

# **Math Teaching Aids – A Feasible Solution for Vietnamese Blind Students' Learning**


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# Contents

- Current difficulties of teaching and learning Maths for Vietnamese blind students.
- Needs and solutions.
- Samples and results.
- Conclusion and future orientation.

# Current difficulties of teaching and learning Mathematics for Vietnamese blind students

*Mathematics is one of the most compulsory important subjects through out curriculum from primary to high school in Vietnam.*

- Braille Maths textbooks cannot show definitions and abstract concepts clearly.
  - There are no curricular choice, technical support and teaching aids for the blind students.
  - Maths teachers in special schools constructed some models to teach => useful but break easily.
- 
- Leave school, take massage and handicraft courses. A very limited number of talented students choose music, foreign language or social sciences...

# Needs and Solutions

- Having Maths teaching aids following the Vietnamese curriculum from primary to high school level.



- Review the curriculum.
- Determine lessons that need models.
- Designing, constructing, testing and completing an original set of Maths teaching aids.

# Samples and Results

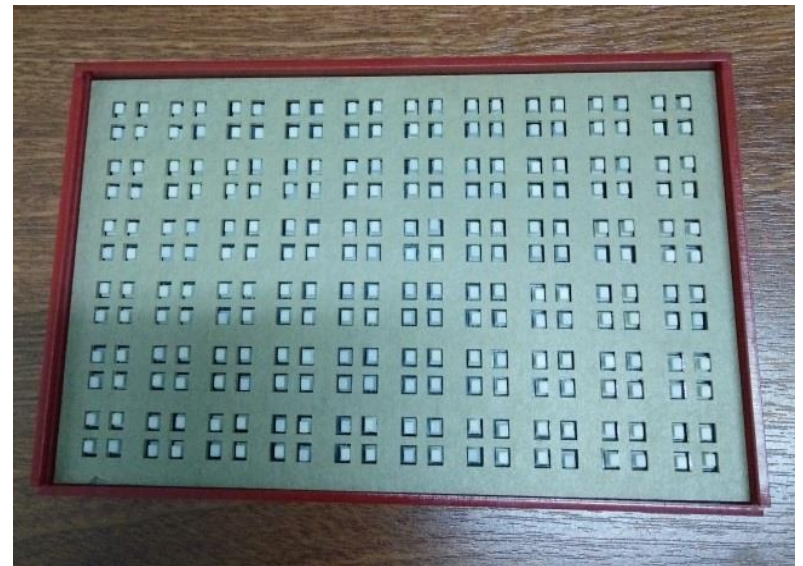
Designing, constructing, testing and completing  
an original set of Maths teaching aids

- Designing and constructing with different materials.
- Testing at Nguyen Dinh Chieu Special School.
- Adjusting as required (materials, sizes, etc.)
- Completing an original set of Maths teaching aids.

