Bài tập dạng MATCHING HEADING IELTS READING

Bài 1

Learning color words

Young children struggle with color concepts, and the reason for this may have something to do with how we use the words that describe them.

A   In the course of the first few years of their lives, children who are brought up in English- speaking homes successfully master the use of hundreds of words. Words for objects, actions, emotions, and many other aspects of the physical world quickly become part of their infant repertoire. For some reason, however, when it comes to learning color words, the same children perform very badly. At the age of four months, babies can distinguish between basic color categories. Yet it turns out they do this in much the same way as blind children. "Blue" and "'yellow" appear in older children's expressive language in answer to questions such as "What color is this?", but their mapping of objects to individual colors is haphazard and interchangeable. If shown a blue cup and asked about its color, typical two-year-olds seem as likely to come up with "red" as "blue." Even after hundreds of training trials, children as old as four may still end up being unable to accurately sort objects by color.

B   In an effort to work out why this is, cognitive scientists at Stanford University in California hypothesized that children's incompetence at color-word learning may be directly linked to the way these words are used in English. While word order for color adjectives varies, they are used overwhelmingly in p re-nominal position (e.g. "blue cup"); in other words, the adjective comes before the noun it is describing. This is in contrast to post-nominal position (e.g. "The cup is blue") where the adjective comes after the noun. It seems that the difficulty children have may not be caused by any unique property of color, or indeed, of the world. Rather, it may simply come down to the challenge of having to make predictions *from* color words to the objects they refer to, instead of being able to make predictions *from* the world of objects to the color words.

To illustrate, the word "chair"' has a meaning that applies to the somewhat varied set of entities in the world that people use for sitting on. Chairs have features, such as arms and legs and backs, that are combined to some degree in a systematic way; they turn up in a range of chairs of different shapes, sizes, and ages. It could be said that children learn to narrow down the set of cues that make up a chair and in this way they learn the concept associated with that word. On the other hand, color words tend to be unique and not bound to other specific co-occurring features; there is nothing systematic about color words to help cue their meaning. In the speech that adults direct at children, color adjectives occur pre-nominally ("blue cup") around 70 percent of the time. This suggests that most of what children hear from adults will, in fact, be unhelpful in learning what color words refer to.

C   To explore this idea further, the research team recruited 41 English children aged between 23 and 29 months and carried out a three- phase experiment. It consisted of a pre-test, followed by training in the use of color words, and finally a post-test that was identical to the pre-test. The pre- and post-test materials comprised six objects that were novel to the children. There were three examples of each object in each of three colors – red, yellow, and blue. The objects were presented on trays, and in both tests, the children were asked to pick out objects in response to requests in which the color word was either a pre nominal ("Which is the red one?') or a post-nominal ("Which one is red?").

In the training, the children were introduced to a "magic bucket" containing five sets of items familiar to 26-month-olds (balls, cups, crayons, glasses, and toy bears) in each of the three colors. The training was set up so that half the children were presented with the items one by one and heard them labelled with color words used pre-nominally ("This is a red crayon"), while the other half were introduced to the same items described with a post-nominal color word ("This crayon is red"). After the training, the children repeated the selection task on the unknown items in the post-test. To assets the quality of children's understanding of the color words, and the effect of each type of training, correct choices on items that were consistent across the pre- and post-tests were used to measure children's color knowledge.

D   Individual analysis of pre- and post-test data, which confirmed parental vocabulary reports, showed the children had at least tome knowledge of the three colour words: they averaged two out of three correct choices in response to both pre- and post-nominal question types, which, it has been pointed out, is better than chance. When children's responses to the question types were assessed independently, performance was at its most consistent when children were both trained and tested on post-nominal adjectives, and worst when trained on pre-nominal adjectives and tested on post-nominal adjectives. Only children who had been trained with post- nominal color-word presentation and then tested with post-nominal question types were significantly more accurate than chance. Comparing the pre- and post-test scores across each condition revealed a significant decline in performance when children were both pre- and post-tested with questions that placed the color words pre-nominally.

As predicted, when children are exposed to color adjectives in post-nominal position, they learn them rapidly (after just five training trials per color); when they are presented with them pre-nominally, as English overwhelmingly tends to do, children show no signs of learning.

The Reading Passage has four sections, **A–D**. Choose the correct heading for each section from the list of headings below.

List of Headings

  i. A possible explanation
 ii. Why names of objects are unhelpful
iii. Checking out the theory
 iv. A curious state of affairs
  v. The need to look at how words are formed
 vi. How age impacts on learning colours
vii. Some unsurprising data

1. Section **A** ....
2. Section **B** ....
3. Section **C** ....
4. Section **D** ....

Bài 2

Organic food: Why?

By Rob Lyons and Jan Bowman

Today, many governments are promoting organic or natural farming methods that avoid the use of pesticides and other artificial products. The aim is to show that they care about the environment and about people's health. But is this the right approach?

A　　Europe is now the biggest market for organic food in the world, expanding by 25 percent a year over the past 10 years. So what is the attraction of organic food for some people? The really important thing is that organic sounds more 'natural'. Eating organic is a way of defining oneself as natural, good, caring, different from the junk-food-scoffing masses. As one journalist puts it: 'It feels closer to the source, the beginning, the start of things.' The real desire is to be somehow close to the soil, to Mother Nature.

B　　Unlike conventional farming, the organic approach means farming with natural, rather than man-made, fertilisers and pesticides. Techniques such as crop rotation improve soil quality and help organic farmers compensate for the absence of man-made chemicals. As a method of food production, organic is, however, inefficient in its use of labour and land; there are severe limits to how much food can be produced. Also, the environmental benefits of not using artificial fertiliser are tiny compared with the amount of carbon dioxide emitted by transporting food (a great deal of Britain's organic produce is shipped in from other countries and transported from shop to home by car).

C　　Organic farming is often claimed to be safer than conventional farming – for the environment and for consumers. Yet studies into organic farming worldwide continue to reject this claim. An extensive review by the UK Food Standards Agency found that there was no statistically significant difference between organic and conventional crops. Even where results indicated there was evidence of a difference, the reviewers found no sign that these differences would have any noticeable effect on health.

D　　The simplistic claim that organic food is more nutritious than conventional food was always likely to be misleading. Food is a natural product, and the health value of different foods will vary for a number of reasons, including freshness, the way the food is cooked, the type of soil it is grown in, the amount of sunlight and rain crops have received, and so on. Likewise, the flavour of a carrot has less to do with whether it was fertilised with manure or something out of a plastic sack than with the variety of carrot and how long ago it was dug up. The differences created by these things are likely to be greater than any differences brought about by using an organic or non- organic system of production. Indeed, even some 'organic' farms are quite different from one another.

