Unit 6 – Graphs and Diagrams

I Types of diagrams

1. What are diagrams good for? Which types of diagrams/charts do you know?

2. Tasks 2a), b), c), 3., 4. and 5c) based on Academic Vocabulary in Use, CUP 2009.

a) Match the types of chart and their names.

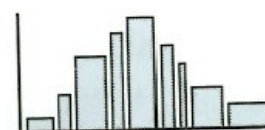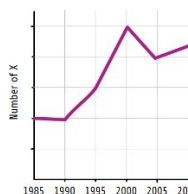| table	flow chart	pie chart	line graph
organigram	bar chart	histogram	cross-section

1_____ 2_____ 3_____ 4_____

5_____ 6_____ 7_____ 8_____

b) Check your answers in the following text.

Diagrams are visual ways of **presenting data** concisely. They are often also called **figures**. In an academic article, they are usually **labelled** Fig. 1 (Figure 1), Fig. 2, etc. A pie chart is a circle divided into **segments** from the middle (like slices of a cake) to show how the total is divided up. A **key** or **legend** shows what each segment **represents**. A bar chart is a diagram in which different amounts are represented by thin vertical or horizontal bars which have the same width but **vary** in height or length. A histogram is a kind of bar chart but the bar width also varies to indicate different values. A table is a grid with columns and rows of numbers. Graphs are drawn by **plotting** points on them and then drawing a line to join **adjacent** points.

A cross-section is something, or a model of something, cut across the middle so that you can see the inside. A cross-section of the earth's crust, for example shows the different **layers** that make it up. A **label** gives the name of each part of the cross-section. Cross-section can also be used to mean a small group that is representative of all the different types within the total group (e.g. *the survey looked at a cross-section of society*). A flowchart is a diagram which indicates the stages of a process. A specific flowchart can be **organization chart**, or an organigram, which is a graphic representation of the structure of an organization showing the relationships of the positions or jobs within it.

c) Which type of diagram would you use for presenting:

- the different stages of a research project
- the different layers of rock in the Grand Canyon
- the populations of English native speakers in various countries
- the number of undergraduates studying mathematics at various Czech universities in 2010 – 2017

3. Describe the following graph:
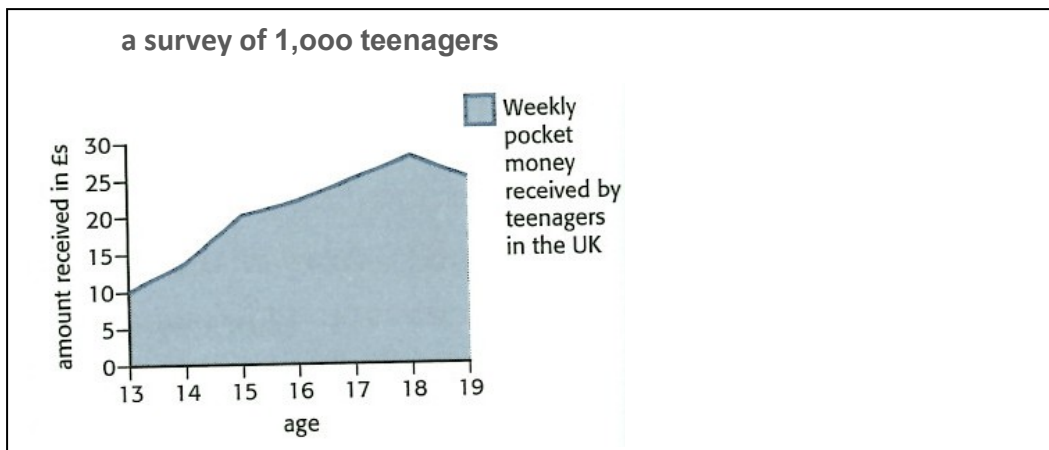
Compare your description with the following text:

The graph presents data relating to teenagers and pocket money. A random sample of 1,000 teenagers were surveyed and the average pocket money received at each age has been plotted on the graph. The *x*-axis or horizontal axis indicates age and the *y*-axis or vertical axis shows the amount of money received per week. The graph shows that 15-year-olds receive twice as much pocket money as 13-year-olds. From the graph we can see that the amount received reaches a peak at the age of 18 and then starts to decline. This decline can perhaps be explained by the fact that many teenagers start earning and stop receiving pocket money at the age of 18.

