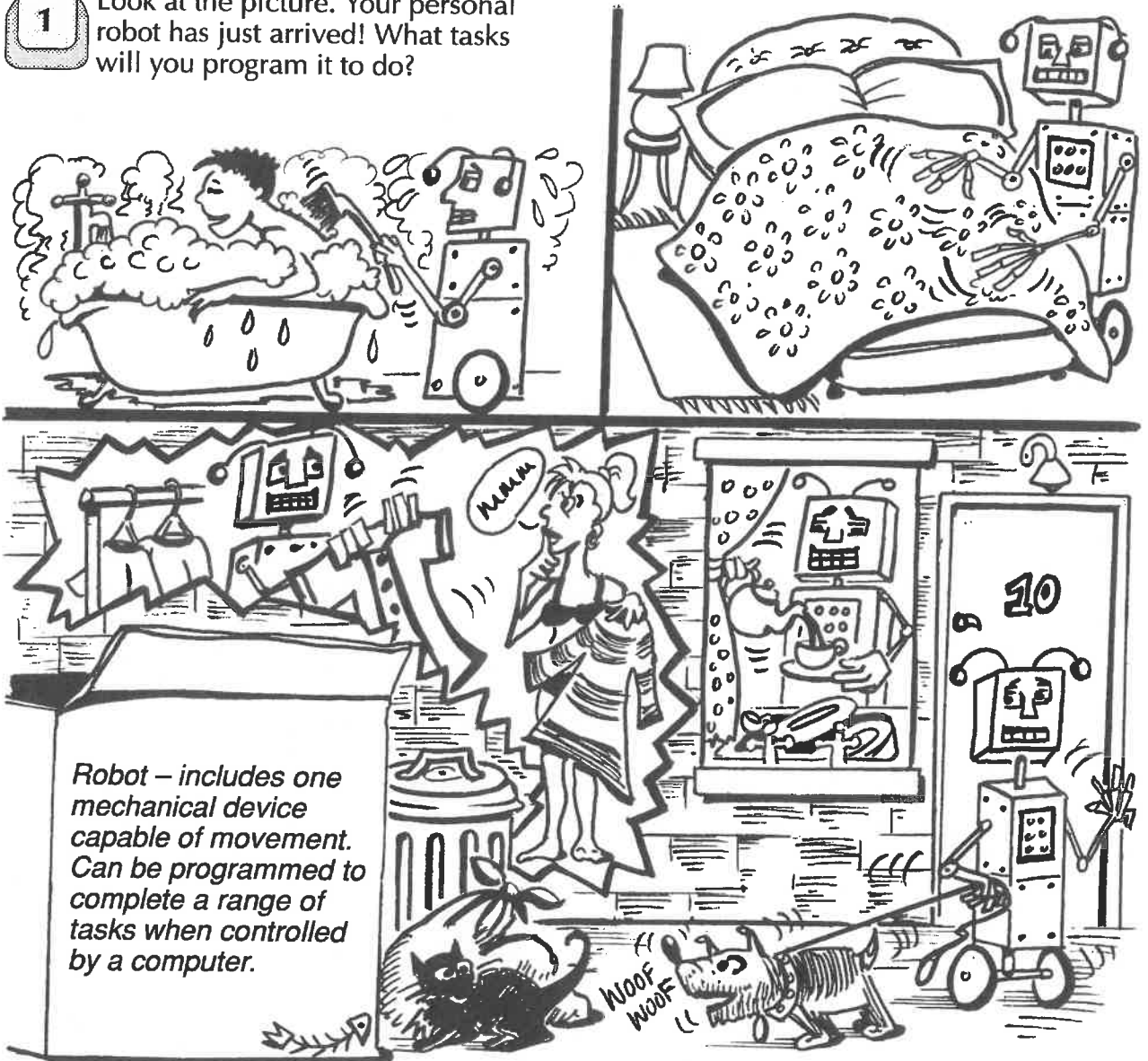


# — ROBOTS AND CONTROL —

- 1** Look at the picture. Your personal robot has just arrived! What tasks will you program it to do?



- 2** Robots can do more than make beds! Draw and label two examples of robots in industry completing:

- 1 A dangerous task
- 2 A boring or repetitive task.

- 3** Would you rather buy a car made by humans or by robots? Give your reasons.

