

The research of influence of environmental factors on the length of acorns



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sy**STEAM**

What do I remember about modificational changeability?

Is modificational changeability inheritability?

- ▶ Is modificational changeability related to phenotype or genotype?
- ▶ How are environmental factors which have influence on modificational changeability called?
- ▶ Explain what changeability limits are?

The students do the research of the influence of environmental factors on the length of tree leaves. The data (length and repetitive frequency)is written into a table. Two pairs of students noticed that variation lines differ. Which pair made a correct variation line?

1 pair

Leaves length (cm)	63	68	80	88	96	97	103	105	109	110
Repetitive frequency	4	6	13	18	29	33	27	17	8	2

2 pair

Leaves length (cm)	73	62	60	89	75	93	99	78	108	70
Repetitive frequency	5	4	2	18	8	29	35	9	2	5

Arcons war and beans rebellion



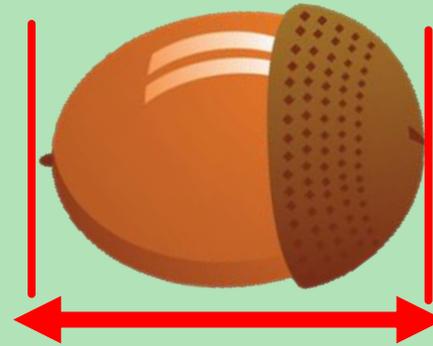
- ▶ Working in pairs you will measure the length of acorns and write the data in the table, and make a variational curve. The maths teacher will help you to depict graphical expression of sign changeability - variation curve.

The research of the influence of environmental factors on the length of oak acorns

- ▶ Objective. Establish the variation of the length of acorns.
- ▶ Hypothesis. The length of acorns vary due to the influence of different environmental factors.

How will we do the research?

- ▶ Working in pairs measure 30 acorns and write the data into the table.

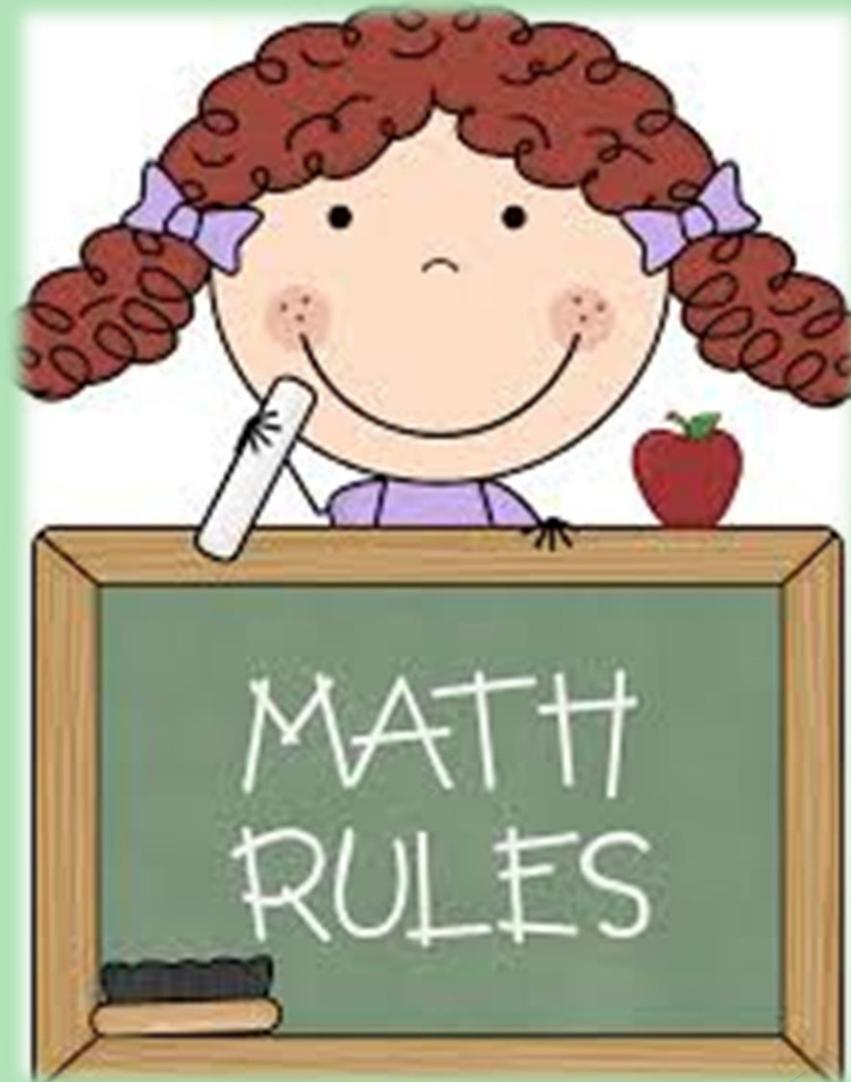


Important!

