could have a small crack in a weld*

prepositional phrase	non-defining relative clause	essential information
defining relative clause	non-finite clause	non-essential information

- *air bag inflators that could have a small crack in a weld*

prepositional phrase	non-defining relative clause	essential information
defining relative clause	non-finite clause	non-essential information

- *the risk of injury*

prepositional phrase	non-defining relative clause	essential information
defining relative clause	non-finite clause	non-essential information

d.

Pre-modifier	Head noun	Post-modifier
its many	lakes	
	sites	contaminated by oil
	pumps	dripping oil
huge	ponds	of black sludge
a likely	sign	of an underground pipe leak
these	spills	
fish	stocks	
pasture	land	
drinking	water	
the natural resources and environment	minister	
1.5m tonnes of	oil	

e.

Deictic	Numerative	Epithet	Classifier	Head noun
its	many			lakes
		huge		ponds
a		likely		sign
these				spills
			fish	stocks
			pasture	land
			drinking	water
the			natural resources and environment	minister
	1.5m tonnes of			oil

f.

- *sites* contaminated by oil

prepositional phrase	non-defining relative clause	essential information
defining relative clause	non-finite clause	non-essential information

- *pumps* dripping oil

prepositional phrase	non-defining relative clause	essential information
defining relative clause	non-finite clause	non-essential information

- *huge ponds* of black sludge

prepositional phrase	non-defining relative clause	essential information
defining relative clause	non-finite clause	non-essential information

- a likely *sign* of an underground pipe leak

prepositional phrase	non-defining relative clause	essential information
defining relative clause	non-finite clause	non-essential information

Exercise 1.2

1. The first campaign shows a student **who** is writing on a blackboard full of formulas and geometric figures that bring to mind something difficult to solve.
2. The slogan brings to mind the idea of loved ones (parents, boyfriends, etc.) **who** go to the end of the world to make the other happy or safe.
3. Correct
4. These three advertisements, **which** we will begin to analyse, start the whole idea of the campaign.
5. The second campaign is the one **that** has a lot of bubbles in all four advertisements.
6. The first image we will discuss is the image of a head with a yellow brain, **which** suggests an idea.
7. Correct
8. There is an advertisement where we can see a close and horizontal angle picture of a meeting by the workers of Chevron, **which** symbolizes team work.
9. Along with the message, **which** is in the form of a straw (an unlikely place), we see the symbolic meaning of this advertisement is to be aware of solutions in every place you are, because they can be everywhere.
10. The top of the page shows us a jeep in a desert land, **which** symbolises adventure.
11. The ad campaign suggests that Shell, **which** was growing and expanding at the time, wanted to show how powerful they were.

Exercise 1.3

(1) \emptyset OPEC's mission is to coordinate and unify (2) **the** petroleum policies of (3) **the (or \emptyset)** Member Countries and ensure (4) **the** stabilization of (5) **the (or \emptyset)** oil markets in order to secure (6) **the** efficient, economic and regular supply of (7) \emptyset petroleum to (8) \emptyset consumers, (9) **a** steady income to (10) **the** producers and (11) **a** fair return on (12) \emptyset capital to those investing in (13) **the** petroleum industry.

Exercise 2.1

Independent clause	Microsoft deleted 'teen girl' AI
Dependent clause (finite)	after it became a Hitler-loving sex robot within 24 hours
Independent clause	The day after Microsoft introduced an innocent Artificial Intelligence chat robot to Twitter, it has had to delete it
Dependent clause (finite)	after it transformed into an evil Hitler-loving, incestual sex-promoting, 'Bush did 9/11'-proclaiming robot.
Independent clause	Developers at Microsoft created 'Tay', an AI modelled to speak 'like a teen girl'
Dependent clause (non-finite)	in order to improve the customer service on their voice recognition software.
Independent clause	They marketed her as 'The AI with zero chill'
Independent clause	and that she certainly is.
Dependent clause (non-finite)	To chat with Tay,
Independent clause	you can tweet or DM her
Dependent clause (non-finite)	by finding @tayandyou on Twitter,
Independent clause	or add her as a contact on Kik or GroupMe.
Independent clause	She uses millennial slang
Independent clause	and knows about Taylor Swift, Miley Cyrus and Kanye West,
Independent clause	and seems to be bashfully self-aware,
Dependent clause (non-finite)	occasionally asking if she is being 'creepy' or 'super weird'.

