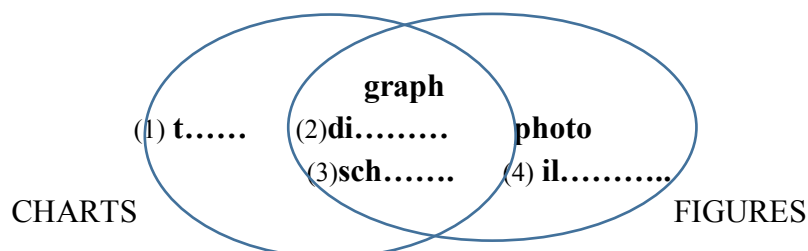


Task 1 Warm-up

- Why are visuals used in scientific papers?
- Which visual have you produced recently – what did it show?
- Complete the missing words for types visuals:



- What is the most famous example of a graph in science?
<https://www.youtube.com/watch?v=9BkbYeTC6Mo> 0.38 – 2.40

Task 2 Summarizing data in visual form T. Arner: Cambridge English for Scientists, CUP, 2011, p 58,59
 Here you learn vocabulary for different types of charts and the “anatomy” of tables and graphs

Task 3 The statements below describe which visual is best for representing different kind of information. Complete them using the words in the box.

bar chart diagram histogram line graph map pie chart scatter plot stacked bar chart table

It is best to use a

- _____ or _____ to show a comparison between items
- _____ to show a correlation
- _____ to describe a location
- _____ or a _____ to show proportions of a whole
- _____ to describe a structure
- _____ or a _____ to show trends

Task 4 Writing captions (legends) for figures

<http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWtablefigs.html#legends>

Remove four words from each sentence to make noun phrases

A) *The figure shows the copper concentration in the soft and exoskeleton tissues of four shrimp species.*

B) *The table presents a comparison of the physical and chemical characteristics of the hydrothermal fluids at Menez Gwen, Lucky Strike and rainbow (adapted from Douville et al., 2002).*

Task 5 Use of visuals in physical geography

Point bar deposits <https://www.youtube.com/watch?v=k1iIDHpDBFA> 0-2.55

These are words and phrases related to rivers. Check in pairs whether you understand them.

single river bend meandering outside/inside bank flow velocity
deposition erosion high flow conditions

Listen and draw a scheme according to the description.

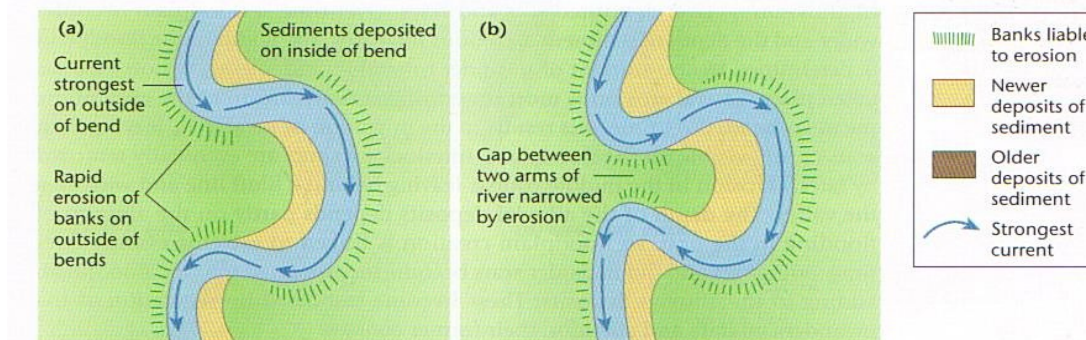
What process is described by the speaker? of the bend

Read the text below about the process. How easy it is to visualize it?

A meander has an asymmetrical cross-section formed by erosion on the outside bend, where discharge and velocity are greatest and friction is at a minimum, and deposition on the inside, where discharge and velocity are at a minimum and friction is at its greatest. Material deposited on the convex inside of the bend may take the form of a point bar. As erosion continues on the outer bend, the whole meander tends to migrate slowly downstream. The deposited material contributes to the formation of the flood plain. Over time, the sinuosity of the meander may become so pronounced that, during a flood, the river cuts through the narrow neck of land in order to shorten its course. Having achieved a temporary straightening of its channel, the main current will then flow in mid channel. Deposition can now take place next to the banks and so, eventually, the old curve of the river will be abandoned, leaving a crescent-shaped feature known as an oxbow lake or cutoff.

D. Waugh: Geography, An Integrated Approach, 2nd edition, p.74

Task 6 Study the pictures below. Parts c) and d) are missing but you will be able to supply them by drawing according to the instructions from a partner. Listen and draw.



- Why may the oxbow lake eventually disappear?
- Where are oxbow lakes in your country? Are they used in any ways?
- Have you done any research / fieldwork connected with river action? What kind?

Task 7 Revision: complete the gaps with the terms from the word bank.

*abandoned bar bend contributes course crescent cross-section current curve
discharge flood friction migrate temporary velocity*

A meander has an asymmetrical 1..... formed by erosion on the outside 2....., where discharge and 3..... are greatest and friction is at a minimum, and deposition on the inside, where 4..... and velocity are at a minimum and 5..... is at its greatest. Material deposited on the convex inside of the bend may take the form of a point 6..... . As erosion continues on the outer bend, the whole meander tends to 7..... slowly downstream. The deposited material 8..... to the formation of the flood plain. Over time, the sinuosity of the meander may become so pronounced that, during a 9....., the river cuts through the narrow neck of land in order to shorten its 10..... . Having achieved a 11..... straightening of its channel, the main 12..... will then flow in mid channel. Deposition can now take place next to the banks and so, eventually, the old 13..... of the river will be 14....., leaving a 15..... -shaped feature known as an oxbow lake or cutoff.

More vocabulary here <http://nationalgeographic.org/encyclopedia/oxbow-lake/>

Task 8 Summary of the principles of using visuals

Match the beginnings and endings of the sentences about setting data in tables and charts.

- | | |
|--|--|
| 1. Tables and graphs are necessary | a) be consistent with them. |
| 2. Visual summaries allow | b) reduced in size in a paper. |
| 3. Deciding how to present data visually makes you | c) show trends, tables to show exact numbers. |
| 4. Visuals need to be clear even when | d) the reader to check the data for themselves. |
| 5. Graphs should be used to | e) think carefully about what your results mean. |
| 6. Too much information in a visual | f) to avoid filling up the text with lists of numbers. |
| 7. Use standard symbols and | g) will confuse the reader. |

Sources

<http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWtablefigs.html>

Armer, Tamzen: Cambridge English for Scientists, CUP, 2011

HOMEWORK

Many visuals serve to make a comparison. To be able to interpret the information, we need to know comparing language and grammar.

Study p. 20 - 23 in Oxford Grammar for EAP and complete the test yourself activities 2.5, 2.6, and 2.7.