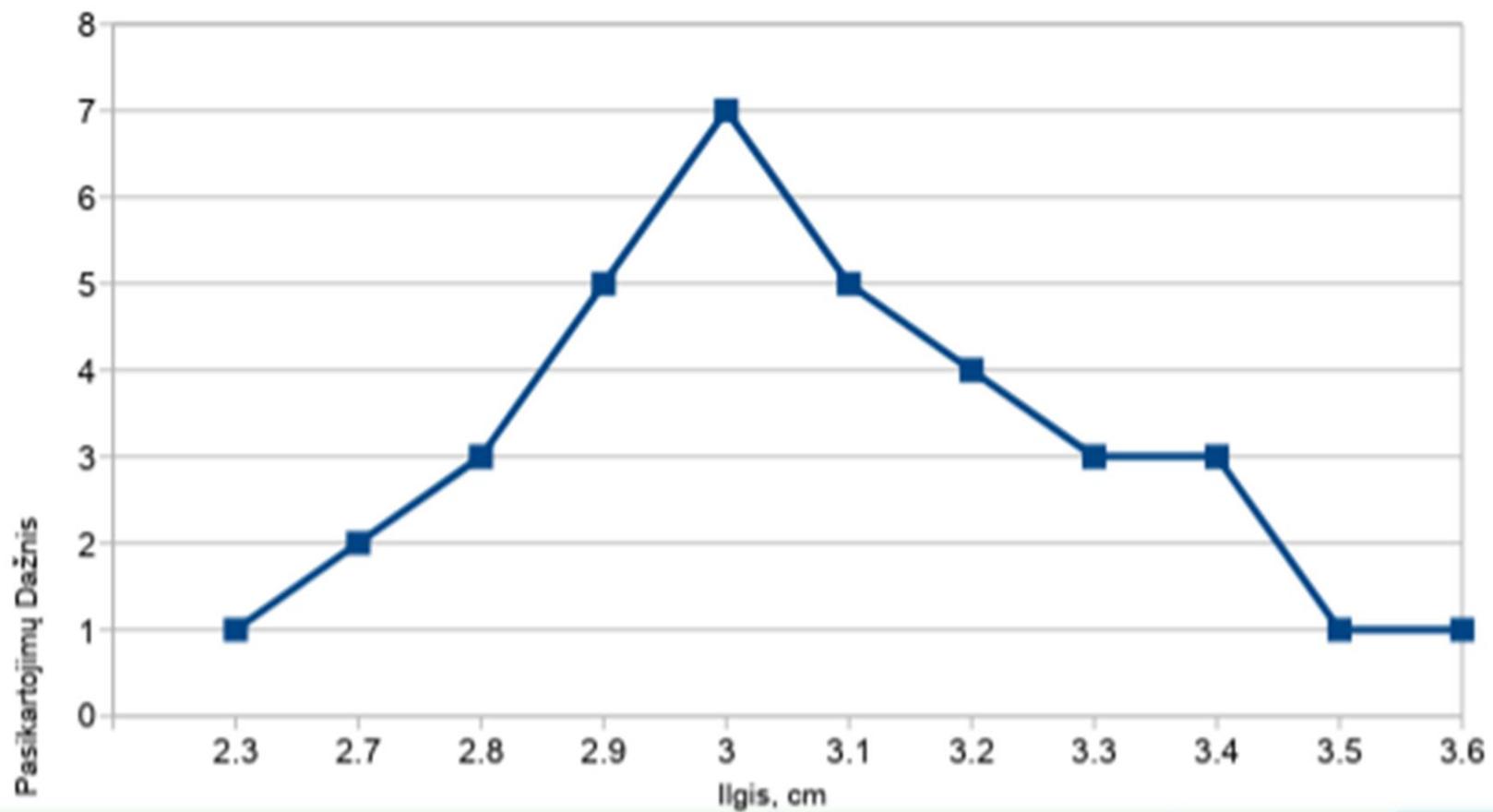
Measure the acorns accurately, do not hurry
and write the data correctly into the table!