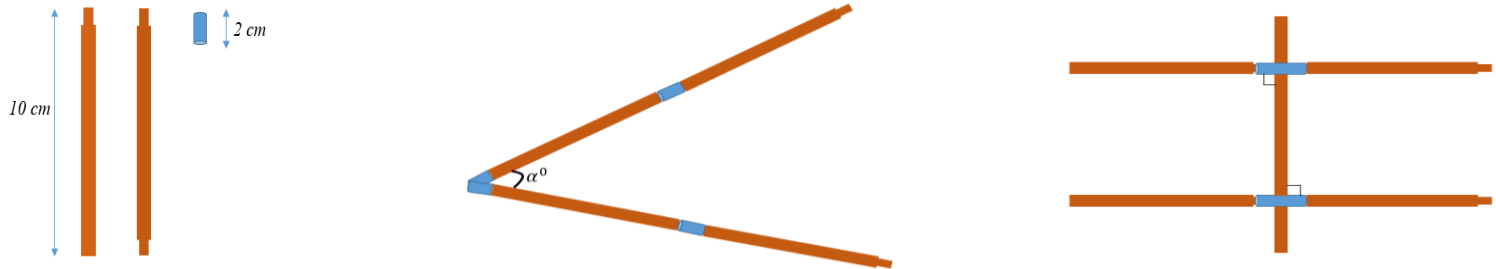


**Video show**

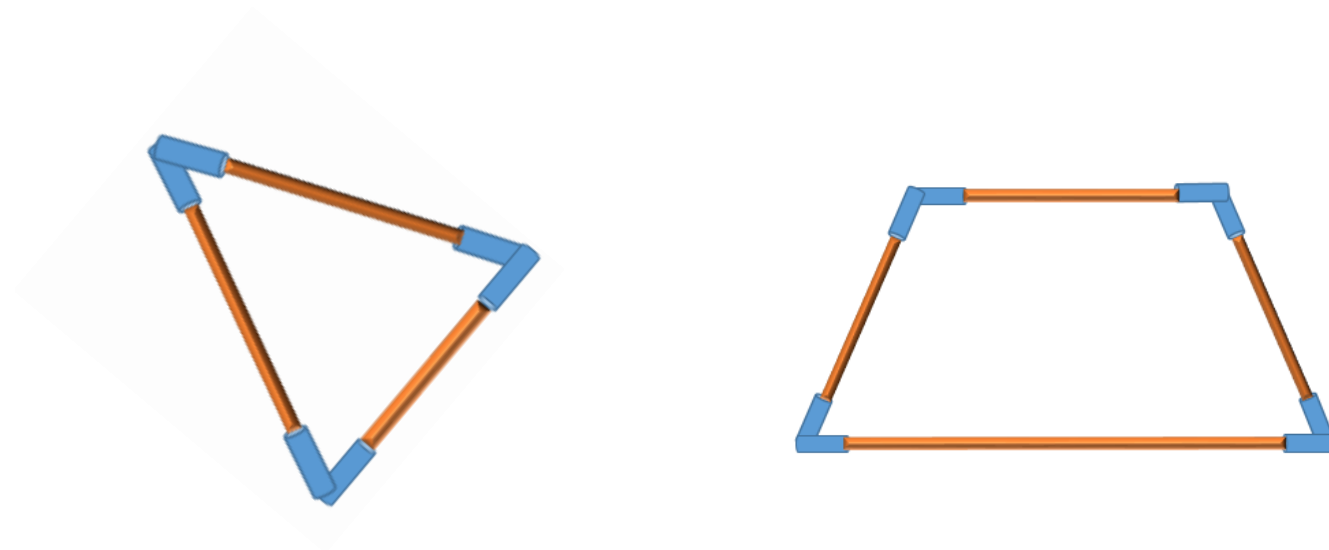
# The intelligent calculator box for primary school students



# Teaching aids for the secondary school students

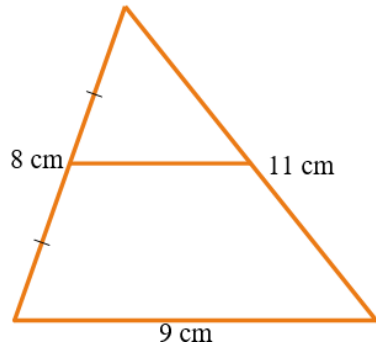


Models of rays, straight lines and the relative position between two lines

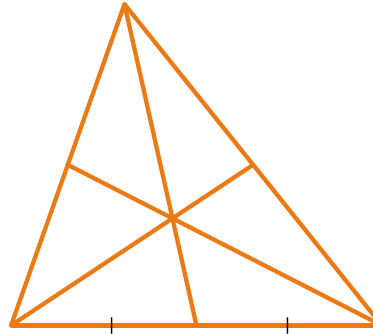


Assembly basic models (triangle, rectangle, trapezium, parallelogram, rhombus...)

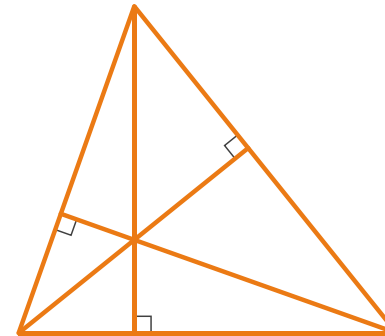
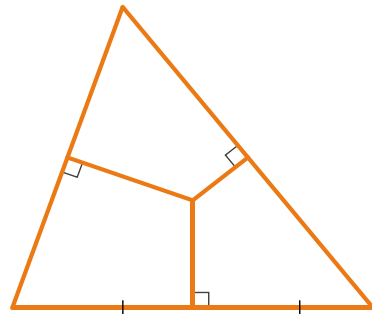
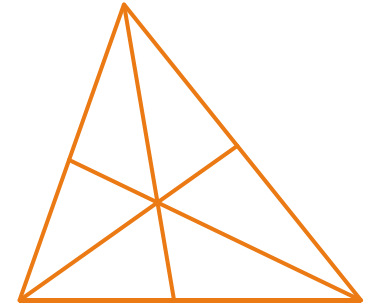
# Teaching aids for the secondary school students