E　　The notion that organic food is safer than 'normal' food is also contradicted by the fact that many of our most common foods are full of natural toxins. Parsnips cause blisters on the skin of agricultural workers. Toasting bread creates carcinogens. As one research expert says: 'People think that the more natural something is, the better it is for them. That is simply not the case. In fact, it is the opposite that is true: the closer a plant is to its natural state, the more likely it is that it will poison you. Naturally, many plants do not want to be eaten, so we have spent 10,000 years developing agriculture and breeding out harmful traits from crops.'

F　　Yet educated Europeans are more scared of eating traces of a few, strictly regulated, man-made chemicals than they are of eating the ones that nature created directly. Surrounded by plentiful food, it's not nature they worry about, but technology. Our obsessions with the ethics and safety of what we eat – concerns about antibiotics in animals, additives in food, GM crops and so on – are symptomatic of a highly technological society that has little faith in its ability to use this technology wisely. In this context, the less something is touched by the human hand, the healthier people assume it must be.

G　　Ultimately, the organic farming movement is an expensive luxury for shoppers in well-manicured Europe. For developing parts of the world, it is irrelevant. To European environmentalists, the fact that organic methods require more labour and land than conventional ones to get the same yields is a good thing; to a farmer in rural Africa, it is a disaster. Here, land tends to be so starved and crop yields so low that there simply is not enough organic matter to put back into the soil. Perhaps the focus should be on helping these countries to gain access to the most advanced farming techniques, rather than going back to basics.

The reading passage has seven paragraphs, **A-G**.

Choose the correct heading for paragraphs **B-G** from the list of headings below.

List of Headings

i   Research into whether organic food is better for us

ii   Adding up the cost of organic food

iii   The factors that can affect food quality

iv   The rich and poor see things differently

v   A description of organic farming

vi   Testing the taste of organic food

vii   Fear of science has created the organic trend

viii   The main reason for the popularity of organic food

ix   The need to remove hidden dangers from food

1. Paragraph **A**
2. Paragraph **B**
3. Paragraph **C**
4. Paragraph **D**
5. Paragraph **E**
6. Paragraph **F**
7. Paragraph **G**

Bài 3

Traffic jams – no end in sight

There are no easy answers to the problems of traffic congestion.

A Traffic congestion affects people throughout the world. Traffic jams cause smog in dozens of cities across both the developed and developing world. In the US, commuters spend an average of a full working week each year sitting in traffic jams, according to the Texas Transportation Institute. While alternative ways of getting around are available, most people still choose their cars because they are looking for convenience, comfort and privacy.

B The most promising technique for reducing city traffic is called congestion pricing, whereby cities charge a toll to enter certain parts of town at certain times of day. In theory, if the toll is high enough, some drivers will cancel their trips or go by bus or train. And in practice it seems to work: Singapore, London and Stockholm have reduced traffic and pollution in city centres thanks to congestion pricing.

C Another way to reduce rush-hour traffic is for employers to implement flexitime, which lets employees travel to and from work at off-peak traffic times to avoid the rush hour. Those who have to travel during busy times can do their part by sharing cars. Employers can also allow more staff to telecommute (work from home) so as to keep more cars off the road altogether.

D Some urban planners still believe that the best way to ease traffic congestion is to build more roads, especially roads that can take drivers around or over crowded city streets. But such techniques do not really keep cars off the road; they only accommodate more of them.

E Other, more forward-thinking, planners know that more and more drivers and cars are taking to the roads every day, and they are unwilling to encourage more private automobiles when public transport is so much better both for people and the environment. For this reason, the American government has decided to spend some $7 billion on helping to increase capacity on public-transport systems and upgrade them with more efficient technologies. But environmentalists complain that such funding is tiny compared to the $50 billion being spent on roads and bridges.

adapted from ©The Environmental Magazine, Earthtalk®

Question 1-5

Reading passage has 5 sections, **A – E**

Choose the correct heading for sections **A – E** from the list of headings below

Write the correct number, **i-vii**, in your answer sheet.

List of Headings

i   A solution which is no solution

ii   Changing working practices

iii   Closing city centres to traffic

iv   Making cars more environmentally friendly

v   Not doing enough

vi   Paying to get in

vii   A global problem

Bài 4

Participating in the school community

It is important that students' feelings, opinions and suggestions are listened to, taken into account, and that the right action is taken. There are a number of ways that this can be achieved, i.e. school councils, year councils and peer mentoring.

School councils

Most schools have a school council which exists to let the teachers and head teacher know what students' opinions are on a range of school issues. The school council usually consists of two or three elected representatives from each year group.

A school council might meet once or twice a month to discuss issues such as the dress code, the use of social areas, charity fundraising and bullying.

Year councils

Because school councils are sometimes dominated by older students, some schools have introduced year councils. The aim of a year council is to give students the opportunity to express opinions on matters of importance to that particular year group. The following is an example of the rules relating to a school's council for year 8 (pupils aged 12-13).

1 The council's purpose is to act as a forum for discussion of school issues relevant to Year 8, and to let the teachers and head teacher know what student opinion is on these issues. The council will also take responsibility for cooperating with year staff in the organization of one social event per term for Year 8.

2 Membership of the council will consist of three representatives from each class, elected on a termly basis.

3 Meetings will be held once a fortnight. The council members will elect a chair to control the meetings and a secretary who will be responsible for circulating the agenda for each meeting and taking and circulating minutes of meetings.

4 The class representatives will be responsible for giving a report of the council's meetings to their class. Agenda and minutes of meetings will be put up in each classroom.

5 The Year 8 council will elect two of its members to be members of the school council, with responsibility for raising issues on behalf of Year 8 students at school council meetings.

6 The chair, secretary and school council representatives will be responsible for taking up matters raised at council meetings with the year head and other teachers, and for reporting back on such matters to the Year 8 council.

7 The head of year will attend all council meetings as an observer and both they and the other year staff will be available as required to offer support and advice to council members and to assist in the settlement of disputes.

Peer mentoring

There are other ways in which students' voices can be heard. One of the most popular schemes involves peer mentoring. Those who express an interest receive training to become mentors so that they are better equipped to help others. This starts from primary school age, when the mentors may get involved in issues related to conflict resolution. At secondary school and at university, mentors are likely to deal with a larger variety of issues, such as educational and health-related matters.

The underlying belief in schemes like these is that being heard by your peers can be more effective and helpful as fellow students may have more time and understanding than teachers or others in authority.

Questions 1-5

Complete each sentence with the correct ending **A-I**.

