

# SOLUTIONS – COURSE BOOK

## Unit 1

### page 5, Vocabulary

exercise 6: pick up ≠ put down / raise ≠ lower / read ≠ write / say ≠ listen/ stand ≠ sit/  
start ≠ stop

ex.7: 1a      2b      3a      4b      5b      6a

ex.8: 1 chisel/ 2 screwdriver/ 3 spanner/ 4 saw/ 5 screws/ 6 nuts/ 7 bolts/ 8 washers/ 9 antenna/  
10 cable/ 11 adapter/ 12 plug

### page 6, Speaking, ex.3:

three	eight	five	ten	two	Exceptions
B C D E G P T V	A H J K	I Y	F L M N S	Q U W	O R

### page 7, Vocabulary, ex.9:

km = kilometre	C = Celsius/ centigrade
+ = plus	km/h = kilometres per hour
g = gram	m = metre
in = inch	- = minus
kW = kilowatt	ft = feet
L = litre	€ = euro
V = volt	W = watt
A = amp	gal = gallon
° = degree	
rpm = revolutions per minute	

### page 8, Speaking, ex.2:

-st	-nd	-rd	-th
1st 21st 31st	2nd 22nd	3rd 23rd	4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 24th, 25th, 26th, 27th, 28th, 29th, 30th

### page 9, Speaking, ex.9:

1 7.50 am/ 2 06.30/ 3 3.15 pm/ 4 2.40 pm/ 5 16:45/ 6 16.35/ 7 8,25 pm/ 8 5.55 am/ 9 21.10

ex. 10: 1 five fifteen, five fifteen am/ 2 eight fifty, eight fifty am/ 3 eleven fourteen, eleven fourteen  
am/ 4 thirteen forty, one forty pm/ 5 fifteen eighteen, three eighteen pm/ 6 seventeen thirty, five  
thirty pm

ex.13: **A** It's eight fifty-five am, on the fifth of November./ **B** It's two fifty-five pm, on the thirtieth of October./ **C** It's one forty-five pm, on the thirteenth of December./ **D** It's six thirty-five pm, on the fifteenth of September.

## **Unit 2**

**page 11**, ex. 6: 1- this, It's; 2- that, It's; 3- these, They're; 4- those, They're

**pages 12 and 13**, exs. 4 and 5 Reading: 1 F 2 B 3 D 4 E 5 C 6 A

**page 13**: ex. 8: **1** Put/ **2** Take/ **3** Push/ **4** Pull/ **5** Tighten/ **6** Loosen

ex. 9: **1** take (off) 2 loosen 3 pull

**Attention! From here onwards, you will find only the solutions of the most important exercises!**

## **PAGES 16-17 – REVIEW UNIT A**

1- 2 Are the switches off?/ 3. Is Roberto in London?/ 4. Are they IT technicians?/ 5. Is he a student?/ 6. Is she Polish?

2- 2. No, the power's not on. It's off./ No, the power isn't on. It's off.

3. No, I'm not Peter. I'm John.

4. No, they're not from Berlin. They're from Bonn./ No, they aren't from Berlin. They're from Bonn.

5. No, she's not a technician. She's an engineer./ No, she isn't a technician. She's an engineer.

6. No, he's not an electrician. He's a builder./ No, he isn't an electrician. He's a builder.

3- 2. This is Jean. He's French, but he's not from Paris./ This is Jean. He's French, but he isn't from Paris.

3. This is Frieda. She's from Rome, but she's not Italian./ This is Frieda. She's from Rome, but she isn't Italian.

4. Look at the switch. It's down, but the power's not on./ but the power isn't on.

5. These are the wrong items. They're not bolts/ They aren't bolts. They're screws.

6. What's this tool called? What are these called?

4- 2. do - b/ 3. Are - a/ 4. does - f/ 5. What's/ What is - c/ 6. Are – d

## **PAGE 19, EXERCISE 18**

**2.** Use the large hammer./ **3.** Take off the old car wheel./ **4.** Put on the new car wheel./

**5.** Hammer the nails into the wood./ **6.** Push the bolts into the holes.

## Unit 3

### page 21:

exs. 6 and 7 Reading: **1** screwdriver/ **2** ruler/ **3** blade/ **4** can opener/ **5** wrenches/ **6** cover/ **7** pick/  
**8** bottle opener

ex. 9, Vocabulary: **1** head/ **2** handle/ **3** shaft/ **4** blade/ **5** jaws

exs.11 and 12 Speaking and Writing: possible sentences:

The Survival Tool has a screwdriver, but it doesn't have a saw, a hammer or pliers.