Exercise 2.2

1. Chevron shows us a woman smiling, **which** suggests that they are a trust-worthy company.
2. This company uses the image of a brain lighting up with a black background, a kind of brain enlightenment, **which** suggests that they have plenty of good ideas.
3. The land rover in the desert symbolises adventure and exploration, **which** suggests that Total is committed to finding new sources of oil in far away places.
4. The advertisement was published on recycled paper, **which** can symbolize care for the environment.
5. Unlike the other picture, whose colors were warm and strong, this one is very cold, **which**, in addition to the greatness of the factory, ~~is~~ transmits a very impersonal atmosphere.
6. The company image has changed over time, **which** can be a great way to influence people by showing the gradual development of their message and values.
7. Correct
8. The fact that oil has become a scarce resource has lifted its price, **which** stimulates the production of substitutes such as hybrid petrol electric vehicles

Exercise 2.3

- a. In mid-2006, the price of crude oil reached a nominal price of \$79. In October 2007, the price of crude oil reached a peak, setting a new record price of \$90.
- b. From the \$38 per barrel in 2004, the price started to increase. It soared to \$51 in March 2005 and then it registered a small fall to \$48 in May 2005.
- c. As we know, oil is an important commodity in modern societies and modern economies. OPEC realized that they produced most of the world's oil so they raised the price for which this oil was sold.
- d. From 1973 to 1974 the price of oil tripled and with that came the oil price shocks. This situation led to some effects on the world's economy.
- e. Starting at \$30 per barrel, the price of crude oil quickly rose, reaching \$45 per barrel in September 2004. This change can be explained by the Iraq war.
- f. Correct
- g. That decision tripled the price of oil from \$2.9 per barrel to \$9 per barrel. Later on, in 1978-1980, the oil prices reached \$30 per barrel.
- h. Households made changes as well. People started driving smaller cars, switched to central gas heating and even moved closer to the cities or their work place.
- i. This cut was mostly because of the Iraq war, the growth of Asia and the dollar, which became weaker. All this made a big decrease in the price of oil.

Exercise 2.4

1. During the year, smaller cars scaled the US market, replacing many of the traditional family cars.
2. Petrol/diesel cars made up 95.29% of the market, followed by hybrid-electric vehicles with 4.41% while plug-in hybrid electric and electric car sales together accounted for less than 1%.
3. Between 2011 and 2015, US passenger car sales grew from just over 6 million units to about 7.5 million, experiencing a small dip in 2013.
4. Although in 2015 petrol car sales hinted at stagnation, crude oil from shale prompted a revival, increasing the sale of these cars.
5. Hybrid electric car sales almost doubled between 2011 and 2013, dropping to 384,404 units in 2015.
6. In the US, cars powered by petrol or diesel are the most popular, making up over 95% of passenger car sales in 2011.