1   Students' views are likely to be taken seriously if there are   ……..

2   Rules related to uniform are most likely to be discussed at   ……..

3   Year councils may get involved in   ……..

4   In the Year 8 council that is mentioned, teachers make sure that students are   ……..

5   Those in power are   ……..

A   bullying and fundraising.

B   more likely to bully others.

C   not always the best listeners.

D   not left on their own.

E   organizing events.

F   representative from the different year groups.

G   school and year councils as well as peer mentoring schemes. H school councils.

I   teachers and parents of older students.

Bài 5

The new way to be fifth-grader

by Clive Thompson

Khan Academy is changing the rules of education.

I peer over his shoulder at his laptop screen to see the math problem the fifth-grader is pondering. It's a trigonometry problem. Carpenter, a serious-faced ten-year-old, pauses for a second, fidgets, then clicks on "0 degrees," The computer tells him that he's correct. "It took a while for me to work it out," he admits sheepishly. The software then generates another problem, followed by another, until eventually he's done ten in a row.

Last November, his teacher, Kami Thordarson, began using Khan Academy in her class. It is an educational website on which students can watch some 2,400 videos. The videos are anything but sophisticated. At seven to 14 minutes long, they consist of a voiceover by the site's founder, Salman Khan, chattily describing a mathematical concept or explaining how to solve a problem, while his hand-scribbled formulas and diagrams appear on-screen. As a student, you can review a video as many times as you want, scrolling back several times over puzzling parts and fast-forwarding through the boring bits you already know. Once you've mastered a video, you can move on to the next one.

Initially, Thordarson thought Khan Academy would merely be a helpful supplement to her normal instruction. But it quickly became far more than that. She is now on her way to "flipping" the way her class works. This involves replacing some of her lectures with Khan's videos, which students can watch at home. Then in class, they focus on working on the problem areas together. The idea is to invert the normal rhythms of school, so that lectures are viewed in the children's own time and homework is done at school. It sounds weird, Thordarson admits, but this reversal makes sense when you think about it. It is when they are doing homework that students are really grappling with a subject and are most likely to want someone to talk to. And Khan Academy provides teachers with a dashboard application that lets them see the instant a student gets stuck.

For years, teachers like Thordarson have complained about the frustrations of teaching to the "middle" of the class. They stand at the whiteboard trying to get 25 or more students to learn at the same pace. Advanced students get bored and tune out, lagging ones get lost and tune out, and pretty soon half the class is not paying attention. Since the rise of personal computers in the 1980s, educators have hoped that technology could save the day by offering lessons tailored to each child. Schools have spent millions of dollars on sophisticated classroom technology, but the effort has been in vain. The one-to-one instruction it requires is, after all, prohibitively expensive. What country can afford such a luxury?

Khan never intended to overhaul the school curricula and he doesn't have a consistent, comprehensive plan for doing so. Nevertheless, some of his fans believe that he has stumbled onto the solution to education's middle-of-the-class mediocrity. Most notable among them is Bill Gates, whose foundation has invested $1.5 million in Khan's site. Students have pointed out that Khan is particularly good at explaining all the hidden, small steps in math problems—steps that teachers often gloss over. He has an uncanny ability to inhabit the mind of someone who doesn't already understand something.

However, not all educators are enamoured with Khan and his site. Gary Stager, a long-time educational consultant and advocate of laptops in classrooms, thinks Khan Academy is not innovative at all. The videos and software modules, he contends, are just a high-tech version of the outdated teaching techniques—lecturing and drilling. Schools have become "joyless test-prep factories," he says, and Khan Academy caters to this dismal trend.

As Sylvia Martinez, president of an organization focusing on technology in the classroom, puts it, "The things they're doing are really just rote." Flipping the classroom isn't an entirely new idea, Martinez says, and she doubts that it would work for the majority of pupils; "I'm sorry, but if they can't understand the lecture in a classroom, they're not going to grasp It better when it's done through a video at home."

Another limitation of Khan's site is that the drilling software can only handle questions where the answers are unambiguously right or wrong, like math or chemistry; Khan has relatively few videos on messier, grey-area subjects like history. Khan and Gates admit there is no easy way to automate the teaching of writing—even though it is just as critical as math.

Even if Khan is truly liberating students to advance at their own pace, it is not clear that schools will be able to cope. The very concept of grade levels implies groups of students moving along together at an even pace. So what happens when, using Khan Academy, you wind up with a ten-year- old who has already mastered high-school physics? Khan's programmer, Ben Kamens, has heard from teachers who have seen Khan Academy presentations and loved the idea but wondered whether they could modify it "to stop students from becoming this advanced."

Khan's success has injected him into the heated wars over school reform. Reformers today, by and large, believe student success should be carefully tested, with teachers and principals receiving better pay if their students advance more quickly. In essence, Khan doesn't want to change the way institutions teach; he wants to change how people learn, whether they're in a private school or a public school—or for that matter, whether they're a student or an adult trying to self-educate in Ohio, Brazil, Russia, or India. One member of Khan's staff is spearheading a drive to translate the videos into ten major languages. It's classic start-up logic: do something novel, do it with speed, and the people who love it will find you.

adapted from Wired Magazine

Complete each sentence with the correct ending, **A-G,** below.

1. Bill Gates thinks Khan Academy
2. According to Gary Stager, Khan Academy
3. Sylvia Martinez regrets that Khan Academy
4. Ben Kamens has been told that Khan Academy

A. *is only suited to subjects where questions have exact answers.*
B. *can teach both the strongest and the weakest pupils in a class.*
C. *means the teaching of other school subjects will have to be changed.*
D. *only prepares students to pass exams.*

E. *could cause student achievement to improve too quickly.*
F. *requires all students to own the necessary technology.*
G. *is unlikely to have a successful outcome for most students.*

Bài 6

An astonishingly intricate project is being undertaken to restore a legendary theatrical dress, Angela Wintle explains.

On December 28th, 1888, the curtain rose on a daring new stage revival of Shakespeare's Macbeth at the Lyceum Theatre in London. Topping the bill, playing Lady Macbeth, a main character in the play, was Ellen Terry. She was the greatest and most adored English actress of the age. But she didn't achieve this devotion through her acting ability alone. She knew the power of presentation and carefully cultivated her image. That first night was no exception. When she walked on stage for the famous banqueting scene, her appearance drew a collective gasp from the audience.

She was dressed in the most extraordinary clothes ever to have graced a British stage: a long, emerald and sea-green gown with tapering sleeves, surmounted by a velvet cloak, which glistened and sparkled eerily in the limelight. Yet this was no mere stage trickery. The effect had been achieved using hundreds of wings from beetles. The gown – later named the 'Beetlewing dress' – became one of the most iconic and celebrated costumes of the age.