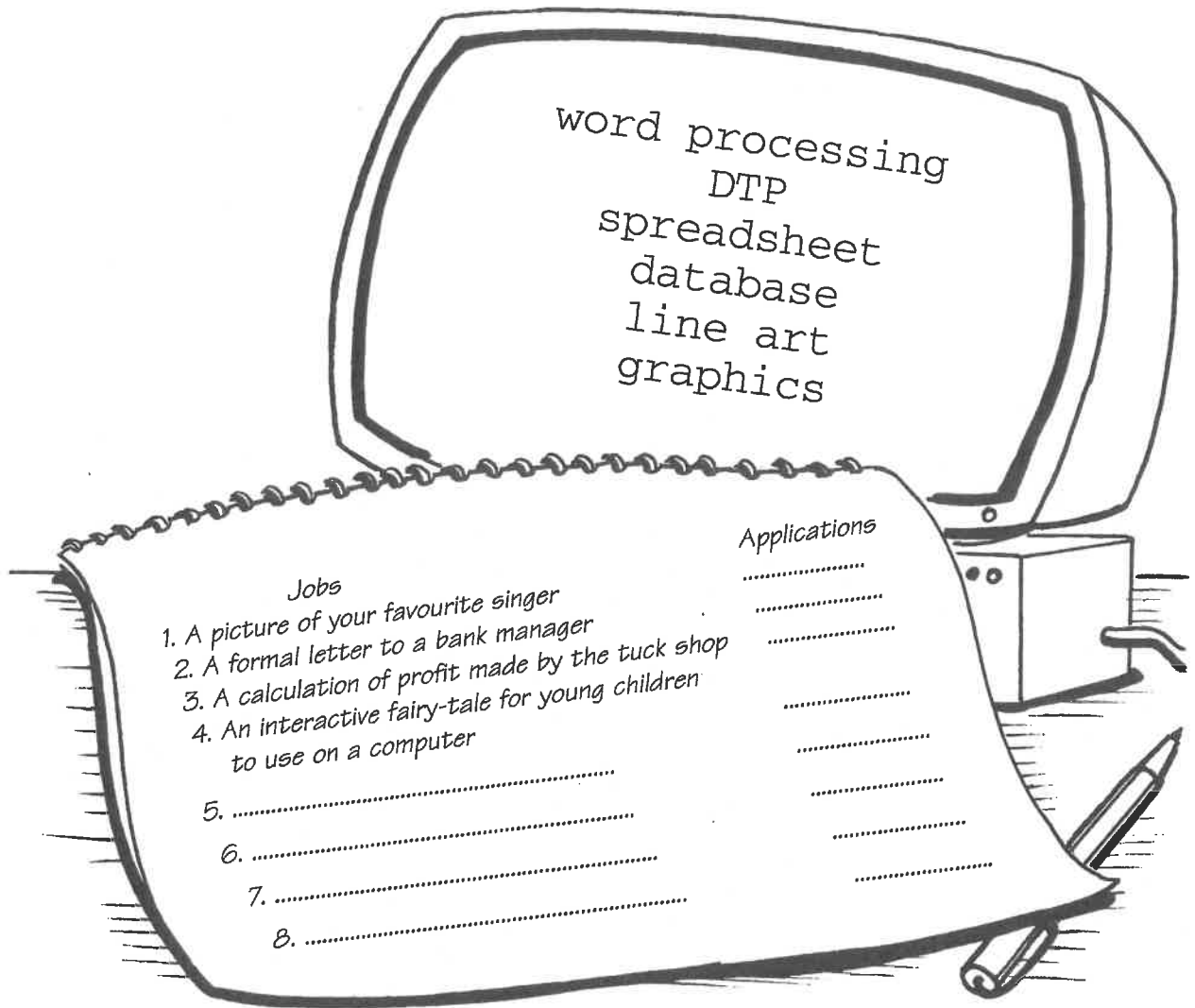
## Extension Activity

The Jacquard loom was one of the first robots to be invented. Find out:

- 1 When it was invented
- 2 What it did
- 3 How it worked.

# IT APPLICATIONS

**1** How do you prefer to write – with pen and paper or on a word processor? Give your reasons.



**2** Look at the computer screen above. Match up the applications it lists to these sorts of information: text, numbers, pictures, sound and (moving) video pictures.

**3** Look at the notepad in the picture. What application would you use for each job on the list? Add four more jobs and applications.