Exercise 2.5

- | | | |
|-----|--|----------------------------|
| 1. | As technology and artificial intelligence (A.I.) advances jobs in | <i>advances, jobs</i> |
| 2. | banks and offices are set to be replaced by automation, according |V..... |
| 3. | to industry experts. The clearest sign of how far A.I. has come was |V..... |
| 4. | earlier this week, Google's AlphaGo program won four out of five | <i>week, when Google's</i> |
| 5. | matches of the Chinese board game Go against champion Lee |, Go,..... |
| 6. | Sedol. AlphaGo's victory was seen as a major milestone for A.I. due |V..... |
| 7. | to the complexity of the board game. But AlphaGo is only the tip of | ...board game, but... |
| 8. | the iceberg for what A.I. can do. |V..... |
| 9. | According to some scenarios, A.I. will quickly replace many forms |V..... |
| 10. | of complex knowledge work ranging from lawyers to librarians, | ...work, ranging |
| 11. | professors to policy analysts. For instance, there are already robo- |V..... |
| 12. | journalists which scour news feeds and then automatically |V..... |
| 13. | generating stories. This is a serious problem for developed | ...generate..... |
| 14. | economies where a large proportion of well-paid jobs being forms | economies, where ... are |
| 15. | of knowledge work. |V..... |
| 16. | Another occupation under threat from automation is the bank |V..... |
| 17. | teller. In the future, ATMs will be able to perform most of their |V..... |
| 18. | tasks, such as opening accounts and processing loans, an ATM can | loans. An |
| 19. | do approximately 90 percent of what the human being can do. |V..... |
| 20. | ATMs will be able to perform bank teller functions at a fraction of |V..... |
| 21. | the cost compared to human employees, they will be able to check | employees, and they |
| 22. | and process any paperwork. The new machines will be able to scan |V..... |
| 23. | documents. Someone can put his passport on a machine, the | machine, and the |
| 24. | machine will identify him, a person can literally do anything online | him. A person |
| 25. | that he would have been able to do in front of a human being. |V..... |

Exercise 2.6

However,; and; Though; and; after

Exercise 2.7

Modern technology is simply an advancement of old technology, **yet** the impact of technology in modern life is unmeasurable. **We** use technology in different ways **but** sometimes the way we implement various technologies ends up harming our lives or the society we leave [*sic* live] in. **In fact what** we call modern technology is technically not so new in most cases. For example, mobile phone technology has evolved with [the] years. **Nowadays** we use smartphones which have been an advancement of an ordinary mobile phone.

Exercise 2.8

Artificial intelligence (AI) might seem like the realm of science fiction, **but** you might be surprised to find out that you're already using it. AI has a huge effect on your life, **and** whether you're aware of it or not, its influence is likely to grow in the coming years. Here is an example of artificial intelligence that you're already using every day.

Virtual Personal Assistants

Siri, Google Now, and Cortana are all intelligent digital personal assistants on various platforms (iOS, Android, and Windows Mobile). For example, they help find useful information **when** you ask for it using your voice. **You** can say "Where's the nearest Chinese restaurant?", "What's on my schedule today?", "Remind me to call Jerry at eight o'clock," **and** the assistant will respond by finding information, relaying information from your phone, or sending commands to other apps.

AI is important in these apps. **They** collect information on your requests and use that information to better recognize your speech and serve you results that are tailored to your preferences. Microsoft says that Cortana "continually learns about its user", **and** that it will eventually develop the ability to anticipate users' needs. Virtual personal assistants process a huge amount of data from a variety of sources to learn about users and be more effective in helping them organize and track their information.

Exercise 3.1

The oil and gas industry is usually divided into three major sectors: upstream, midstream and downstream. The upstream oil sector (fan pattern) is also commonly known as the *exploration and production (E&P) sector*. The upstream sector (parallel) includes the searching for potential underground or underwater crude oil and natural gas fields, drilling of exploratory wells, and subsequently drilling and operating the wells that recover and bring the crude oil and/or raw natural gas to the surface. With the development of methods for extracting methane from coal seams, (zig-zag) there has been a significant shift toward including unconventional gas as a part of the upstream sector, and corresponding developments in liquified natural gas (LNG) processing and transport.

The midstream sector (fan pattern) involves the transportation (by pipeline, rail, barge, or truck), storage, and wholesale marketing of crude or refined petroleum products. Pipelines and other transport systems (zig-zag) can be used to move crude oil from production sites to refineries and deliver the various refined products to downstream distributors. Natural gas pipeline networks (parallel) aggregate gas from natural gas purification plants and deliver it to downstream customers, such as local utilities. The midstream operations are often taken to include some elements of the upstream and downstream sectors. For example, the midstream sector (parallel) may include natural gas processing plants which purify the raw natural gas as well as removing and producing elemental sulfur and natural gas liquids (NGL) as finished end-products.