Terry was every bit as remarkable as her costumes. At 31, she became a leading lady at the Lyceum Theatre and for two decades, she set about bringing culture to the masses. The productions she worked on were extravagant and daring. Shakespeare's plays were staged alongside blood-and-thunder melodramas and their texts were ruthlessly cut. Some people were critical, but they missed the point. The innovations sold tickets and brought new audiences to see masterpieces that they would never otherwise have seen.

However, it was a painter who immortalised her. John Singer Sargent had been so struck by Terry's appearance at that first performance that he asked her to model for him, and his famous portrait of 1889, now at the Tate Gallery in London, showed her with a glint in her eye, holding a crown over her flame-red hair. But while the painting remains almost as fresh as the day it was painted, the years have not been so kind to the dress. Its delicate structure, combined with the cumulative effects of time, has meant it is now in an extremely fragile condition. Thus, two years ago, a fundraising project was launched by Britain's National Trust1 to pay for its conservation.

It turned to textile conservator Zenzie Tinker to do the job. Zenzie loves historical dress because of the link with the past. 'Working on costumes like the Beetlewing dress gives you a real sense of the people who wore them; you can see the sweat stains and wear marks. But it's quite unusual to know who actually wore a garment. That's the thing that makes the Beetlewing project so special.'

Before any of Zenzie's conservation work can begin, she and her team will conduct a thorough investigation to help determine what changes have been made to the dress and when. This will involve close examination of the dress for signs of damage and wear, and will be aided by comparing it with John Singer Sargent's painting and contemporary photographs. Then Zenzie and the National Trust will decide how far back to take the reconstruction, as some members feel that even the most recent changes are now part of the history of the dress.

The first stages in the actual restoration will involve delicate surface cleaning, using a small vacuum suction device. Once the level of reconstruction has been determined, the original *crocheted* overdress will be stitched onto a dyed net support before repairs begin. 'It's going to be extraordinarily difficult, because the original cloth is quite stretchy, so we've deliberately chosen net because that has a certain amount of flexibility in it too,' says Zenzie. When the dress is displayed, none of our work will be noticeable, but we'll retain all the evidence on the reverse so that future experts will be able to see exactly what we've done – and I'll produce a detailed report.'

Zenzie has estimated that the project, costing about £30,000, will require more than 700 hours' work. 'It will be a huge undertaking and I don't think the Trust has ever spent quite as much on a costume before,' she says. 'But this dress is unique. It's very unusual to see this level of workmanship on a theatrical costume, and it must have looked spectacular on stage.' If Terry was alive today, there's no doubt she would be delighted. Unlike many other actresses, she valued her costumes because she kept and reused them time and time again. 'I'd like to think she'd see our contribution as part of the ongoing history of the dress,' says Zenzie.

*Complete each sentence with the correct ending, **A-F**, below.*

11   Pictures will be used

12   A special machine will be used

13   A net material has been selected

14   Work will be visible on one side

List of endings:

A   to show how the team did the repairs on the dress.

B   to reduce the time taken to repair the dress.

C   to remove the dirt from the top layer of the dress.

D   to demonstrate the quality of the team's work on the dress.

E   to match a quality of the original fabric used in the dress.

F   to help show where the dress needs repair work.

Bài 7

The Pompidou Centre

More than three decades after it was built, the Pompidou Centre in Paris has survived its moment at the edge of architectural fashion and proved itself to be one of the most remarkable buildings of the 20th century.

It was the most outstanding new building constructed in Paris for two generations. It looked like an explosion of brightly coloured service pipes in the calm of the city centre. However, when in 1977 the architects Richard Rogers and Renzo Piano stood among a large crowd of 5,000 at the opening of the Centre Culturel d'Art Georges Pompidou (known as the Pompidou), no one was really aware of the significance of this unusual building.

Rogers was only 38 when he and Piano won the competition to design a new cultural centre for Paris in the old market site. Young, unknown architects, they had been chosen from a field of nearly 700 to design one of the most prestigious buildings of its day. After six difficult years, with 25,000 drawings, seven lawsuits, battles over budgets, and a desperate last-minute scramble to finish the building, it had finally been done.

Yet the opening was a downbeat moment. The Pompidou Centre had been rubbished by the critics while it was being built, there was no more work in prospect for the architects, and their partnership had effectively broken down. But this was just a passing crisis. The Centre, which combined the national museum of modern art, exhibition space, a public library and a centre for modern music, proved an enormous success. It attracted six million visitors in its first year, and with its success, the critics swiftly changed their tune.

The architects had been driven by the desire for ultimate flexibility, for a building that would not limit the movement of its users. All the different parts were approached through the same enormous entrance hall and served by the same escalator, which was free to anyone to ride, whether they wanted to visit an exhibition or just admire the view. With all the services at one end of the building, escalators and lifts at the other, and the floors hung on giant steel beams providing uninterrupted space the size of two football pitches, their dream had become a reality.

The image of the Pompidou pervaded popular culture in the 1970s, making appearances everywhere – on record-album covers and a table lamp, and even acting as the set for a James Bond film. This did much to overcome the secretive nature of the architectural culture of its time, as it enabled wider audience to appreciate the style and content of the building and so moved away from the strictly professional view.

The following year, Rogers was commissioned to design a new headquarters for Lloyd's Bank in London, and went on to create one of Britain's most dynamic architectural practices. Piano is now among the world's most respected architects. But what of their shared creation?

It was certainly like no previous museum, with its plans for a flexible interior that not only had movable walls, but floors that could also be adjusted up or down. This second feature did not in the end survive when the competition drawings were turned into a real building. In other ways, however, the finished building demonstrated a remarkable degree of refinement – of craftsmanship even – in the way the original diagram was transformed into a superbly detailed structure. It was this quality which, according to some critics, suggested that the Pompidou should be seen as closer to the 19th-century engineering tradition than the space age.

Nevertheless, as a model for urban planning, it has proved immensely influential. The Guggenheim in Bilbao* and the many other major landmark projects that were built in the belief that innovatively designed cultural buildings can bring about urban renewal are all following the lead of the Pompidou Centre.

Other buildings may now challenge it for the title of Europe's most outlandish work of architecture. However, more than a quarter of a century later, this construction – it is hard to call it a building when there is no facade, just a lattice of steel beams and pipes and a long external escalator snaking up the outside – still seems extreme.

Today, the Pompidou Centre itself still looks much as it did when it opened. The shock value of its colour-coded plumbing and its structure has not faded with the years. But while traditionalists regarded it as an ugly attack on Paris when it was built, they now see it for what it is – an enormous achievement, technically and conceptually.