Midline in triangle



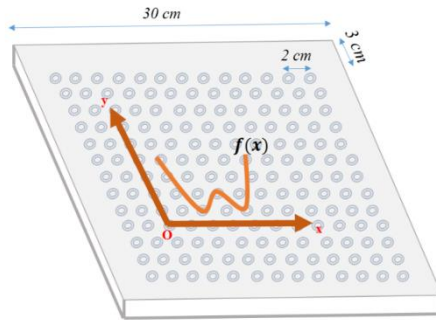
Concurrent lines in triangle (medians, bisectors)



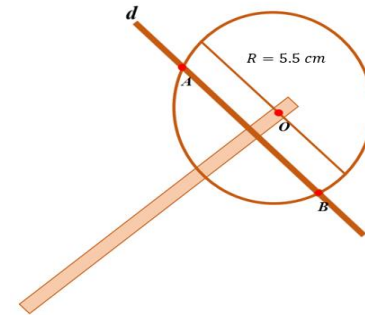
Concurrent lines in triangle (perpendicular bisectors, altitudes)



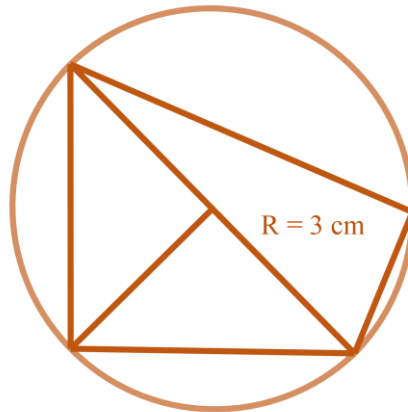
# Teaching aids for the secondary school students



