

5

Descriptions

1 Uses

Start here 1 Think of some tools or devices you use. Discuss why they are useful with a partner.

Reading 2 Read these advertisements and match the objects with their descriptions.



1 Use the X-beam wrench for loosening tight and rusty old bolts without hurting your hand. The ends are at ninety degrees to each other, so you always grip a wide, flat surface, not a narrow edge.

2 What do you do if your car battery goes flat in a storm, and you don't have jump leads or roadside assistance? The Black & Decker Simple Start allows you to start your car without getting wet. It plugs into the 12-volt socket in your car, and it's designed to restart your car in ten minutes.

3 This is designed to jump, dive, roll and move over and under water at 30 mph using a 175-hp engine. Innespace Sea Breacher is a two-seat, 5-metre long, underwater vehicle, shaped like a dolphin. It acts as a jetski and as a fast submarine.

4 Have you forgotten where you put your keys? Use this smart device to find them. Simply attach the electronic tag to your keys. Then, if you can't find them later, switch on Loc8tor, and it will point in the right direction – not only left or right, but up or down too. It will show you where your keys are. At the same time, the tag on your keys will emit a beeping sound.

Speaking 3 Discuss the objects in 2 with a partner. What do you think of them? Are they useful for you?

Listening 4  13 Listen to these inventors answering questions about their inventions. Identify the inventions.

- a) Invention number _____
- b) Invention number _____
- c) Invention number _____

5 Listen again and complete the dialogues.

A: So, tell me about your invention. What's it for?

B: It's (1) _____.

A: OK. And what about this device. What's it used for?

B: It's (2) _____.

A: Tell me about this invention. What can it be used for?

B: You (3) _____.

Language

Present simple	<i>What does the carburettor do? It mixes air and petrol.</i>
for + verb -ing	<i>What's this tool for? It's for hammering in nails. What's this machine used for? It's used for producing drinking water.</i>
to + verb	<i>You use this machine to charge batteries. This device is designed to find lost objects.</i>
act as + noun	<i>The fan of a hovercraft acts as a propeller.</i>

Speaking 6 Work in pairs. Make questions and answers about the uses of the devices in 2.

A: What's this device used for?

B: It's used for turning nuts and bolts without hurting your hand.

7 What do you think these devices are used for? Discuss them with your partner.



Vocabulary

Many nouns end in *-er* or *-or*. These are often *agent nouns*. An agent noun shows the person or thing that does an action, e.g. A *calculator* (n.) is a machine. It *calculates* (vb.) sums.

Note these changes of spelling when you add *-er/-or*:

- double the final consonant after a short vowel. *Example: propel* → *propeller*
- delete the final *-e*. *Example: receive* → *receiver*

8 Find the agent nouns for the verbs in the box. Use a dictionary if necessary.

calculate conduct contain generate receive stabilise transmit

9 Fill in the blanks. Use nouns from the list in 8.

- 1 The number pad on a computer can be used as a _____.
- 2 Your body can act as a _____ of electricity in a thunderstorm.
- 3 A car engine functions as a _____ when it recharges the battery.
- 4 The antenna on a mobile phone operates as a _____ and as a _____ of radio signals.

Task 10 Work in small groups. Choose one of these objects with your group.

a tin can, a belt, a brick, a tyre, a water pipe

- brainstorm as many unusual uses for them as you can
- write down your best ideas
- present your group's best ideas to the class

*Examples: A **tin can** – You can use it to store pencils. You can put flowers in it. You can use it as a cup. Two or three cans together can act as a door bell, etc.*

2 Appearance

Start here 1 Do you know where these buildings are?



(Answers on page 115)

2 Choose one of the buildings. Don't tell your partner which one. Describe its appearance. Can your partner identify it from your description?

Reading 3 Read these newspaper cuttings. Match the descriptions with the buildings.

1 This building looks like a huge ship, an ocean liner, sailing up the river. One part of the building is shaped like three hulls. The other part looks like the decks and the bridge.

2 The building looks like a TV transmitter. It has three spherical structures. The bottom two are connected by a structure which is shaped like a ladder. It looks like three onions on a skewer! The foot of the building has legs, like a tripod.

3 It's triangular at the base, but thin and rectangular at the top. It looks like a huge chisel, with an empty space in the middle of the blade.