* a modern-art museum in Spain designed by the North American architect, Frank O Gehry

Questions 1-4

Complete each sentence with the correct ending, A-F, below.

1   The escalators and lifts inside the Pompidou

2   In the 1970s, pictures of the Pompidou

3   The original plans for the floors of the Pompidou

4   The detailed structure of the finished building

A   reminded some people of past building styles.

B   were used to decorate everyday objects.

C   fitted in well with the external surroundings.

D   were situated on one side of the building.

E   showed people which area to visit.

F   were changed during the construction process.

Bài 8

A Chronicle of Timekeeping

Our conception of time depends on the way we measure it

According to archaeological evidence, at least 5,000 years ago, and long before the advent of the Roman Empire, the Babylonians began to measure time, introducing calendars to co-ordinate communal activities, to plan the shipment of goods and, in particular, to regulate planting and harvesting. They based their calendars on three natural cycles: the solar day, marked by the successive periods of light and darkness as the earth rotates on its axis; the lunar month, following the phases of the moon as it orbits the earth; and the solar year, defined by the changing seasons that accompany our planet's revolution around the sun.

Before the invention of artificial light, the moon had greater social impact. And, for those living near the equator in particular, its waxing and waning was more conspicuous than the passing of the seasons. Hence, the calendars that were developed at the lower latitudes were influenced more by the lunar cycle than by the solar year. In more northern climes, however, where seasonal agriculture was practised, the solar year became more crucial. As the Roman Empire expanded northward, it organised its activity chart for the most part around the solar year.

Centuries before the Roman Empire, the Egyptians had formulated a municipal calendar having 12 months of 30 days, with five days added to approximate the solar year. Each period of ten days was marked by the appearance of special groups of stars called decans. At the rise of the star Sirius just before sunrise, which occurred around the all-important annual flooding of the Nile, 12 decans could be seen spanning the heavens. The cosmic significance the Egyptians placed in the 12 decans led them to develop a system in which each interval of darkness (and later, each interval of daylight) was divided into a dozen equal parts. These periods became known as temporal hours because their duration varied according to the changing length of days and nights with the passing of the seasons. Summer hours were long, winter ones short; only at the spring and autumn equinoxes were the hours of daylight and darkness equal. Temporal hours, which were first adopted by the Greeks and then the Romans, who disseminated them through Europe, remained in use for more than 2,500 years.

In order to track temporal hours during the day, inventors created sundials, which indicate time by the length or direction of the sun's shadow. The sundial's counterpart, the water clock, was designed to measure temporal hours at night. One of the first water clocks was a basin with a small hole near the bottom through which the water dripped out. The falling water level denoted the passing hour as it dipped below hour lines inscribed on the inner surface. Although these devices performed satisfactorily around the Mediterranean, they could not always be depended on in the cloudy and often freezing weather of northern Europe.

The advent of the mechanical clock meant that although it could be adjusted to maintain temporal hours, it was naturally suited to keeping equal ones. With these, however, arose the question of when to begin counting, and so, in the early 14th century, a number of systems evolved. The schemes that divided the day into 24 equal parts varied according to the start of the count: Italian hours began at sunset, Babylonian hours at sunrise, astronomical hours at midday and 'great clock' hours, used for some large public clocks in Germany, at midnight. Eventually these were superseded by 'small clock', or French, hours, which split the day into two 12-hour periods commencing at midnight.

The earliest recorded weight-driven mechanical clock was built in 1283 in Bedfordshire in England. The revolutionary aspect of this new timekeeper was neither the descending weight that provided its motive force nor the gear wheels (which had been around for at least 1,300 years) that transferred the power; it was the part called the escapement. In the early 1400s came the invention of the coiled spring or fusee which maintained constant force to the gear wheels of the timekeeper despite the changing tension of its mainspring. By the 16th century, a pendulum clock had been devised, but the pendulum swung in a large arc and thus was not very efficient.

To address this, a variation on the original escapement was invented in 1670, in England. It was called the anchor escapement, which was a lever-based device shaped like a ship's anchor. The motion of a pendulum rocks this device so that it catches and then releases each tooth of the escape wheel, in turn allowing it to turn a precise amount. Unlike the original form used in early pendulum clocks, the anchor escapement permitted the pendulum to travel in a very small arc. Moreover, this invention allowed the use of a long pendulum which could beat once a second and thus led to the development of a new floor-standing case design, which

became known as the grandfather clock.

Today, highly accurate timekeeping instruments set the beat for most electronic devices. Nearly all computers contain a quartz-crystal clock to regulate their operation. Moreover, not only do time signals beamed down from Global Positioning System satellites calibrate the functions of precision navigation equipment, they do so as well for mobile phones, instant stock-trading systems and nationwide power-distribution grids. So integral have these time-based technologies become to day-to-day existence that our dependency on them is recognised only when they fail to work.

*Match each event with the correct nationality, **A-F**. Write the correct letter, **A-F**, in boxes **1-4** on your answer sheet.*

1. They devised a civil calendar in which the months were equal in length.
2. They divided the day into two equal halves.
3. They developed a new cabinet shape for a type of timekeeper.
4. They created a calendar to organise public events and work schedules.

List of Nationalities

A. Babylonians
B. Egyptians
C. Greeks
D. English
E. Germans
F. French

Bài 9

Here today, gone tomorrow

The Arctic and Antarctica are now within reach of the modern tourist, with many going to see these icy wildernesses before it's too late. Christian Amodeo reports on the growth of polar tourism.

Travel at the North and South Poles has become an expensive leisure activity, suitable for tourists of all ages. The poles may be inhospitable places, but they are seeing increasing numbers of visitors.

Annual figures for the Arctic, where tourism has existed since the 19th century, have increased from about a million in the early 1990s to more than 1.5 million today. This is partly because of the lengthening summer season brought about by climate change.

Most visitors arrive by ship. In 2007, 370,000 cruise passengers visited Norway, twice the number that arrived in 2000. Iceland, a country where tourism is the second-largest industry, has enjoyed an annual growth rate of nine percent since 1990. Meanwhile, Alaska received some 1,029,800 passengers, a rise of 7.3 percent from 2006. Greenland has seen the most rapid growth in marine tourism, with a sharp increase in cruise-ship arrivals of 250 percent since 2004.