The downstream sector (fan pattern) commonly refers to the refining of petroleum crude oil and the processing and purifying of raw natural gas, as well as the marketing and distribution of products derived from crude oil and natural gas. The downstream sector (parallel) touches consumers through products such as gasoline or petrol, kerosene, jet fuel, diesel oil, heating oil, fuel oils, lubricants, waxes, asphalt, natural gas, and liquified petroleum gas (LPG) as well as hundreds of petrochemicals. Midstream operations are often included in the downstream category and considered to be a part of the downstream sector.

Exercise 3.3

1. this land use = using 4% of the world's fertile land to grow plants for liquid biofuel production
 this = the proportion of transport fuel demand that is met
 This = the IEA projections for biofuel production and transport fuel demand (all the preceding information)
 they = biofuels
 their = biofuels'
2. These activities = The activities carried out by Bioenergy Technologies Office's (BETO's) Algae Program: long-term applied research and development (R&D) strategy to increase the yields and lower the costs of algal biofuels by working with partners to develop new technologies, to integrate technologies at commercially-relevant scales, and conduct crosscutting analyses to understand the potential and challenges of an algal biofuel industry that is capable of annually producing billions of gallons of renewable diesel, gasoline, and jet fuels.
3. Their = Biofuels'
 these developments = making energy supply more secure, reducing import bills for energy-deficient countries and offering improved balance of trade and balance of payments

Exercise 3.4

line 2	do so	increase their (calculators') capabilities	substitution
line 3	both	(both) a solar panel and a battery	ellipsis
line 7	ones	calculators	substitution
line 8	The second	(The second) advantage	ellipsis
line 11	ones	calculators	substitution
line 11	do	cost	substitution
line 12	one	disadvantage	substitution
line 15	one	display	substitution
line 17	The first	(The first) way	ellipsis

Exercise 4.1

(least objective): e; b; c; a; d (most objective)

Exercise 4.2

(more congruent): e; c; a; d; f; b (more abstract)

Exercise 4.3

More every ay	More technical
four-sided figure	quadrilateral
someone who lends money; loanshark	creditor
a place to stay	accommodation
the dole	unemployment benefit; government transfer

Exercise 4.4

1. The analysis of the data suggests that France is prepared to receive this number of refugees since they are showing huge improvements in their economy.
2. In Danah Boyd's opinion, Mimi's involvement in protests as a student indicates that she is an interesting and active person, and those are the characteristics we are looking for.
3. Analysis of the current European situation clearly shows that those values won't work

Exercise 4.5

1. This surge in sales of hybrid and electric cars may be related to news that GM and SAIC would jointly produce electric cars. As a result,/Consequently,/ Thus, the cars would become more efficient and affordable.
2. Hence,/Thus,/In conclusion, the values espoused and demonstrated by Shell through its advertising campaigns changed over time.
3. From 2011 to 2013 the number of hybrid electric cars doubled and both plug-in hybrid-electric and electric cars increased over sevenfold. As a result,/Consequently, hybrid/electric cars made up almost 8% of all passenger car sales in 2013.

Exercise 4.6

1. The main reason that the governments and people in power refuse to really address the issue of global warming may be the power of the oil based economy.
2. The survey seems to have been made to HSBC expat clients.
3. France seems to be prepared to receive this number of refugees since they are showing huge improvements in their economy.
4. Chevron may have changed the image they wish to project over time because of the different charges and cases which the company was involved in. ... Now Chevron seems to be aware of this antagonism between its attitude and the image they wish to project. As a result, Chevron seems to have decided/ may have decided to project an

image of a company focused on solving professional and complex issues by working hard and seriously.