4 The skyscraper is shaped like a giant sail. The sail is standing on a short surfboard in the sea.

5 This building is in three parts. In the centre there's a tall H-shaped building. On the left there's the top part of a dome. It looks like an upside-down plate. On the right there's the bottom part of a dome, like a soup bowl.

6 It consists of three L-shaped structures, attached to each other. It looks like a square link in a chain.

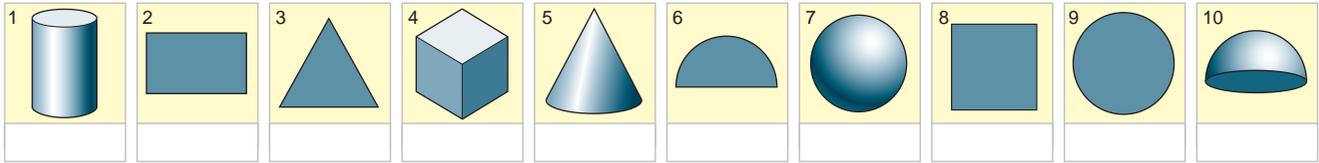
Language You can describe the *shape* or *appearance* of something in these ways:

- The building **looks like** a TV transmitter.
- The building **is shaped like** a dome. It's a **dome-shaped** building.
- The plan is **in the shape of** an L. It's an **L-shaped** plan.
- The screen is **in the shape of** a circle. It's a **circular** screen.

4 Describe the buildings in the photos in 2. Cover up the texts in 3.

Vocabulary 5 Match the nouns to the shapes.

circle cone cube cylinder hemisphere rectangle
semicircle sphere square triangle



6 Write an adjective for each noun.

Example: cylinder – cylindrical

7 Underline the stressed syllable in each word.

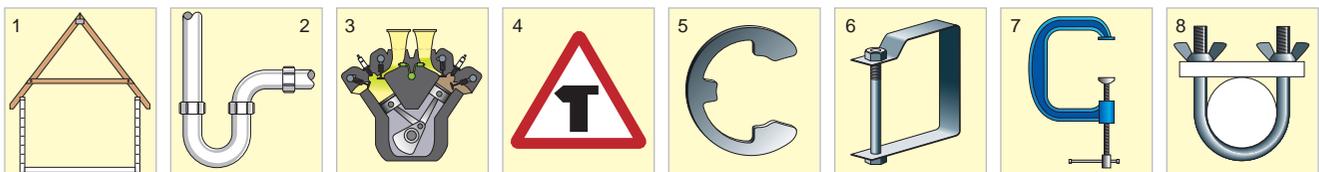
- 1 tri ang le 3 cir cu lar 5 tri ang u lar 7 rect ang le
2 rect ang u lar 4 cy lin der 6 circ le 8 cy lind ric al

8 14 Listen and check your answers to 7.

9 Underline the correct words.

- 1 A surfboard sail is roughly *triangle/triangular* in shape, with one curved side.
 - 2 A food tin (or can) is basically a metal *cylinder/cylindrical*.
 - 3 TVs and computers normally have *rectangle/rectangular* screens.
 - 4 Don't cut that wood with the hand saw. It's quicker to use the *circle/circular* saw.
 - 5 My bass amplifier is the new *cube/cubic* model. It's exactly 30 x 30 x 30 cm.
 - 6 The Earth is not a perfect *sphere/spherical*. It is flatter at the poles.
 - 7 The spaceship's re-entry capsule is in the shape of a *cone/conical*.
 - 8 A protractor is a *semi-circle/semi-circular* instrument for measuring angles.
- 10** Match the names of the objects in the box with their pictures.

A-frame E-clip G-clamp G-clip T-junction U-bend U-bolt V-engine



Task 11 Work in pairs, A and B. Play *twenty questions*.

Student A: Think of an everyday object. It could be a vehicle, a tool, a measuring instrument or a useful device. Don't tell your partner what it is. Answer your partner's questions.

Student B: Ask a maximum of 20 questions and try to guess Student A's object. You can't ask directly *What is it?* But you can ask questions like these:

- **appearance:** *What does it look like? What colour is it? What shape is it?*
- **use:** *What's it for? What's it used for? What does it do?*
- **materials:** *What's it made of?*
- **dimensions:** *How long is it? How wide is it?*
- **properties:** *Is it flexible? Is it water-resistant?*

When you have finished, change roles.