The global economic downturn may have affected the annual 20.6 percent rate of increase in visitors to the Antarctic – last season saw a drop of 17 percent to 38,200 – but there has been a 760 percent rise in land-based tourism there since 1997. More people than ever are landing at fragile sites, with light aircraft, helicopters and all-terrain vehicles increasingly used for greater access, while in the past two seasons, 'fly-sail' operations have begun. These deliver tourists by air to ships, so far more groups can enjoy a cruise in a season; large cruise ships capable of carrying up to 800 passengers are not uncommon.

In addition, it seems that a high number of visitors return to the poles. 'Looking at six years' worth of data, of the people who have been to the polar regions, roughly 25 percent go for a second time,' says Louisa Richardson, a senior marketing executive at tour operator Exodus.

In the same period that tourism has exploded, the 'health' of the poles has 'deteriorated'. 'The biggest changes taking place in the Antarctic are related to climate change,' says Rod Downie, Environmental Manager with the British Antarctic Survey (BAS). Large numbers of visitors increase these problems.

Although polar tourism is widely accepted, there have been few regulations up until recently. At the meeting of the Antarctic Treaty in Baltimore, the 28 member nations adopted proposals for limits to tourist numbers. These included safety codes for tourist vessels in Antarctic waters, and improved environmental protection for the continent. They agreed to prevent ships with more than 500 passengers from landing in Antarctica, as well as limit the number of passengers going ashore to a maximum of 100 at any one time, with a minimum of one guide for every 20 tourists. 'Tourism in Antarctica is not without its risks,' says Downie. 'After all, Antarctica doesn't have a coastguard rescue service.'

'So far, no surveys confirm that people are going quickly to see polar regions before they change,' says Frigg Jorgensen, General Secretary of the Association of Arctic Expedition Cruise Operators (AECO). 'However, Hillary Clinton and many other big names have been to Svalbard in the northernmost part of Norway to see the effects of climate change. The associated media coverage could influence others to do the same.'

These days, rarely a week passes without a negative headline in the newspapers. The suffering polar bear has become a symbol of a warming world, its plight a warning that the clock is ticking. It would seem that this ticking clock is a small but growing factor for some tourists. 'There's an element of "do it now",' acknowledges Prisca Campbell, Marketing Director of Quark Expeditions, which takes 7,000 People to the poles annually. Leaving the trip until later, it seems, may mean leaving it too late.

adapted from Geographical magazine

Questions 1-5

Look at the following statements and the list of people below.

Match each statement with the correct person, **A-D**.

NB You may use any letter more than once.

1 Some tourists believe they should not delay their trip to the poles.

2 There are some dangers to travelling in Antarctica.

3 Some famous people have travelled to polar regions to look at the impacts of global warming.

4 Some tourists make more than one trip to the poles.

5 There is no evidence that visitors are hurrying to the poles.

List of People

A Louisa Richardson

B Rod Downie

C Frigg Jorgensen

D Prisca Campbell

Bài 10

THE TRUTH ABOUT LYING

by Dan Roberts

Over the years Richard Wiseman has tried to unravel the truth about deception – investigating the signs that give away a liar.

A   In the 1970s, as part of a large-scale research programme exploring the area of interspecies communication, Dr Francine Patterson from Stanford University attempted to teach two lowland gorillas called Michael and Koko a simplified version of Sign Language. According to Patterson, the great apes were capable of holding meaningful conversations, and could even reflect upon profound topics, such as love and death. During the project, their trainers believe they uncovered instances where the two gorillas' linguistic skills seemed to provide reliable evidence of intentional deceit. In one example, Koko broke a toy cat, and then signed to indicate that the breakage had been caused by one of her trainers. In another episode, Michael ripped a jacket belonging to a trainer and, when asked who was responsible for the incident, signed 'Koko'. When the trainer expressed some scepticism, Michael appeared to change his mind, and indicated that Dr Patterson was actually responsible, before finally confessing.

B   Other researchers have explored the development of deception in children. Some of the most interesting experiments have involved asking youngsters not to take a peek at their favourite toys. During these studies, a child is led into a laboratory and asked to face one of the walls. The experimenter then explains that he is going to set up an elaborate toy a few feet behind them. After setting up the toy, the experimenter says that he has to leave the laboratory, and asks the child not to turn around and peek at the toy. The child is secretly filmed by hidden cameras for a few minutes, and then the experimenter returns and asks them whether they peeked. Almost all three-year-olds do, and then half of them lie about it to the experimenter. By the time the children have reached the age of five, all of them peek and all of them lie. The results provide compelling evidence that lying starts to emerge the moment we learn to speak.

C   So what are the tell-tale signs that give away a lie? In 1994, the psychologist Richard Wiseman devised a large-scale experiment on a TV programme called *Tomorrow's World*. As part of the experiment, viewers watched two interviews in which Wiseman asked a presenter in front of the cameras to describe his favourite film. In one interview, the presenter picked *Some Like It Hot* and he told the truth; in the other interview, he picked *Gone with the Wind* and lied. The viewers were then invited to make a choice – to telephone in to say which film he was lying about. More than 30,000 calls were received, but viewers were unable to tell the difference and the vote was a 50/50 split. In similar experiments, the results have been remarkably consistent – when it comes to lie detection, people might as well simply toss a coin. It doesn't matter if you are male or female, young or old; very few people are able to detect deception.

D   Why is this? Professor Charles Bond from the Texas Christian University has conducted surveys into the sorts of behaviour people associate with lying. He has interviewed thousands of people from more than 60 countries, asking them to describe how they set about telling whether someone is lying. People's answers are remarkably consistent. Almost everyone thinks liars tend to avert their gaze, nervously wave their hands around and shift about in their seats. There is, however, one small problem. Researchers have spent hour upon hour carefully comparing films of liars and truth-tellers. The results are clear. Liars do not necessarily look away from you; they do not appear nervous and move their hands around or shift about in their seats. People fail to detect lies because they are basing their opinions on behaviours that are not actually associated with deception.

E   So what are we missing? It is obvious that the more information you give away, the greater the chances of some of it coming back to haunt you. As a result, liars tend to say less and provide fewer details than truth-tellers. Looking back at the transcripts of the interviews with the presenter, his lie about *Gone with the Wind* contained about 40 words, whereas the truth about *Some Like It Hot* was nearly twice as long. People who lie also try psychologically to keep a distance from their falsehoods, and so tend to include fewer references to themselves in their stories. In his entire interview about *Gone with the Wind*, the presenter only once mentioned how the film made him feel, compared with the several references to his feelings when he talked about *Some Like It Hot*.

F The simple fact is that the real clues to deceit are in the words that people use, not the body language. So do people become better lie detectors when they listen to a liar, or even just read a transcript of their comments? The interviews with the presenter were also broadcast on radio and published in a newspaper, and although the lie-detecting abilities of the television viewers were no better than chance, the newspaper readers were correct 64% of the time, and the radio listeners scored an impressive 73% accuracy rate.