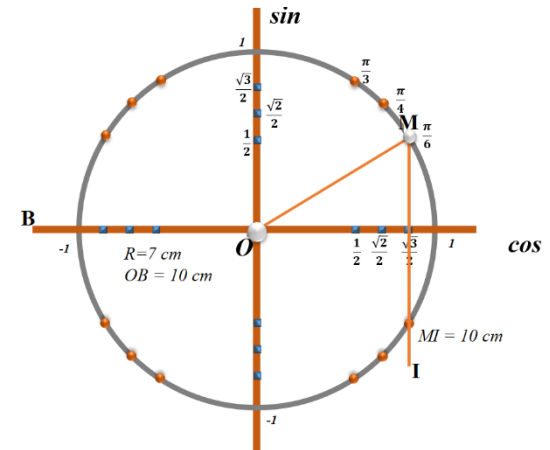
Graph functions and applications



The relative position of the circle and straight line

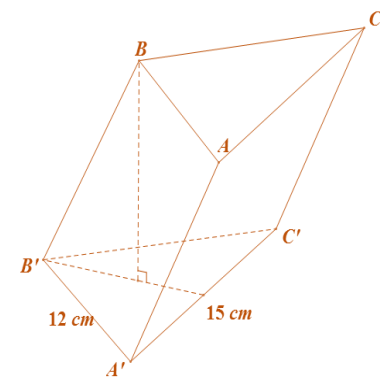
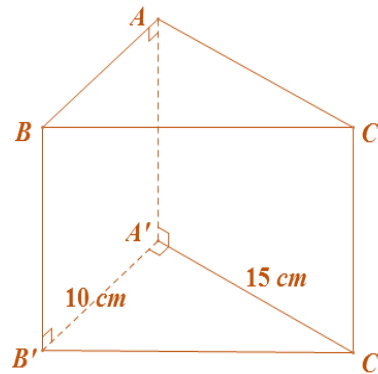
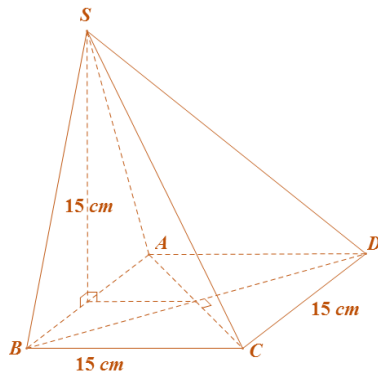
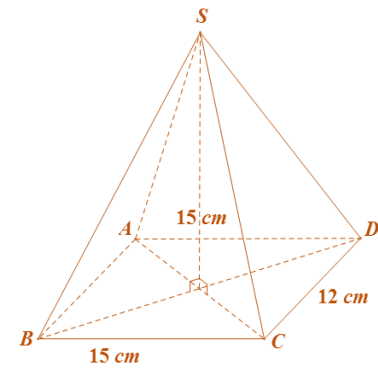
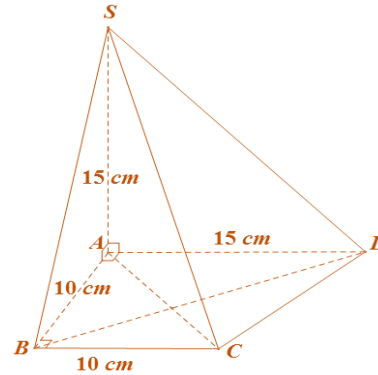
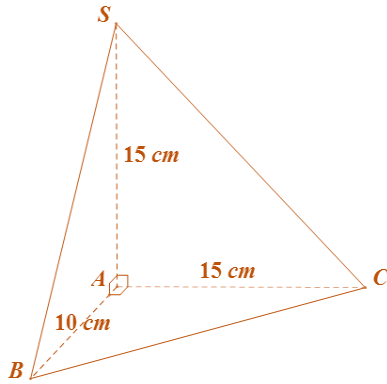


Circle and related concepts (circumcircle, central angle, inscribed angles, tangents, etc.)



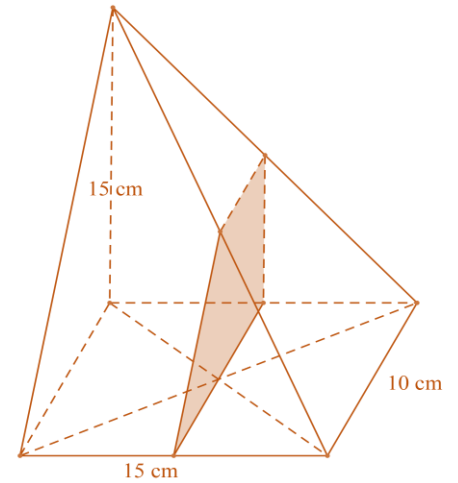
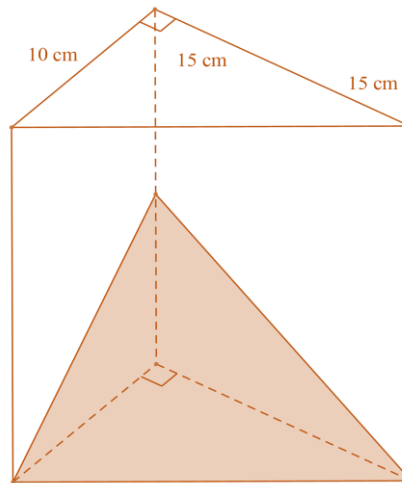
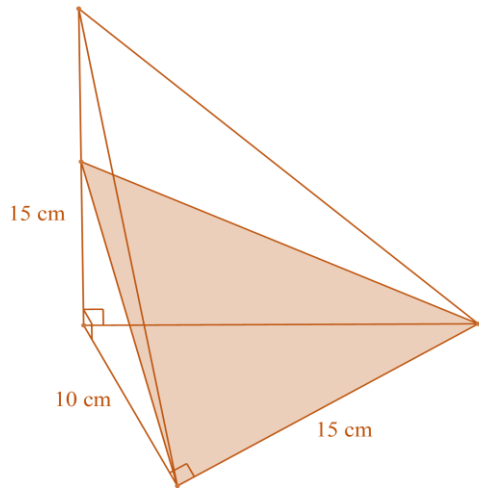
Trigonometry circle