4. Look at the chart and complete the commentary with suitable words:
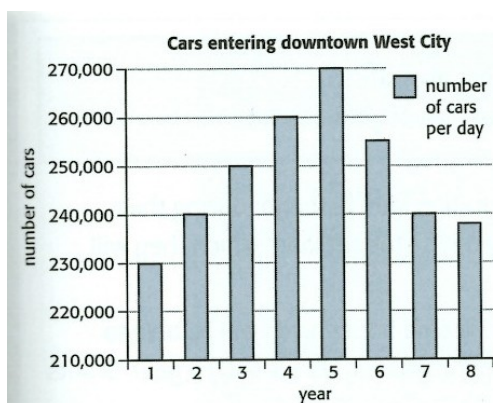
The chart …………………………… the number of cars entering the downtown area of West City each day over an eight-year period (years 1 – 8). The totals are listed on the …………………………… axis, while the years are listed on the …………………………… axis. To the right of the graph we see the …………………………… . The number of cars …………………………… over the period. The total rose in the first few years and …………………………… a

………………………… in year 5, after which the numbers started to …………………………… . This can be …………………………… by the ……………………………… that a new mass transit railway was opened in year 6.

5. Language focus

a) Fill in the synonyms:

to increase:

to decrease:

to stay the same:

an increase:

a decrease:

b) Draw graphs illustrating the given speed/degree of change (some of them are synonymous):

(Sales have fallen) rapidly/ quickly/ slowly/ steadily/ suddenly/ gradually/ swiftly/ gently/ substantially/ slightly/ dramatically / considerably/ significantly/ moderately/ vastly

c) Change the sentences using words with the same meaning as the words in bold.

- The different **bits** of the pie chart show the numbers of people.
- She kept a record by **marking** the midday temperatures on a graph.
- The two lines on the graph **cross each other** at point A.
- Draw a line connecting the points that are **next to each other**.
- The average family car in the UK **goes down in value** by 20% per year. This means its value has **fallen by more than a half** after just three years.
- A typical piece of land will **go up in value** by 15% per year.
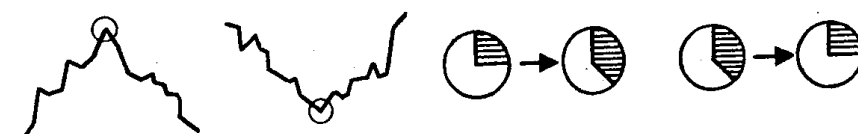- The number of this species **went up from 22 to 273**.

d) Complete the words by adding vowels a, e, I , o, u (*the task from M. Pavlovová*):

1. _ n c r _ _ s _   3. d _ c r _ _ s _   5. s h _ _ t _ p   7. p l _ n g _
2. r _ s _   4. f _ l l   6. t _ k _ _ f f   8. s l _ m p

9. f l _ c t _ _ t _   10. r _ c _ v _ r   12. s t _ b _ l _ z _   14. r _ m _ _ n s t _ _ d y
                        11. p _ c k _ p   13. l _ v _ l _ f f

15. p _ _ k   16. h _ t _ l _ w   18. g r _ w   20. s h r _ n k
               17. b _ t t _ m _ _ t 19. _ x p _ n d   21. d _ c l _ n _

6. Listen and draw a graph according to the speaker's description:

Schein Ltd. Sales 2011

10
9
8
7
6
5
4
3
2
1

J   F   M   A   M   J   J   A   S   O   N   D

Based on https://www.youtube.com/watch?v=N1uAImH4GwA