It has a knife blade, a bottle opener, a can opener, a ruler, a pick and a wrench.

The Multitool has ..., but it doesn't have ...

The Key Tool has ..., but it doesn't have ...

### page 22: ex.1: **1** B/ **2**C/ **3**D/ **4**A

ex.2, Reading: **1** clock/ **2** antenna/ **3** torch/ **4** thermometer/ **5** handle/ **6** compass/ **7** alarm

ex.5: **1** The AC adapter connects the mains electricity supply to the radio./ **2** The handel turns the dynamo./ **3** The dynamo produces electricity and charges the internal battery./ **4** The solar panel changes the Sun's energy into electriciy and charges an internal battery.

### page 23:

ex.6: **1** g/ **2** e/ **3** a/ **4** d/ **5** h/ **6** b/ **7** c/ **8** f

ex.7: **1** The thermometer measures temperature./ **2** The compass finds North./ **3** The torch shines a light./ **4** The clock tells the time./ **5** The alarm makes a loud noise./ **6** The solar panel makes electricity./ **7** The handle turns the dynamo./ **8** The antenna receives radio signals.

ex. 9: **1** tighten/ **2** loosen/ **3** grip/ **4** cut/ **5** drive in

ex. 10:

A spanner tightens and loosens nuts and bolts.

Pliers grip bolts and wire.

A screwdriver tightens and loosens screws.

A chisel cuts wood and metal.

Scissors cut paper and string.

A saw cuts wood.

Hammers drive in nails.

### Page 24, ex. 2, Vocabulary: **1** G/ **2** I/ **3** H/ **4** D/ **5** F/ **6** B/ **7** A/ **8** C/ **9** E

ex. 3, Reading: **1** Put the scanner at the top on the **right**./ **2** ... put the computer at the top on the **left**./ **3** Then put the DVD drive a the **bottom on the left**./ **4** ... put the printer at the **top in the centre/ middle**./ **5** Finally, put the keyboard at the bottom **in the centre/ middle**./ **6** ... and put the mouse at the bottom **on the right**.

**Page 25, ex.6: 1** at, in, to , of, below/ **2** at, on, to, of, above

ex.7: **1** The mouse is to the right of the keyboard. It's below speaker 2. / **2** The DVD drive is at the bottom on the left. The DVD drive is below speaker 1./ **3** The scanner is at the top on the right. The scanner is above speaker 1./ **4** The screen is in the centre. It's to the right of speaker 1 and to the left of speaker 2. It's above the keyboard and below the printer.

## Unit 4

**page 26**, ex. 1: **1** up/ **2** sideways/ **3** backwards/ **4** down/ **5** forwards

ex.2:

Direction	Plane	Helicopter
forwards	✓	✓
backwards		✓
up and down	✓ (diagonally)	✓ (straight)
sideways		✓

ex. 4: **1** can; can't/ **2** can't; can / **3** can't; can/ **4** can't; can

ex.6 and 7, Reading: **1** three/ **2** three/ **3** one

ex.8: **1** move up and down/ **2** rotate/ **3** move sideways/ **4** move up and down/ **5** move up and down  
**6** rotate/ **7** move sideways

ex.27, Listening: **1** a / **2** b/ **3** b / **4** a

**1** 19 degrees/ **2** 40 degrees/ **3** 70 degrees/ **4** 180 degrees/

ex. 11, Language: **1** is/ **2** has/ **3** is/ **4** has/ **5** can/ **6** can/ **7** can/ **8** is/ **9** has/ **10** can/ **11** isn't/ **12** has/ **13** can/ **14** can/ **15** can't

**page 28**, exs.1 and 2, Listening: **1** b/ **2** b/ **3** a/ **4** a/ **5** a/ **6** a

ex. 4: **1** antenna/ **2** handle/ **3** joystick/ **4** switch/ **5** slider

ex.5:

### LH joystick:

**1** Push it up (away from you), the plane accelerates.

Pull it down (towards you), the plane slows down.

**2** Push it to the left, the plane turns left. Push it to the right, the plane turns right.

### RH joystick:

**3** Push it up, the plane descends. Pull it down, the plane ascends.

**4** Push it to the left, the plane rolls to the left. Push it to the right, the plane rolls to the right.

ex. 6, Reading: **1** c **2** a

ex. 8: **1** b/ **2** d/ **3** a/ **4** h/ **5** c/ **6** f/ **7** e/ **8** g

ex. 9, Speaking: possible questions and answers:

A Can you swim?

B Yes, I can. Can you?

A Yes, I can. Can you sail a boat?

B No, I can't./ Yes, I can. Can you?