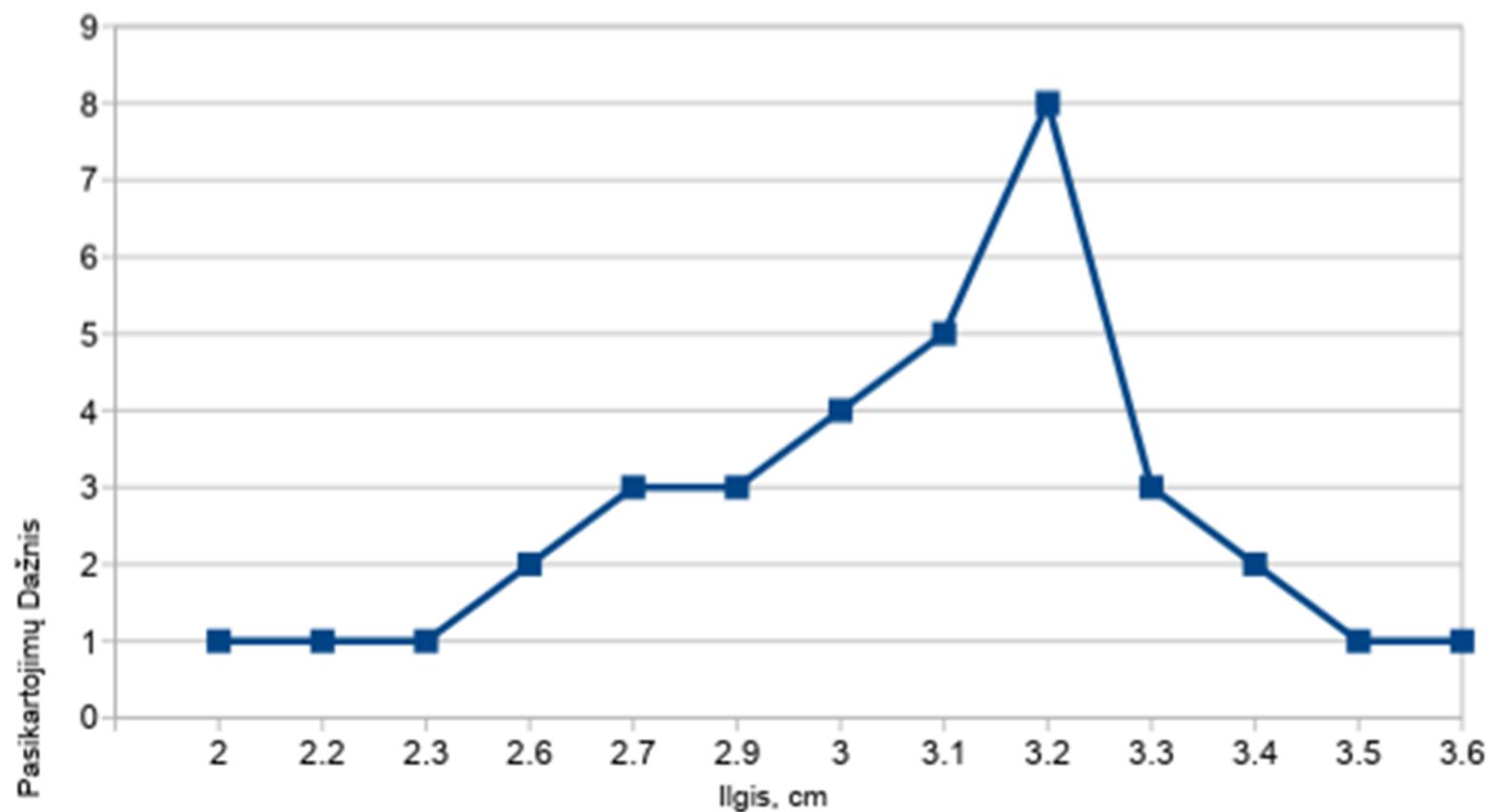
How to draw a graph correctly?