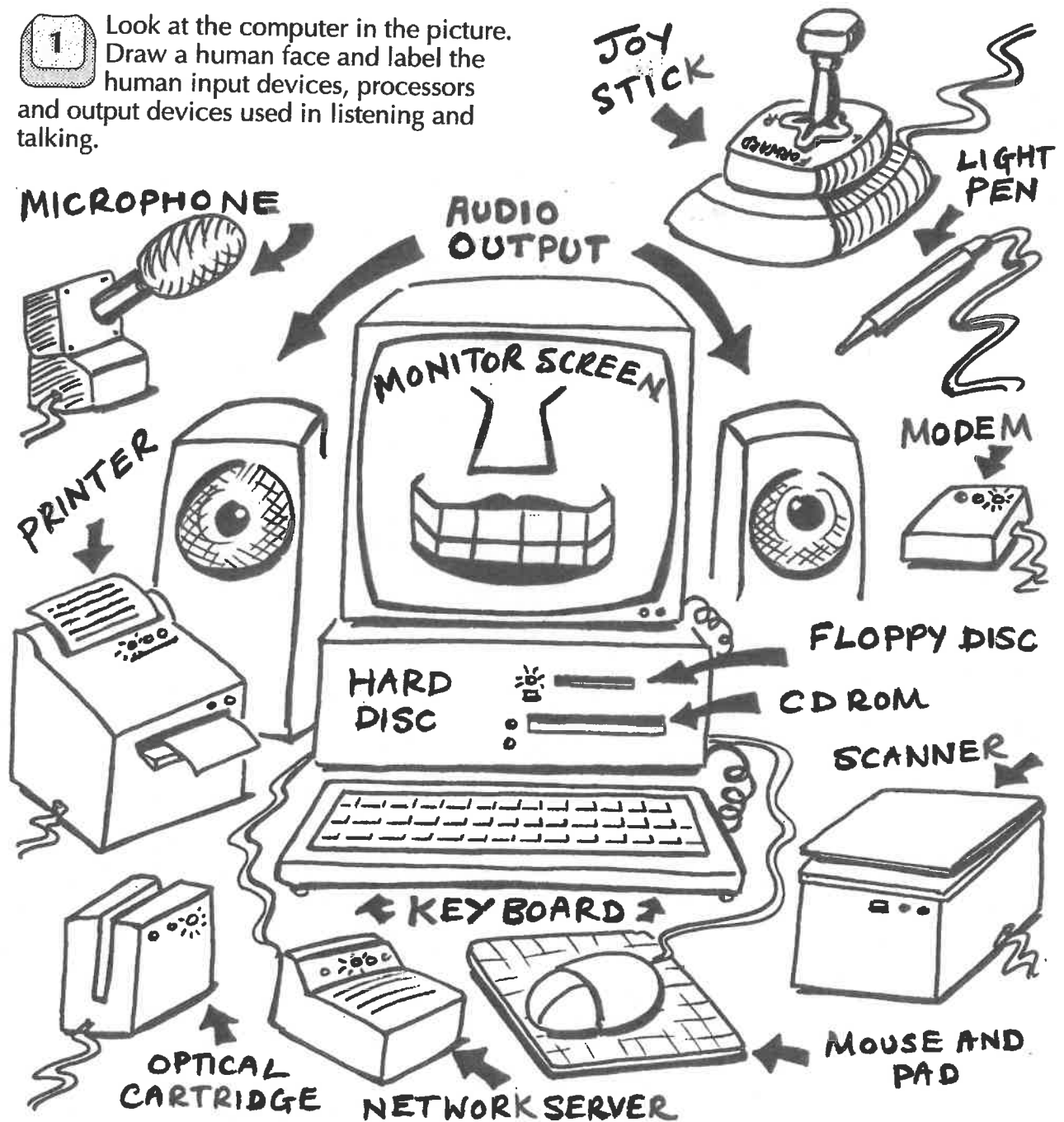
## Extension Activity

Name the programs you could use in school for each of the applications in Activity 2. Which would you use for:

- 1 the writing of a song
- 2 a diagram plan of your bedroom?

# — COMPUTER ANATOMY —

**1** Look at the computer in the picture. Draw a human face and label the human input devices, processors and output devices used in listening and talking.



**2** Look at the peripherals on the page. Divide them into input and output devices. Write down which you would use for the following: games, word processing, designing a web page, scanning bar-codes and planning a fitted kitchen.