A Yes, .../ No, ... Can you ride a horse?

ride a motorbike?

ride a bicycle?

drive a lorry? (lorry = truck in American English)

drive a car?

ski?

**Page 30:** ex.1: 1 two 2 four 3 on the left

ex.2, Reading: 1 G/ 2 A/ 3 B/ 4 C/ 5 D/ 6 F/ 7 E

ex.3: **A** the fork tilts down/ **B** the fork tilts up/ **C** the truck moves forward/ **D** the fork moves down  
**E** the truck reverses/ **F** the fork moves up

**page 31,** ex.6, Writing

1 When you pull lever C backwards, the fork tilts down.

2 When you push lever B forwards, the fork moves up.

3 When you turn the steering wheel to the right, the truck turns right.

4 When you pull lever G backwards, the truck reverses.

5 When you press the brake pedal, the truck stops.

6 When you press the accelerator, the truck goes faster.

ex.7:

Student A – the correct sequence of instructions is:

**6, 7, 4, 1, 5, 3, 8, 2**

Student B – the correct sequence of instructions is:

**4, 8, 6, 3, 5, 1, 2, 7**

## **REVIEW UNIT B**

**1** 1 Does John have the spanners?

2 Do the students have a holiday tomorrow?

3 Does the Multi Tool have a screwdriver?

4 Do these bikes have strong brakes?

5 Does the radio have an internal battery?

6 Do those houses have solar panels?

**2** 1 No, I don't have a car. I have a motorbike.

2 No, my brother doesn't have a DVD. He has a VCR.

3 No, the Multi Tool doesn't have scissors. It has a knife blade.

4 No, we don't have English today. We have Science.

5 No, my radio doesn't have batteries. It has a dynamo.

6 No, the pliers don't have plastic handles. They have metal handles.

3 1 The Multi Tool doesn't have a wrench. It isn't very useful./ 2 We don't have an AC adapter. We can't switch on the computer./ 3 I'm a technician, but I don't have my tools here. I can't repair your TV./ 4 The electricity is off and we don't have any batteries. You can't use the radio now.

4 1 No, I can't./ 2 No, she isn't./ 3 Yes, it does./ 4 No, they don't./ 5 Yes, I am./ 6 No, it doesn't./ 7 No, I'm not./ 8 Yes, they can.

5 1 does/ 2 do/ 3 turns/ 4 produces/ 5 charge/ 6 use/ 7 uses/ 8 has

6 1 jaws/ 2 handles/ 3 blades/ 4 handle/ 5 handle/ 6 shaft/ 7 blade/ 8 head/ 9 shaft/ 10 handle

7 1 A pair of pliers has two handles and two jaws./ 2 A pair of scissors has two handles and two blades./ 3 A spade has a handle, a shaft and a blade./ 4 A hammer has a handle, a shaft and a head.

8 Five screwdrivers. They're at the top, on the left.

Four spanners. They're at the top, in the middle/centre.

One knife. It's at the top, on the right.

One hammer. It's in the middle/centre, on the left, below the screwdrivers.

Three chisels. They're in the middle/centre, on the right, below the knife.

One saw. It's in the middle/centre, below the hammer and the chisels.

Two pairs of pliers. They're at the bottom on the left, below the saw.

One pair of scissors. It's at the bottom, on the right, below the saw.

Two torches. They're at the bottom, on the right, below the pair of scissors.

9 The screwdrivers are to the left of the spanners and above the hammer.

The spanners are to the right of the screwdrivers and to the left of the knife. They're above the hammer and the chisels.

The knife is to the right of the spanners. It's above the chisels.

The hammer is to the left of the chisels. It's below the screwdrivers and above the saw.

The chisels are to the right of the hammer. They're below the knife and above the saw.

The saw is below the hammer and the chisels. It's above the pliers and the scissors.

The pliers are to the left of the scissors. They're below the saw.

The scissors are to the right of the pliers. They're below the saw and above the torches.

The torches are on the right of the pliers. They're below the scissors.

10 1 helmet/ 2 pliers/ 3 solar panels/ 4 nuts/ 5 antenna/ 6 dynamo

11 1 are/ 2 do/ 3 do/ 4 is/ 5 does/ 6 is/ 7 does/ 8 does  
a works/ b am/ c is/ d comes/ e am/ f study/ g study/ h is

12 1 e/ 2 b/ 3 f/ 4 g/ 5 d/ 6 h/ 7 c/ 8 a

13 possible answers:

1-e A Where are you from?

B: **I'm** from Japan.

2-b A What do you do?

B: **I'm** a student.