Look at the following statements and the list of experiments below. Match each statement with the correct experiment, A-C.

You may use any letter more than once.

1. Someone who was innocent was blamed for something.
2. Those involved knew they were being filmed.
3. Some objects were damaged.
4. Some instructions were ignored.

List of Experiments

A. the gorilla experiment
B. the experiment with children
C. the TV experiment

Bài 11

The importance of community

'Community' is not a concept that is easy to define. In this essay, I will examine what transforms individuals into a community, and discuss some different types. I will also look at what all communities have in common, the benefits they offer and draw conclusions about their increasing importance.

The word 'community' may trigger images of traditional communities in the developing world, where large families live together. Elderly parents live with their children and grandchildren in one house. Parents have relative freedom: if they leave the house there is always someone left behind to look after their children. If it is their own parents who need to support, their older children can take care of this. We may also imagine the neighbours as people who are happy to help out whenever it is needed. The stereotypical view is that of a village, where people have little but can feel very rich because everyone takes responsibility for the welfare of the others.

At the other end of the spectrum, there are other types of communities: ultra-modern ones, where the community members are unlikely to have actually met each other. These are online communities, where people blog or chat about particular issues that are important to them. They come across others on websites and may develop a relationship there with like-minded people, discussing the same topics. The view is often that these are artificial bonds between people who are, in effect, still isolated strangers.

In reality, of course, this is not true, as the connections are real. Moreover, there are many types of communities in between these extremes: people who join sports and leisure clubs, who sign up with voluntary, political, religious or other organizations, who attend events such as coffee mornings (e.g. fundraising circles, mother and baby groups), or who take part in group discussions in their local area. They may be campaigning about issues or simply getting together for companionship and support.

Human beings are social by nature, so it should not be a surprise that we organize ourselves in groups. However, there is more going on: these groups provide something that we cannot achieve on our own. The main benefit of being part of a larger group is strength in numbers. For example, we can access and share more information, we can take part in team sports, we can complain and campaign more effectively and even if we are just having a chat, online or in person, we can feel supported in whatever we do.

The stereotypical views of the happy village and the isolated computer users may not be completely true, but what we do know is that whatever forms communities take, what defines them is the sense of identity and security that they provide for their members: the knowledge that there are people who we have something in common with and who can be relied on to be there when we need each other.

Questions 1-9

Match each item 1-9 with the correct group **A-D**. You can use any letter more than once.

1   people feel safe here   ....

2   these exist in different forms   ....

3   people support each other   ....

4   it is difficult to say exactly what they are   ....

5   they have a lot to offer their members ....

6   people can do things on a bigger scale   ....

7   the members meet up in person   ....

8   people are prepared to take on other people's responsibilities   ....

9   people are strangers   ....

This is true for:

A   all communities

B   online communities

C   traditional communities

D   none of the mentioned communities

Bài 12

Last man standing

Some 50,000 years ago. Homo sapiens beat other hominids to become the only surviving species. Kate Ravilious reveals how we did it.

A   Today, there are over seven billion people living on Earth. No other species has exerted as much influence over the planet as us. But turn the clock back 80,000 years and we were one of a number of species roaming the Earth. Our own species, Homo sapiens (Latin for 'wise man'), was most successful in Africa. In western Eurasia, the Neanderthals dominated, while Homo erectus may have lived in Indonesia. Meanwhile, an unusual finger bone and tooth, discovered in Denisova cave in Siberia in 2008, have led scientists to believe that yet another human population – the Denisovans – may also have been widespread across Asia. Somewhere along the line, these other human species died out, leaving Homo sapiens as the sole survivor. So what made us the winners in the battle for survival?

B   Some 74,000 years ago, the Toba 'supervolcano' on the Indonesian island of Sumatra erupted. The scale of the event was so great that ash from the eruption was flung as far as eastern India, more than 2,000 kilometres away. Oxford archaeologist Mike Petraglia and his team have uncovered thousands of stone tools buried underneath the Toba ash. The mix of hand axes and spear tips have led Petraglia to speculate that Homo sapiens and Homo erectus were both living in eastern India prior to the Toba eruption. Based on careful examination of the tools and dating of the sediment layers where they were found, Petraglia and his team suggest that Homo sapiens arrived in eastern India around 78,000 years ago, migrating out of Africa and across Arabia during a favourable climate period. After their arrival, the simple tools belonging to Homo erectus seemed to lessen in number and eventually disappear completely. 'We think that Homo sapiens had a more efficient hunting technology, which could have given them the edge', says Petraglia, 'Whether the eruption of Toba also played a role in the extinction of the Homo erectus-like species is unclear to us.'

C   Some 45,000 years later, another fight for survival took place. This time, the location was Europe and the protagonists were another species, the Neanderthals. They were a highly successful species that dominated the European landscape for 300,000 years. Yet within just a few thousand years of the arrival of Homo sapiens, their numbers plummeted. They eventually disappeared from the landscape around 30,000 years ago, with their last known refuge being southern Iberia, including Gibraltar. Initially, Homo sapiens and Neanderthals lived alongside each other and had no reason to compete. But then Europe's climate swung into a cold, inhospitable, dry phase. 'Neanderthal and Homo sapiens populations had to retreat to refugia (pockets of habitable land). This heightened competition between the two groups,' explains Chris Stringer, anthropologist at the Natural History Museum in London.

D   Both species were strong and stockier than the average human today, but Neanderthals were particularly robust, 'Their skeletons show that they had broad shoulders and thick necks,' says Stringer. Homo sapiens, on the other hand, had longer forearms, which undoubtedly enabled them to throw a spear from some distance, with less danger and using relatively little energy,' explains Stringer. This long-range ability may have given Homo sapiens an advantage in hunting. When it came to keeping warm. Homo sapiens had another skill: weaving and sewing. Archaeologists have uncovered simple needles fashioned from ivory and bone alongside Homo sapiens, dating as far back as 35,000 years ago. 'Using this technology, we could use animal skins to make ourselves tents, warm clothes and fur boots,' says Stringer. In contrast, Neanderthals never seemed to master sewing skills, instead relying on pinning skins together with thorns.

E   A thirst for exploration provided Homo sapiens with another significant advantage over Neanderthals. Objects such as shell beads and flint tools, discovered many miles from their source, show that our ancestors travelled over large distances, in order to barter and exchange useful materials, and share ideas and knowledge. By contrast, Neanderthals tended to keep themselves to themselves, living in small groups. They misdirected their energies by only gathering resources from their immediate surroundings and perhaps failing to discover new technologies outside their territory.