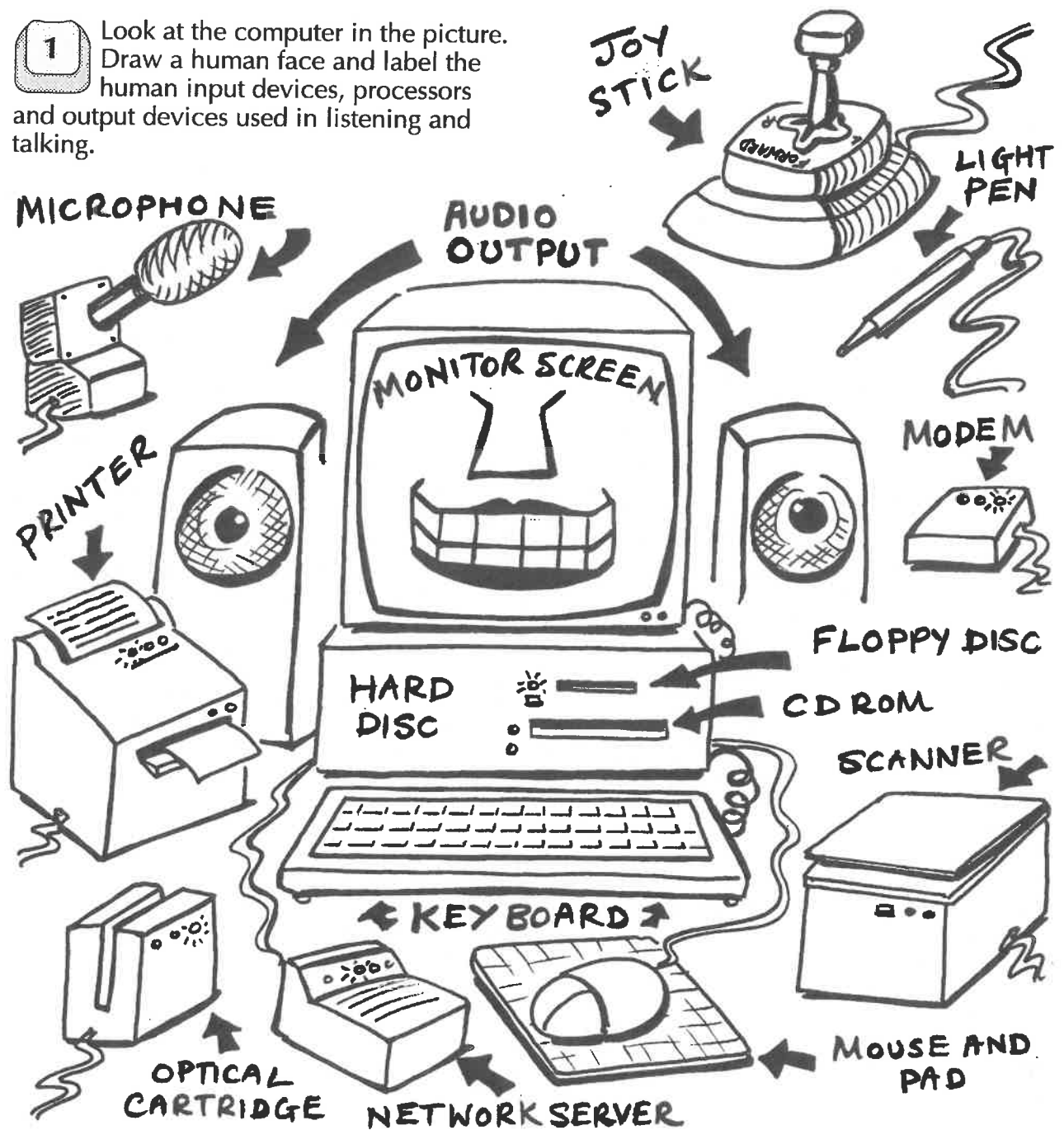
**3** Pick out the information storage devices from the picture. Write down their names and uses.

## Extension Activity

Use PC magazines to investigate different types of input, processor and output device.

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# BEHIND THE WHEEL WITH IT

**1** Some cars already contain computers which monitor and control engine functioning, navigation, and comfort. For each of these three categories, write down an example of one situation where a computer is involved.



**2** Look at the car in the picture. List the sensors and feedback devices which monitor the engine, navigation, and convenience/comfort. What are these devices for?