3-c A Where do you study?

B: I study at the Technical College.

4-g A **What's** your subject?

B: I study telecoms engineering.

5-d A Where does Elli come from?

B: **She's** from Finland.

6-h A Is she a student too?

B: No, **she isn't**/ No, **she's not**.

7-c A What does she do?

B: **She's** a technician.

8-a A Where does she work?

B: She works at Vodafone.

**14** Silent letters in *knife* = **k** and **e**; in *build* and *building* = **u**; *scissors* = **c**; *wrist* = **w**; *ascend* and *descend* = **c**; *right* and *tighten* = **gh**

**15** **1** slider/ **2** wheel/ **3** switch/ **4** display/ **5** button/ **6** lever/ **7** key/ **8** pedal

**16** a printer, an AC adapter, a pair of speakers, a keyboard, an amplifier, a pair of headphones, a pair of earphones, some nuts, some bolts, a pair of pliers

**17** **1** This opener can open bottles, but it can't open tins./ **2** These wrenches can't tighten the M12 bolts, but they can loosen the M5 nuts./ **3** That antenna can receive radio signals, but it can't transmit them./ **4** A rocket can fly straight up, but it can't reverse./ **5** Passenger planes can't fly sideways, but they can turn left and right./ **6** I can drive a car, but I can't operate a forklift truck.

**18** The yellow square

**19** **1** H/ **2** A/ **3** G/ **4** B/ **5** J/ **6** E/ **7** C/ **8** I/ **9** D/ **10** F

**20-21** (Solutions not available; please, use a dictionary to do and correct these two exercises)

## **Unit 5**

**page 36:** ex. 1: (solutions not available)

exs. 2 and 3: **1** b/ **2** a/ **3** c/ **4** c

**page 37:** ex. 5, Vocabulary: **1** into/ **2** out of/ **3** to/ **4** from/ **5** through/ **6** around

ex. 6: **1** rise/ **2** sink/ **3** enter/ **4** leave

ex. 7: **1** enters/ **2** leaves/ **3** rises/ **4** sinks

**page 38:** ex. 1: **1** lamp/ **2** conductor/ **3** negative/ **4** battery/ **5** positive/ **6** switch/ **7** terminal/ **8** fuse

ex. 2, Listening: **1** solar panel/ **2** controller/ **3** cables/ **4** lamps/ **5** battery

ex. 3: **1** d/ **2** c/ **3** e/ **4** a/ **5** b

**page 39:** ex. 5, Reading: (solutions not available: please, read the text with the help of a dictionary to understand it)

ex. 7: **1** closes/ **2** doesn't flow/ **3** opens/ **4** doesn't flow

**page 40:** exs. 1,2, Listening: **1** a/ **2** b/ **3** b/ **4** a/ **5** b/ **6** a

exs. 3 and 4, Reading: **1** engine/ **2** thermostat/ **3** top hose/ **4** radiator/ **5** bottom hose/ **6** water pump

ex.5: **1** b/ **2** c/ **3** b/ **4** a

ex. 6, Speaking: possible answers:

- 1 The water pump pushes water around the engine.
- 2 The thermostat controls the temperature of the water.
- 3 The two hoses connect the radiator to the engine.
- 4 The radiator cools the hot water from the engine.
- 5 The fan blades blow air onto the radiator.
- 6 Cool water sinks to the bottom of the radiator.
- 7 Hot water rises to the top of the engine.
- 8 Water flows through the two hoses.

**Page 41:** exs. 7 and 8: 1 through; to/ 2 leaves; trough/ 3 enters; through/ 4 cools/ 5 sinks/ 6 enters/ 7 flows around/ 8 flows out of/ into/ 9 heats/ 10 rises/ 11 leaves; through

## Unit 6

**page 42:** ex.2, Listening:

1 Nylon/ 2 He's pulling the rope and he's stretching it./ 3 No, it isn't.

ex. 3: 1 pulling/ 2 stretching/ 3 breaking/ 4 isn't/ 5 isn't breaking

ex. 4, Vocabulary:

1 scratch/ 2 compress/ 3 stretch/ 4 bend/ 5 strike/ 6 drop/ 7 cut/ 8 heat

**page 43:** ex. 5, Language: 1 'm heating/ 2 isn't melting/ 3 'm putting/ 4 is dropping/ 5 's striking/ 6 isn't bending/ 7 are compressing/ 8 isn't bending/ 9 is hanging/ 10 aren't stretching

ex. 6, Speaking: possible answers:

- A She's sitting on an exercise bike. She's cycling.
- B He's running.
- C She's pushing the pedals on the machine.
- D He's pushing the bar up.(or He's pulling the bar down.)
- E He's touching his toes.
- F and G They're holding/lifting weights.
- H He's sitting on the floor. He's stretching his leg.