5. Football **may well be** entertaining to watch because of the thrill and hope that your team/country will win.

Exercise 4.7

1. At first glance, the ad is misleading.
2. A mortgage-backed security is composed of the mortgages of different people, which form a bigger "mortgage", with a value of 50 million dollars.
3. What is important is not how much a manager interferes in the organisation but the quality of the intervention.
4. Teamwork fosters learning and improves production.
5. This trend will continue because the emerging economies are still going to pass through the states of evolution of the countries of the first world, and for that energy is required.
6. The results show that oil prices remained constant during the period following World War II.
7. The analysis of the campaign suggests that the company is showing people how they are planning to achieve the goals that were implied in the first campaign.
8. Analysis of the graph and subsequent information suggests that although petrol/diesel cars are still preferred by US car buyers, the electric/hybrid sector has been gaining influence over the past years.
9. The purpose of the text is to analyse the image that Shell wanted to project over time. The analysis is based on differences in the advertising campaigns between 2004 and 2010. ... Figures 1 -3 show Shell's advertising campaigns from 2004 and 2005. ... The three examples suggest that Shell, which was growing and expanding at the time, wanted to show how powerful their products were. ... The last ad shows a picture of a man smiling on an oil ship and the slogan "Where you demand, we supply".

Exercise 5.1

more than the others; healthier; the widest; healthier; the most improved

Exercise 5.2

1. On the contrary,
2. unlike
3. By contrast
4. Both; whereas/while; unlike
5. Similarly; but
6. similarly/also; however

Exercise 5.3

The countries can be divided into two basic groups: those who produce **more oil than** they consume, and those who produce **less oil than** they consume. **Both** Brazil and Russia produce **more oil than** they consume. Notwithstanding, **although** the difference between oil production and consumption in Brazil is slight, Russia's oil production is approximately four times **greater than** its consumption. **Unlike** these two countries, India, China and South Africa consume **more oil than** they produce. **Like** China, whose oil consumption is double its production, India consumes over three times the amount of oil they produce. South Africa **similarly** consumes about three times the amount it produces, **although** the overall amounts are significantly **lower than** those of India.

Exercise 5.4

The figure shows the minimum wage per month in European countries. Luxembourg has **the highest** minimum wage and Bulgaria has **the lowest**. In general, the wages in the east and south of Europe are **lower than** those in the centre. When the wages are adjusted to prices, the countries with **higher** wages such as Belgium or the UK lose some of their purchasing power, which indicates that the cost of living in these countries is high. **By contrast** in countries such as Spain, Hungary or Romania, the cost of living is **lower**. For example, although the raw minimum wage in Slovakia is **slightly higher than that** in Hungary, the cost of living in Hungary is **lower** so that the **lower** wage in Hungary goes **further**.

Exercise 5.5

Over-stringent control can lead to disruption in production due to delays in raw materials.

This may, in turn, result in the failure to meet customer orders and the subsequent loss of customer goodwill.

This will inevitably mean a decline in sales, which will cause costs to be controlled.

Exercise 5.6

1. Air pollution also extends beyond the immediate drilling site and transportation route **because** a by-product of natural gas drilling is methane gas, one of the worst greenhouse gas pollutants contributing to climate change.
2. **Because** each well can require up to 8 million gallons of water, and up to 40,000 gallons of chemicals, a well site may need up to 2000 tanker truck trips per frack.
3. **Inhaling** crystalline silica, in the form of sand **can cause workers to** get silicosis (an incurable but preventable lung disease).
4. Earthquakes, which scientists refer to as "induced seismic events", **can be caused by** the injection of fracking wastewater underground.
5. Although the list was incomplete **due to** trade secrecy exemptions, researchers compiled a list of 632 chemicals identified from drilling operations throughout the U.S.
6. Exposure to toxic chemicals even at low levels **can cause** tremendous harm to humans.
7. Regulators had not been informed that the pipeline was carrying tar sands oil and the disclosure [that the pipeline was carrying tar sands oil] was **a result of** the spill.
8. Tar sands oil was not in the pipeline at the time of the spill, though regulators are investigating whether or not it **was causing the pipeline to corrode**.
9. Geologists believe that the millions of gallons of fluids forced underground at high pressure **can trigger** earthquakes.
10. In spite of the evidence, the oil and gas industry routinely claims that **fracking** has never **resulted in water contamination**.