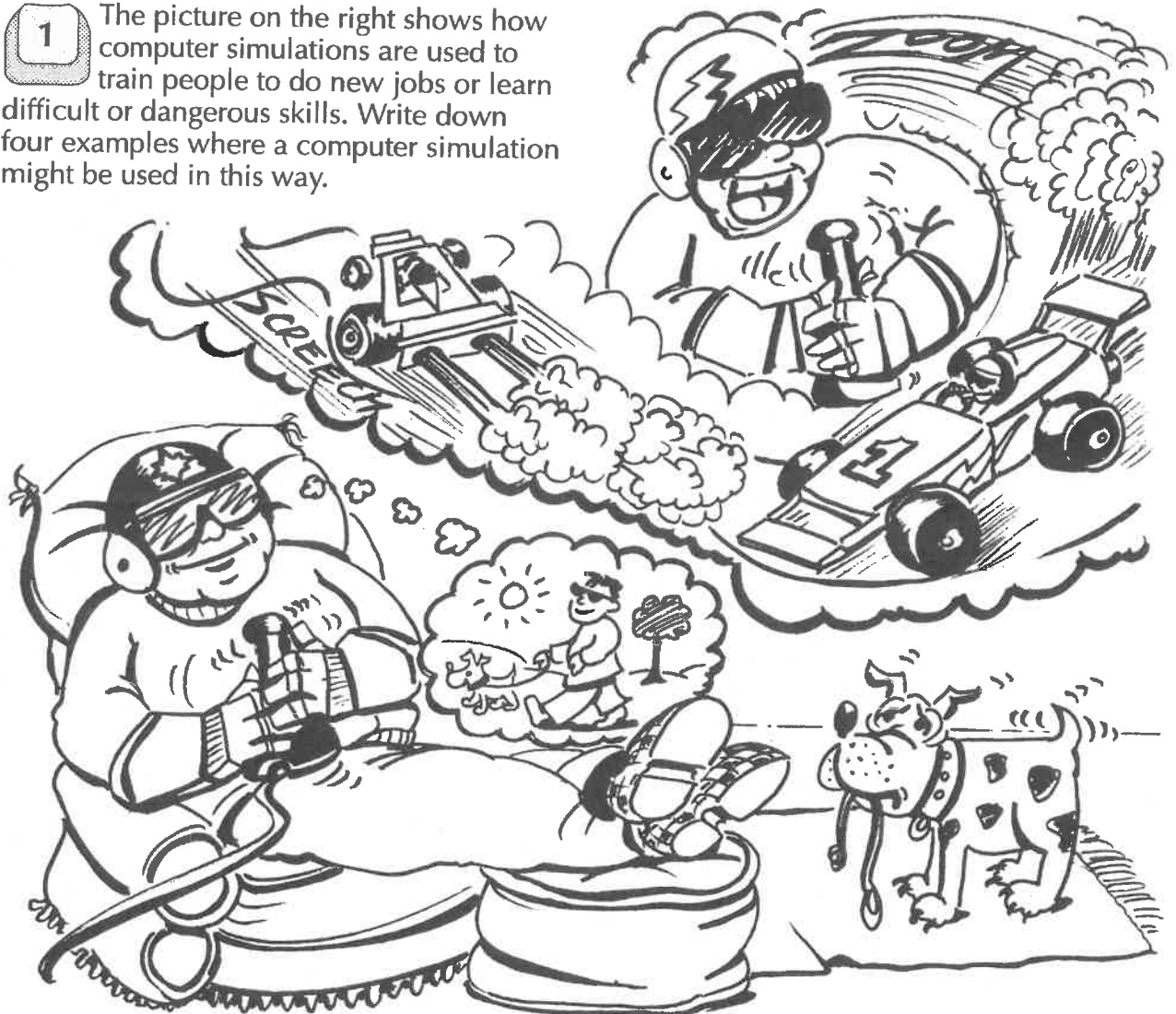
**3** Design your own car of the future. Include devices to control engine functioning, navigation, comfort and one other aspect you can think of.

## Extension Activity

Your in-car computer can communicate with external traffic control systems. Write a paragraph showing three ways in which this would be useful.

# — IS THE FUTURE VIRTUAL REALITY? —

**1** The picture on the right shows how computer simulations are used to train people to do new jobs or learn difficult or dangerous skills. Write down four examples where a computer simulation might be used in this way.



**2** For each of your examples, describe the advantages of using a simulation rather than training in the real situation. Write down some disadvantages.

**3** Virtual reality can also be used for games and less serious simulations, such as in the picture above and left. Describe how VR is different from other simulations.

Describe two games which could be played in virtual reality.

Now describe two games which would be difficult to play in virtual reality and give reasons for this.

## Extension Activity

Use your imagination to describe how virtual reality could change your life in the future. Imagine VR meals, or walks in the country.