**Page 44:** ex. 2, Vocabulary: 1 ceramic/ 2 polycarbonate/ 3 polysterene/ 4 fibreglass/ 5 graphite/ 6 titanium/ 7 rubber/ 8 nylon/ 9 aluminium/ 10 steel

**page 45:** ex. 9, Reading: 1 fibreglass/ 2 strong, light/ 3 fibreglass/ 4 hard/ 5 aluminium/ 6 strong, light/ 7 rubber/ 8 tough/ 9 ceramic/ 10 heat-resitant/ 11 cromoly/ 12 light, tough and rigid/ 13 aluminium (coated with ceramic)/ 14 corrosion-resistant

**page 46:** ex.2, Listening:

1 waleed@sports.com/ 2 adam@city.co.uk/ 3 theowalcott@goalfeast.com/  
4 c.ronaldo@back-of-the.net/ 5 www.toyota.com/customer-support/  
6 www.orascom.com.eg/sales\_1

ex. 4, Listening – Phone converstation: 1 repeat/ 2 spell/ 3 Is that/ 4 Is that

**page 47:** ex.6, Speaking: possible questions to ask you partner:

1 What's your name?/ 2 What's your phone number?/ 3 Could you repeat that, please?/ 4 Could you spell that, please?/ 5 What's the product name?/ 6 What's the product number?/ 7 What colour would you like?/ What size ...?/ What material ...?/ 8 How do you want to pay? Do you want to pay in euros/ in dollars ...?/ 9 How many would you like?/ How many would you need?

**REVIEW UNIT C** (from here on, you will find only solutions of some basic exercises)

**page 48:** ex.1:

1 Grip the nail. Use a pair of pliers./ 2 Pull out the nail./ 3 Drive in the nail./ 4 Loosen the bolt./ 5 Tighten the bolt./ 6 Measure the wood./ 7 Cut the wood./ 8 Put on the goggles./ 9 Put the bar in the vice./ 10 Strike the bar in the vice./ 11 Bend the bar in the vice./ 12 Take the bar out of the vice./ 13 Take off the goggles./ 14 Open the box./ 15 Put the goggles in the box./ 16. Close the box.

**ex.2:**

1 He's gripping the nail. He's using a pair of pliers./ 2 He's pulling out the nail. He's using a pair of pliers./ 3 He's driving in the nail. He's using a hammer./ 4 He's loosening the bolt. He's using a spanner./ 5 He's tightening the bolt. He's using a spanner./ 6 He's measuring the wood. He's using a tape measure./ 7 He's cutting the wood. He's using a saw./ 8 He's putting on the goggles. / 9 He's putting the bar in the vice./ 10 He's striking the bar in the vice. He's using a hammer./ 11 He's bending the bar in the vice./ 12 He's taking the bar out of the vice./ 13 He's taking off the goggles./ 14 He's opening the box./ 15 He's putting the goggles in the box./ 16 He's closing the box.

**Page 49:** ex.6: 1 'm pressing; isn't going/ 2 's pulling; aren't rising; 3 're pushing down/ isn't slowing/ 4 'm sliding; aren't tilting/ 5 's pulling; isn't reversing/ 6 're moving; isn't going

**page 50:** ex.8: rise ≠ sink/ enter ≠ leave/ into ≠ out of/ heavy ≠ light/ strong ≠ weak/ go in ≠ go out/ inlet ≠ outlet/ push ≠ pull/ open ≠ close/ tough ≠ brittle/ hard ≠ soft/ to ≠ from/ flexible ≠ rigid/ go down ≠ go up

**page 51:** ex. 12: 1 strikes/ 2 pull/ 3 presses/ 4 scratch/ 5 is striking/ 6 are pulling/ 7 isn't stretching/ 8 is pressing/ 9 isn't breaking/ 10 are scratching

**Unit 7**

**page 53:** ex. 5, Vocabulary:

<b>Adjective</b>	high	long	deep	wide
<b>Noun</b>	height	length	depth	width

ex.6: 1 width/ 2 long/ 3 depth/ 4 high/ 5 deep/ 6 length/ 7 wide/ 8 height

**page 54:** ex.3, Reading: 1 D/ 2 F/ 3 C/ 4 B/ 5 E/ 6 A

**page 55:** ex.4: 1 any/ 2 What size/ 3 how many/ 4 some/ 5 What colour/ 6 how much

**page 57:** ex.4: **completion date:** 2030/ **deck:** length of deck = 15 km long/ **height:** pylons = 1000 m high/ **length:** 15 km/ **materials:** steel (pylons), concrete (piers), fibreglass (deck), / **pier and pylon:** three steel pylons on concrete piers, 1000 m high/ **span:** 4800 m long

## Unit 8

**page 59:** ex. 6, Speaking: possible answers:

A: Have you checked the brakes?