Ilgis	2.3	2.7	2.8	2.9	3	3.1	3.2	3.3	3.4	3.5	3.6
Pasikartojimų Dažnis	1	2	3	5	7	5	4	3	3	1	1



Ilgis	2	2.2	2.3	2.6	2.7	2.9	3	3.1	3.2	3.3	3.4	3.5	3.6
Pasikartojimų Dažnis	1	1	1	2	3	3	4	5	8	3	2	1	1

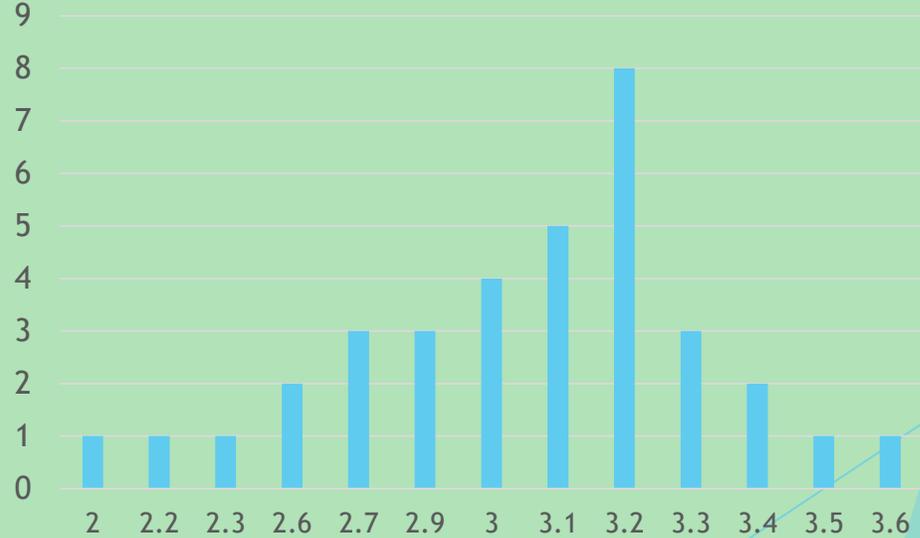


How did you succeed in drawing a graph?!



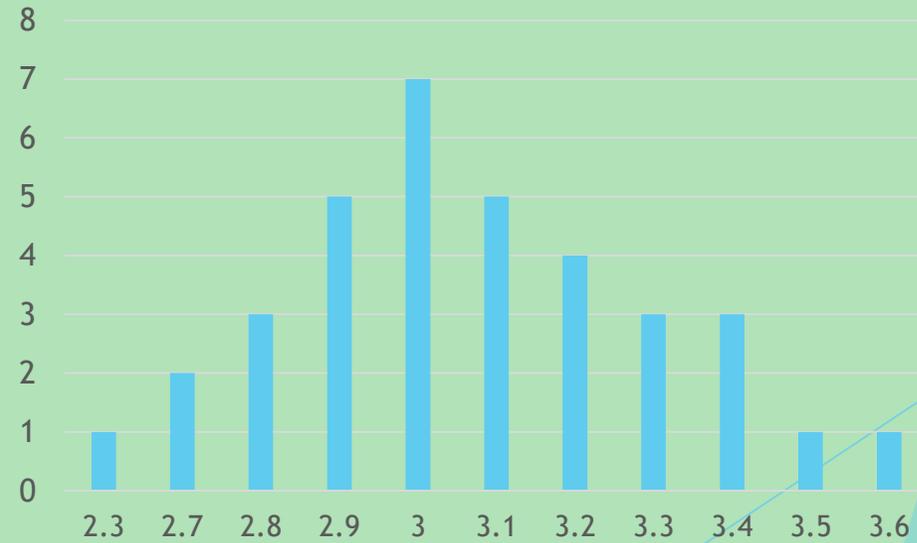
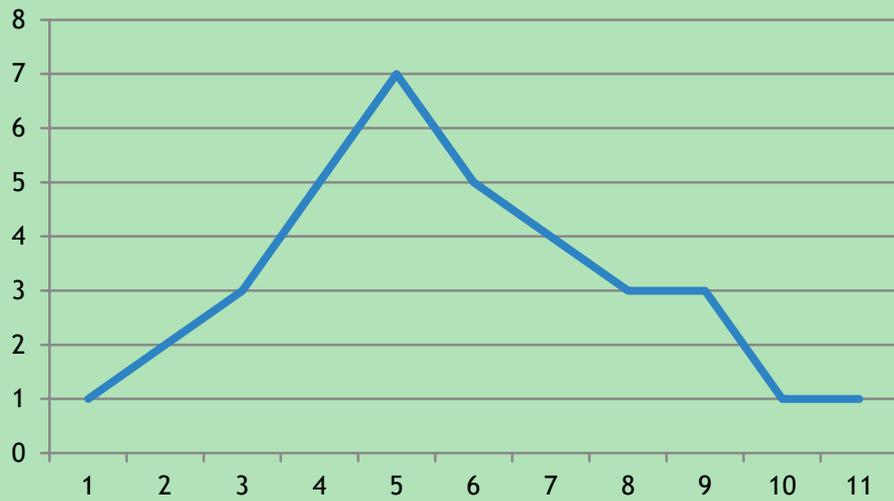
1 plate of acorns

length	2	2,2	2,3	2,6	2,7	2,9	3	3,1	3,2	3,3	3,4	3,5	3,6
number	1	1	1	2	3	3	4	5	8	3	2	1	1