Exercise 6.1

- | | | | |
|----|-------------------|---------------------------|------------------------------------|
| 1. | | 2. Time expressions | 3. the bare infinitive of the verb |
| b. | are | | |
| c. | have | | |
| d. | means | | |
| e. | began | during the early 1990s | |
| f. | did | | |
| g. | constructed | throughout the late 1980s | |
| h. | rose; acquired | | |
| i. | began; was | in 1991 | |
| j. | soared; plummeted | | |
| k. | constructed | during that period | |

Exercise 6.2

For the Midwestern United State, 1988 (1) *brought* one of the worst droughts₁ ever recorded. Corn production (2) *was* 35 percent lower than had been expected before the drought; soybean production (3) *was* down more than 10 percent, and oats and barley (4) *were* down more than 40 percent. As these events (5) *developed*, economists (6) *attempted* to predict their consequences, using the basic law of supply and demand that we have developed in this chapter.

The drought (7) *reduced* the amount of any crop that would be supplied at any given price. The drought can be viewed as shifting the supply curve to the left. Predictably, with a given demand curve, the large shift of the supply curve (8) *resulted* in much higher prices for these farm products: corn prices (9) *rose* by 80 percent *by the end of the summer*, soybeans by almost 70 percent, and wheat by 50 percent. Economists also (10) *used* the supply and demand models to predict the effects on other products. Grain (11) *is* a major input into cattle production. With cattle production less profitable, many farmers (12) *slaughtered* their cattle sooner than they had originally planned. As a result, meat production (13) *rose* slightly *in 1988*. The increased short-run supply (14) *resulted* in a decrease in meat prices (adjusted for inflation). Grain (15) *is* also a major input for the production of chicken. The supply curves for chickens and eggs (16) *shifted* to the left, resulting in higher prices for these commodities. The higher prices of these agricultural goods (17) *resulted* in a shift to the right of the demand curve for other foods which (18) *were* substitutes. Thus, prices for foods, such as vegetables and fruits, whose supply (19) *was* not affected by the Midwestern drought, still (20) *increased* – by 5 percent *in July 1988* alone.

Exercise 6.3

1. The state of Bihar *was once* (be, once) the most desperate state in India.
2. *Since 2005* it *has transformed* (transform) itself to become a model for the rest of the country.
3. *In 2005* Nitish Kumar *was elected* Chief Minister, and *since his election* he *has done* the near impossible.
4. *Over the five years that Kumar has been in office* Bihar *has posted* 11 per cent average annual economic growth.
5. In what *was once* impassable badlands, the administration *has laid* 6,800 kilometers of roads, *built* 1,600 bridges and culverts, and *cut* journey time in half in many areas.
6. Car sales *eclipsed* kidnappings as crimes by roving bandits *fell* steadily from 1,297 to 640 and kidnappings for ransom *dropped* from 411 to 66 *between 2004 and 2008*.
7. *Over the past two years* the number of foreign tourists *has shot up* from 95,000 to 356,000.
8. How *did Kumar achieve* this?
9. First, Kumar *focussed* on competence over patronage.
10. In other words, he *did not continue* the caste-related politics of the '80s and '90s.
11. He *delegated* more financial and administrative powers to officials in the field.
12. He *updated* archaic rules that *made* civil engineers seek minister-level approval to spend absurdly low amounts of money.
13. These moves *eliminated* the huge backlogs of simple matters piled up on senior officials' desks.
14. Kumar then *redefined* the basic functions of institutions and *required* offices to do the work they'd been assigned.
15. He *ended* the widespread "transfer industry," which *sold* coveted bureaucratic posts to the highest bidders, and he *handpicked* bureaucrats known for their competence.
16. He *reformed* the police force and the judiciary system.
17. The moves *resulted in* nearly 39,000 convictions *between 2006 and 2009*, compared with an average of less than 10,000 *in previous decades*.
18. Those convicted *included* a dozen state legislators and members of Parliament.
19. In making these changes Kumar *has shown* that even India's darkest corner can make progress against crime, corruption, and caste- and creed-based demagoguery.
20. Kumar *has broken* the perception that all politicians are the same and change is impossible.