B: Yes, I have.

A: Good. What about the tyres? Have you repaired them?

B: No, I haven't. I'll do it now.

A: Have you ordered those new parts?

B: Yes, I have.

A: Have you bought those tools?

B: No, I haven't. I'll do it now./ I'll do it as soon as possible.

A: Have you changed the tyres?

B: Yes, I have.

A: Have you cleaned the spark plugs?

B: No, I haven't. I'll do it now./ I'll do it as soon as possible.

A: Have you phoned the customer?

B: No, I haven't. I'll do it now./ I'll do it as soon as possible.

A: Have you spoken to our supplier?

B: Yes, I have.

A: Have you written that report?

B: Yes, I have.

A: Have you sent that correu electrònic?

B: No, I haven't. I'll do it now./ I'll do it as soon as possible.

A: Have you put in the new fuses?

B: No, I haven't. I'll do it now./ I'll do it as soon as possible.

A: Have you taken out the old lamps?

B: Yes, I have.

**Page 60:** ex. 2: **1** bend/ **2** cut/ **3** scratch/ **4** tear/ **5** dent/ **6** crack/ **7** break/ **8** burn

**page 61:** ex.7: **1** dented/ **2** scratched/ **3** cracked/ **4** cut/ **5** bent/ **6** torn

**page 62:** exs.1,2, Reading: **1** space station: 1971/ **2** telescope in space: 1990/ **3** man in space: 1961/ **4** space tourist: 2001/ **5** satellite: 1957/ **6** spacewalk: 1965/ **7** man on the Moon: 1969/ **8** shuttle in space: 1981/ **9** crew to enter the International Space Station: 2000/ **10** European navigation satellite: 2005

## REVIEW UNIT D

**Page 64:** ex.1: **1** How wide is the road?/ **2** How high are the pylons?/ **3** How long is the deck of the bridge?/ **4** How high is the scaffolding?/ **5** How deep are the foundations of the building?/ **6** How long are the steel beams?

ex.2: **1** deep/ **2** high/ **3** wide/ **4** long

ex.3: **1** How high is the bridge?/ **2** The tower is 46m high./ **3** How deep is the sea under the bridge?/  
**4** This new road is 355 km long./ **5** How wide are the screws?/ **6** The well is more than 30 m deep.

**Page 65:** ex.7: **1** How long will the tunnel be?/ **2** It will be 40 km long./ **3** How many railway lines will it have?/ **4** It will have two./ **5** How wide will it be?/ **6** It will be 8 m wide./ **7** How deep will it be?/ **8** It will be 300 m deep./ **9** When will the engineers complete it?/ **10** They'll complete it in 2025.

**Page 66:** ex.11: **1** The front bumper is dented./ **2** The windscreen is broken./ **3** The rear seat of the car is burnt./ **4** The poles of the scaffolding are bent./ **5** The safety jackets are torn./ **6** The rear panel of the car is scratched.

**Page 67:** ex.14: **1** bought/ **2** find/ **3** found/ **4** keyed/ **5** did you pay/ **6** use/ **7** gave/ **8** used/ **9** did you receive/ **10** came

## Unit 9

**Page 69:** ex.6, Reading: **1** It accelerates the airboard into the air./ **2** It's below the body. It's made of rubber. Yes, you can bend it./ **3** The rider stands on the fibreglass platform./ **4** The airboard stops./ **5** It means *push*./ **6** (1) forwards (line 15); (2) downwards (line 14)

**Page 73:** ex. 6, Social English: **1** Yes, I do./ **2** No, I don't./ **3** No, I'm not./ **4** Yes, we have./ **5** No, I didn't.

## Unit 10

**Page 74:** ex.4, Reading: **1** C/ **2** E/ **3** B/ **4** D/ **5** A/ **6** F

**Page 75:** ex.5: **1** Never/ **2** Always/ **3** Do not/ **4** must/ **5** Do/ **6** mustn't

ex.6: **1** Do not smoke here./ **2** Do not use a mobile phone here./ **3** Do not run here./ **4** Do not enter here./ **5** Do not exit here./ **6** Do not park here.

ex.7: **1** could/might/ **2** There's, could/might/ **3** could/might/ **4** There are, could/might

**Page 77:** ex.5: **1** There's some liquid on the floor./ **2** There are some bricks on the floor./ **3** There are some boxes on the stairs./ **4** There's some food on the benches./ **5** There's some drink on the benches./ **6** There are some tools on the floor./ **7** There are no fire extinguishers./ **8** There's a fire exit./ **9** There are no cones around the bricks./ **10** There are no guards on the machines./ **11** A cable is damaged./ **12** Two windows are broken./ **13** The fire exit is locked./ **14** Some cables are coiled.