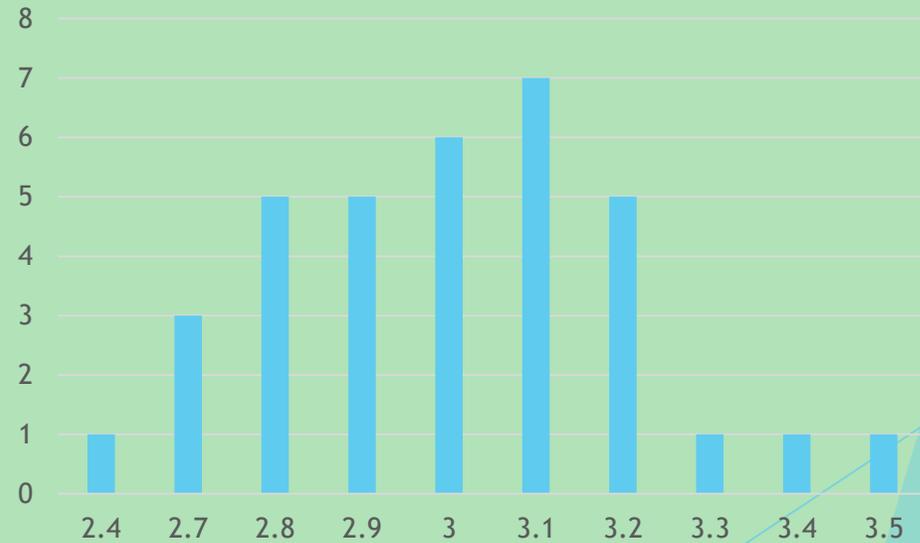
2 plate of acorns

length number	2,3	2,7	2,8	2,9	3	3,1	3,2	3,3	3,4	3,5	3,6
s	1	2	3	5	7	5	4	3	3	1	1



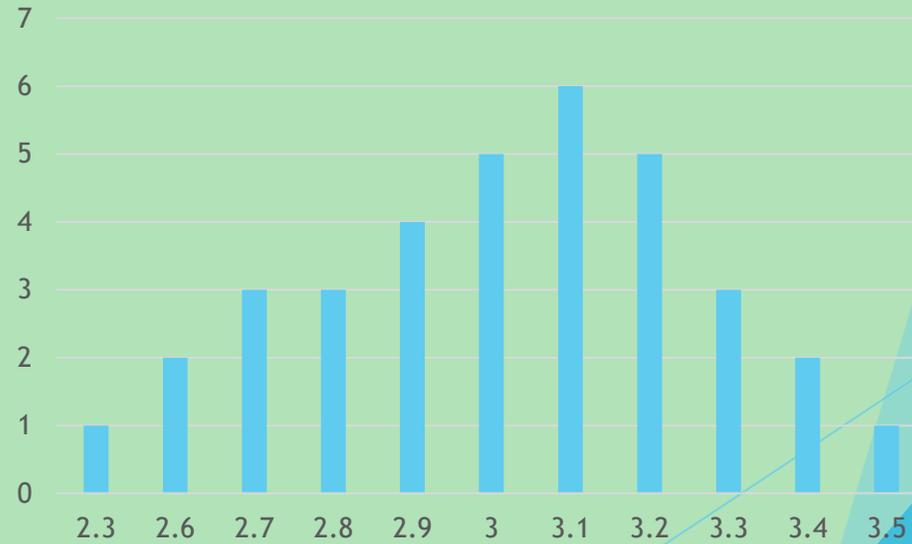
3 plate of acorns

length	2,4	2,7	2,8	2,9	3	3,1	3,2	3,3	3,4	3,5
numbers	1	3	5	5	6	7	5	1	1	1



4 plate of acorns

length	2,3	2,6	2,7	2,8	2,9	3	3,1	3,2	3,3	3,4	3,5
numbers	1	2	3	3	4	5	6	5	3	2	1



What do the results show?