3 Definitions

Start here 1 Here are some ideas for devices that appeared on a TV programme for inventors and entrepreneurs. Which ideas do you think were successful? Discuss with a partner.

(Answers on page 113)



- Are you a technical entrepreneur?
- Do you have a good idea for inventing and manufacturing a new device?
- Do you think you can sell your device and make a profit?
- Do you need money to start your business?

Explain your idea to a team of rich business experts – the Dragons. Try to persuade them to invest their money in your idea. Here are some ideas from previous programmes:

- 1 An electronic device for boiling eggs without using water.
- 2 A boat alarm system for finding an MOB (man overboard).
- 3 A music website for downloading and mixing dance music.
- 4 A seat belt adjuster for protecting children in car booster seats.

Listening 2  15 The four inventors in 1 are making their opening statements. Listen and complete the sentences with **which, who** or **that**.

- 1 My invention is an electronic device (1) _____ can boil eggs without using water.
- 2 LifeGuard is an alarm system (2) _____ can find someone (3) _____ has fallen off a boat.
- 3 This is a music website (4) _____ allows you to download and mix dance music.
- 4 It's a seat belt adjuster (5) _____ protects children in car booster seats.

Language

Word	be	Type	Defining relative clause	
			Pronoun	Function
LifeGuard	is	an alarm system	which	can find an MOB.
MusicWorld	is	a website	that	downloads dance music.
Inventors	are	people	who	create new devices.

- *which* is used with things
- *who* is used with people
- *that* can replace *which* or *who*

Vocabulary 3 Fill in the blanks with the most suitable 'type' noun in the box.

device instrument system technician tool vehicle

- 1 A solar panel is a/an _____. It converts sunlight into electricity.
- 2 The hovercraft is a/an _____. It carries people over land and sea.
- 3 A lab assistant is a/an _____. He or she maintains the equipment in a laboratory.
- 4 A torque wrench is a/an _____. It tightens nuts and bolts.
- 5 GPS is a satellite _____. It gives the location of objects on the ground.
- 6 An ammeter is a/an _____. It measures electric current.

4 Combine each pair of sentences in 3 into a single sentence in the form of a definition. Use **which, who** or **that**.

Example: 1 A solar panel is a device which converts sunlight into electricity.

Reading 5 Read this advertisement and answer the questions below.



Alarm pods



Hydrophone



Display

This digital-sonar alarm system transmits a signal to your boat crew if you fall overboard into the water. It consists of three devices: the alarm pod, the hydrophone and the display.

The alarm pod is an egg-shaped device, worn by each crew member, which transmits a digital-sonar coded signal when it is submerged in water.

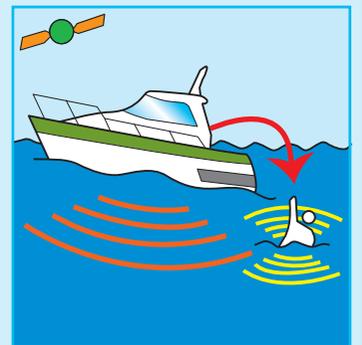
The hydrophone is a transducer, attached to the inside of the boat hull, that listens for signals from the alarm pod.

The display is a control unit, attached to the dashboard of the boat, which shows information from the hydrophone by means of LEDs and digital displays.

When the MOB (man overboard) hits the water, the alarm pod is submerged. The alarm pod has two pins. If these pins are in contact with water for one second, and the contact is constant across the two pins, the pod is activated. It then sends a signal under the water. This signal is picked up by the hydrophone, which relays it to the display.

Four things then happen immediately:

- Bright LEDs in the display show a visible alarm.
- Speakers on the boat sound an audible alarm.
- The MOB's location is shown on the display via the internal GPS system.
- Red and green LEDs navigate the boat to the MOB's location.



- 1 Which device acts as (a) the transmitter (b) the receiver (c) the controller?
- 2 Which device is fixed (a) inside the hull (b) on the crew's body (c) on the deck?
- 3 What happens if drops of rain fall on the pins on the alarm pod? Does the alarm sound? Why/Why not?
- 4 Does the signal travel from the pod to the display unit (a) directly (b) via the hydrophone (c) via GPS (satellite)?
- 5 Which word in the text means (a) able to be seen (b) able to be heard?

Task 6 Work in small groups. Decide on an idea for a new invention. In a single sentence, give the definition of your device. Then, in a few sentences, explain how it works.