**Page 79:** ex.6, Social English: **1** must/ **2** I'd/ **3** Are/ **4** can't/ **5** don't/ **6** I'll

## REVIEW UNIT E

**Page 80:** ex.1: **1** supports; pushes/ **2** rotate; move; propels/ **3** control; increases/ **4** steers/ **5** turns

**Page 81:** ex.5: **1** suspended from/ **2** connected to/ **3** attached to/ **4** disconnected from/ **5** attached to; suspended from/ **6** mounted on; connected to

**Page 82:** ex.9: **1** found/ **2** was/ **3** were/ **4** were/ **5** had/ **6** didn't wear/ **7** was/ **8** were/ **9** told/ **10** took place/ **11** put on/ **12** climbed/ **13** was/ **14** had/ **15** shouted/ **16** switched off/ **17** switched/ **18** touched/ **19** wasn't/ **20** was/ **21** was/ **22** didn't receive

Page 83: ex.10: **1** Where did the incident take place?/ **2** When did it happen?/ **3** Did the repair man wear a hard hat?/ **4** How did he climb to the cable?/ **5** How high was the cable?/ **6** What was the problem?/ **7** Did he get an electric shock?/ **8** Was the cable connected to the mains supply?

## Unit 11

**Page 84:** ex.3, Reading: Caption 1: B/ Caption 2: D/ Caption 3: C/ Caption 4: A

**Page 85:** ex.5: **1** Heat makes a metal expand and cold causes it to contract./ **2** Overflow pipes allow extra water to flow out of the tanks./ **3** The valve on the oil well prevents the oil from exploding./ **4** These powerful pumps make the water rise 30 m up the hill./ **5** These fire extinguishers stop electrical fires from spreading./ **6** Show your ID card and the guard will let you enter the factory.

**Page 86:** exs.3 and 4, Reading: **1** switch/ **2** spring/ **3** terminal/ **4** buzzer/ **5** battery/ **6** wire

**Page 87:** ex.6: Because the buzzer has its own circuit.

ex.7: **1** two (the window circuit and the buzzer circuit)/ **2** one. An electromagnet is an iron bar with a coil of wire around it; it is magnetic when a current flows in the coil./ **3** two/ **4** the current

**Page 88:** ex.3, Vocabulary: **1** shaft/ **2** gear/ **3** housing/ **4** generator/ **5** shaft/ **6** brake/ **7** hub/ **8** blade

**Page 89:** ex.7, Language: **1** makes/ **2** prevents/ **3** cause

ex.9, Social English: possible sentences and questions: **1** B: Let's go to the .../ **2** B: Why don't we go to the ...? etc ...

## Unit 12

**Pages 90 and 91:** exs. 2, Reading, and 3: **1)** 2.1 m/ **2)** 2.2 m/ **3)** 800 kg/ **4)** 60 kg/ **5)** six/ **6)** 25 cm in diameter/ **7)** 360 degrees/ **8)** 75 cm/ **9)** 90 metres per hour/ **10)** 30 metres per hour/ **11)** 85° C max.-120 °C min./ **12)** 200 m

**Page 91:** ex.4, Vocabulary: **1** is about/ approximately 2.1 m high and about/ approximately 2.2 m long./ **2** weighs more than/ over 750 kg./ **3** are at least 60 kg./ **4** rotate at up to 360 °C./ **5** can travel more than/ over 100 metres per day and operate up to about/ approximately 687 days.

exs.5 and 6, Speaking: possible questions: **1** What's the rover called?/ **2** How many wheels does it have?/ **3** What are the wheels made of?/ **4** What are the arms attached to?/ **5** What is the mast mounted on?/ Where is the mast mounted?/ **6** How high is the rover?/ **7** What does the MastCam do?/ **8** What does the CheamCam do?/ **9** How heavy are the scientific instruments?/ **10** How fast can the rover move?

ex.7: **1** b/ **2** a/ **3** a/ **4** b

**Page 92:** ex.3: **1** I'm moving forwards 200 cm./ **2** I'm rotating 15 degrees to the left./ **3** I'm reversing 300 cm./ **4** I'm rotating 80 degrees to the right./ **5** I'm going up the hill./ **6** I'm rolling down the hill./ **7** I'm going round to the left of the rocks./ **8** I'm stopping.