The acorns differ. This variety – the result of their developing in different conditions



What do we understand?

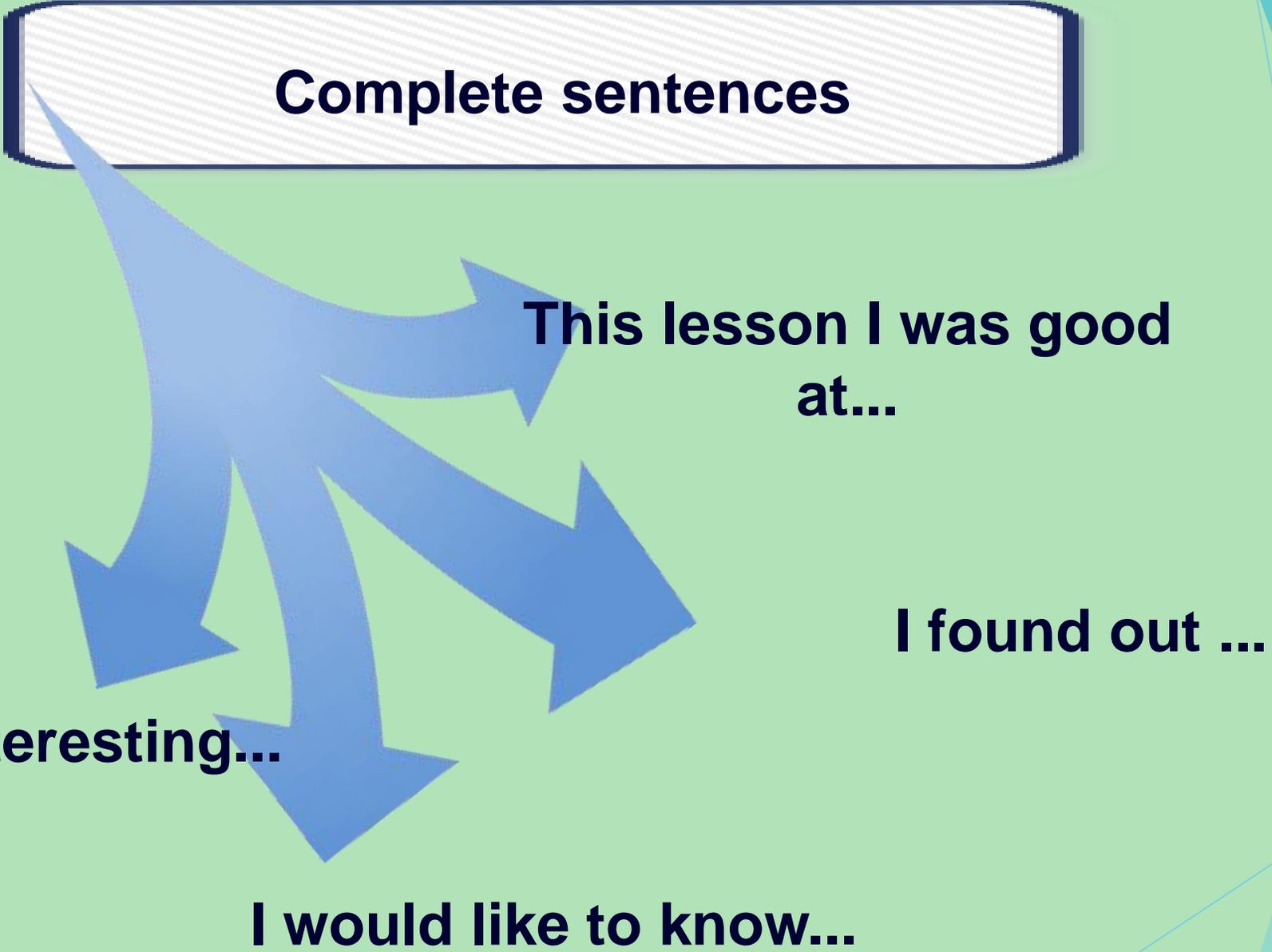
- ▶ If the research has been done correctly, the form of a variation curve has one maximum(top).
- ▶ The reason of the length of acorns is that within developing period each acorn is effected by different natural factors and the conditions are different to each of them.

Conclusion

The majority of acorns are of medium length.



Complete sentences



**This lesson I was good
at...**

I found out ...

It was interesting...

I would like to know...