F Some of these differences in behaviour may have emerged because the two species thought in different ways. By comparing skull shapes, archaeologists have shown that Homo sapiens had a more developed temporal lobe – the regions at the side of the brain, associated with listening. Language and long-term memory. 'We think that Homo sapiens had a significantly more complex language than Neanderthals and were able to comprehend and discuss concepts such as the distant past and future,' says Stringer. Penny Spikins, an archaeologist at the University of York, has recently suggested that Homo sapiens may also have had a greater diversity of brain types than Neanderthals.'Our research indicates that high-precision tools, new hunting technologies and the development of symbolic communication may all have come about because they were willing to include people with "different" minds and specialised roles in their society,' she explains. 'We see similar kinds of injuries on male and female Neanderthal skeletons, implying there was no such division of labour,' says Spikins.

G Thus by around 30.000 years ago, many talents and traits were well established in Homo sapiens societies but still absent from Neanderthal communities. Stringer thinks that the Neanderthals were just living in the wrong place at the wrong time. 'They had to compete with Homo sapiens during a phase of very unstable climate across Europe. During each rapid climate fluctuation, they may have suffered greater losses of people than Homo sapiens, and thus were slowly worn down,' he says. 'If the climate had remained stable throughout, they might still be here.'

adapted from Focus Magazine

*Look at the following statements and the list of researchers, **A-C**, below. Match each statement with the correct researcher.*

1. No evidence can be found to suggest that Neanderthal communities allocated tasks to different members.
2. Homo sapiens may have been able to plan ahead.
3. Scientists cannot be sure whether a sudden natural disaster contributed to the Joss of a human species.
4. Environmental conditions restricted the areas where Homo sapiens and Neanderthals could live.

List of Researchers

1. *Mike Petraglia*
2. *Chris Stringer*
3. *Penny Spikins*

Bài 13

Out of Africa: solar energy from the Sahara

Vivienne Wait reports on how the Sahara Desert could offer a truly green solution to Europe's energy problems

A   For years, the Sahara has been regarded by many Europeans as a terra incognita* of little economic value or importance. But this idea may soon change completely. Politicians and scientists on both sides of the Mediterranean are beginning to focus on the Sahara's potential to provide power for Europe in the future. They believe the desert's true value comes from the fact that it is dry and empty. Some areas of the Sahara reach 45 degrees centigrade on many afternoons. It is, in other words, a gigantic natural storehouse of solar energy.

B   A few years ago, scientists began to calculate just how much energy the Sahara holds. They were astonished at the answer. In theory, a 90,600 square kilometre chunk of the Sahara – smaller than Portugal and a little over 1% of its total area – could yield the same amount of electricity as all the world's power plants combined. A smaller square of 15,500 square kilometres – about the size of Connecticut – could provide electricity for Europe's 500 million people. I admit I was sceptical until I did the calculations myself,' says Michael Pawlyn, director of Exploration Architecture, one of three British environmental companies comprising the Sahara Forest Project, which is testing solar plants in Oman and the United Arab Emirates. Pawlyn calls the Sahara's potential 'staggering'.

C   At the moment, no one is proposing the creation of a solar power station the size of a small country. But a relatively well-developed technology exists, which proponents say could turn the Sahara's heat and sunlight into a major source of electricity – Concentrating Solar Power (CSP). Unlike solar panels, which convert sunlight directly into electricity, CSP utilises mirrors which focus light on water pipes or boilers to produce very hot steam to operate the turbines of generators. Small CSP plants have produced power in California's Mojave Desert since the 1980s. The Sahara Forest Project proposes building CSP plants in areas below sea level (the Sahara has several such depressions] so that sea water can flow into them. This water would then be purified and used for powering turbines and washing dust off the mirrors. Waste water would then supply irrigation to areas around the stations, creating lush oases – hence the 'forest' in the group's name.

D   But producing significant quantities of electricity means building huge arrays of mirrors and pipes across hundreds of miles of remote desert, which is expensive. Gerry Wolff, an engineer who heads DESERTEC, an international consortium of solar-power scientists, says they have estimated it will cost about $59 billion to begin transmitting power from the Sahara by 2020.

E   Building plants is just part of the challenge. One of the drawbacks to CSP technology is that it works at maximum efficiency only in sunny, hot climates – and deserts tend to be distant from population centres. To supply Europe with 20% of its electricity needs, more than 19,300 kilometres of cables would need to be laid under the Mediterranean, says Gunnar Asplund, head of HVDC research at ABB Power Technologies in Ludvika, Sweden. Indeed, to use renewable sources of power, including solar, wind and tidal, Europe will need to build completely new electrical grids. That's because existing infrastructures, built largely for the coal-fired plants that supply 80% of Europe's power, would not be suitable for carrying the amount of electricity generated by the Sahara. Germany's government-run Aerospace Centre, which researches energy, estimates that replacing those lines could raise the cost of building solar plants in the Sahara and sending significant amounts of power to Europe to about $465 billion over the next 40 years. Generous government subsidies will be needed. 'Of course it costs a lot of money,' says Asplund. 'It's a lot cheaper to burn coal than to make solar power in the Sahara.'

F   Meanwhile, some companies are getting started. Seville engineering company Abengoa is building one solar- thermal plant in Algeria and another in Morocco, while a third is being built in Egypt by a Spanish-Japanese joint venture. The next step will be to get cables in place. Although the European Parliament has passed a law that aids investors who help the continent reach its goal of getting 20% of it§ power from renewable energy by 2020, it could take years to create the necessary infrastructure.

G   Nicholas Dunlop, secretary-general of the London-based NG0 e-Parliament, thinks companies should begin transmitting small amounts of solar power as soon as the North African plants begin operating, by linking a few cable lines under the Med. 'I call it the Lego method,' he says. 'Build it piece by piece.' If it can be shown that power from the Sahara can be produced profitably, he says, companies and governments will soon jump in. If they do, perhaps airplane passengers flying across the Sahara will one day count the mirrors and patches of green instead of staring at sand.

*terra incognito Latin, meaning 'an unknown land'

Look at the following statements (Questions 6-9) and the list of organisations below.

*Match each statement with the correct organisation, **A-G**.*

6/ They have set a time for achieving an objective.

7/ They believe that successful small-scale projects will demonstrate that larger projects are possible.

8/ They have a number of renewable energy projects under construction.

9/ They are already experimenting with solar- energy installations in other parts of the world.

List of Organisations
A Exploration Architecture
B DESERTEC
C ABB Power Technologies
D Aerospace Centre
E Abengoa
F The European Parliament
G e-Parliament