**Page 93:** ex.6: **1** Make the rover move forwards 200 cm./ OK. I'm pushing the joystick forwards./ The rover isn't moving./ Now it's moving forwards./ **2** Rotate 15 degrees to the left./ OK. I'm turning the wheel to the left./ The rover isn't turning left./ Now it's turning left./ **3** Reverse for 300 cm./ OK. I'm pulling the joystick backwards./ The rover isn't reversing./ Now it's reversing./ **4** Rotate 80 degrees to the right./ OK. I'm pressing the "rotate" button./ The rover isn't rotating./ Now it's rotating.

ex.8: **1** The astronaut is moving downwards./ **2** The plane is going forwards./ **3** The car is turning left./ **4** The helicopter is moving upwards./ **5** The rover is rotating right./ **6** The truck is reversing right round the corner./ **7** The shuttle is moving upwards./ **8** The motorboat is turning right.

**Page 95:** ex.5, Speaking:

Task	Y/N?	Notes
Dismantle old water system	Y	Completed 4th August
Assemble new water system	Y	Completed 6th August
Install water system	Y	Completed 8th August
Test equipment for third spacewalk	Y	Completed 5th August
Take video of damaged nose cap	Y	Completed 6th August
Inspect damage to waste tank	N	Will complete 9th August
Assemble new robot arm	N	Will complete 11th August
Attach new robot arm	N	Will complete 13th August

Possible sentences and questions:

B: Have you dismantled the old system yet?

A: Yes, we have.

B: When did you complete the job?

A: 4th August.

B: Have you assembled the new water system?

A: Yes, we have.

B: When did you complete the job?/ When did you assemble it?

A: 6th August.

B: Have you installed the water system?

A: Yes, we have.

B: When did you complete the job?/ When did you install it?

A: 8th August.

B: Have you tested the equipment for third spacewalk?

A: Yes, we have.

B: When did you complete the job?/ When did you test it?

A: 5th August.

B: Have you taken the video of the damaged nose cap?

A: Yes, we have.

B: When did you complete the job?/ When did you take it?

A: 6th August.

B: Have you inspected the damage to the waste tank?

A: No, we haven't.

B: When will you complete the job?/ When will you inspect it?

A: 9th August.

B: Have you assembled the new robot arm?

A: No, we haven't.

B: When will you complete the job?/ When will you assemble it?

A: 11th August.

B: Have you attached the new robot arm?

A: No, we haven't.

B: When will you complete the job?/ When will you attach it?

A: 13th August.

## **REVIEW UNIT F**

### **Page 96:**

Ex.1: **1** makes/ **2** lets/ **3** prevents/stops/ **4** allows/ **5** stops/prevents/ **6** causes

Ex.2: **1** press; makes; go/ **2** push; causes; stop/ **3** pull; prevents; moving/ **4** release; allows; move

Ex.3: **1** rise/ **2** close; to open/ **3** from flowing/ **4** to flow/ **5** to go down/ **6** open; to close

### **Page 97:**

Ex.4: increase  $\neq$  decrease/ expand  $\neq$  contract/ bring  $\neq$  take/ low  $\neq$  high/ assemble  $\neq$  dismantle/  
inlet  $\neq$  outlet/ less than  $\neq$  more than/ connect  $\neq$  disconnect/ remove  $\neq$  replace/ approximately  $\neq$   
exactly

Ex.5: **1** closes/ **2** flows/ **3** makes/ **4** pulls/ **5** strike/ **6** opens/ **7** moves/ **8** closes/ **9** strikes

### **Page 98:**

Ex.8: **1** replaced; replace; replaced/ **2** taken; take; took/ **3** driven; drive; drove/ **4** spoken; speak;  
spoke

Ex.11: possible example of a description:

The function of the dam is to generate electricity. The main parts of the dam are the powerhouse, the generator, the shaft, the tunnel and the inlet. The dam is 111 metres high, 3600 metres long and 980 metres wide at the base. 11,000 m<sup>3</sup> of water can pass through the dam. The reservoir is 132 km<sup>3</sup>. The dam is made of reinforced concrete. The gates open and this allows the water to flow in through the inlet. The water from the reservoir flows through the filter, through the gate and along the tunnel. The water then flows into the blades of the turbine. The blades move the shaft and the shaft turns the generator. The generator makes electricity. The electricity runs through high-voltage cables. The water then flows out.