# Teaching aids for the high school students



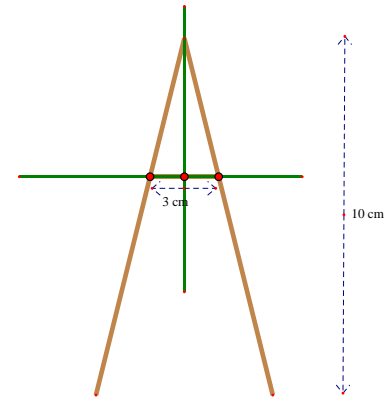
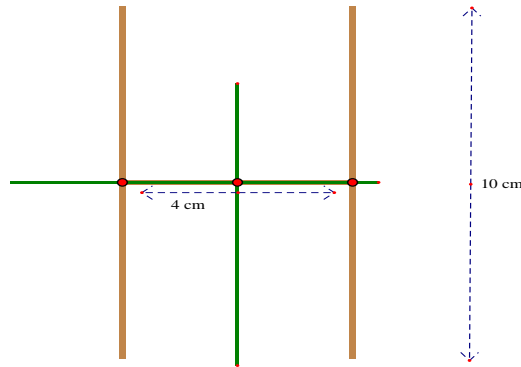
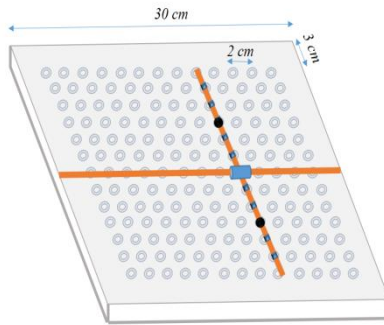
Solid geometry (tetrahedron, trapezium/ rectangular/ parallelogram/ rhombus pyramid, triangular prism, etc.)

# Teaching aids for the high school students

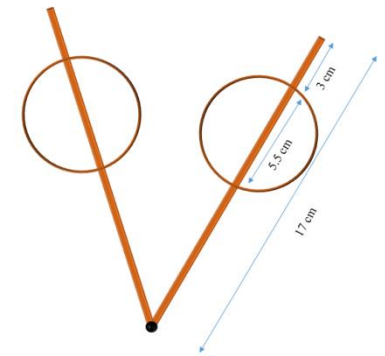
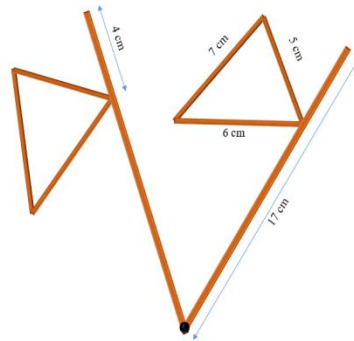
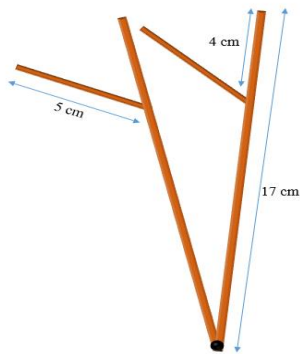


## Cross sections

# Teaching aids for the high school students

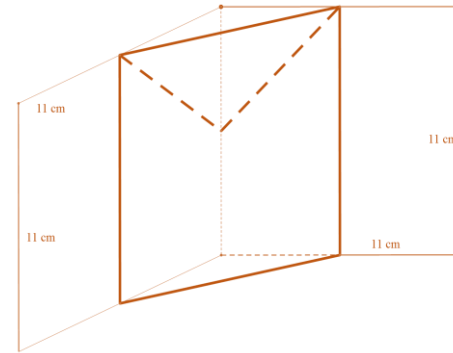
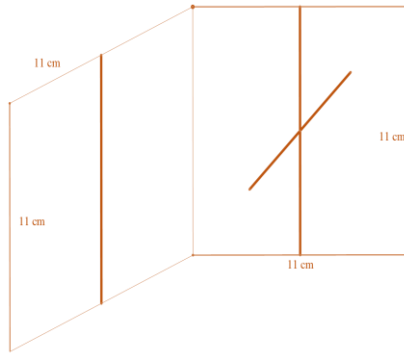


## Axisymmetric models

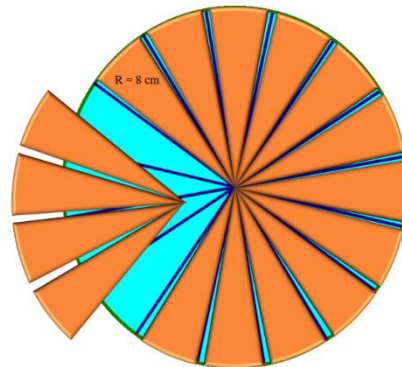


## Rotation models

# Teaching aids for the high school students

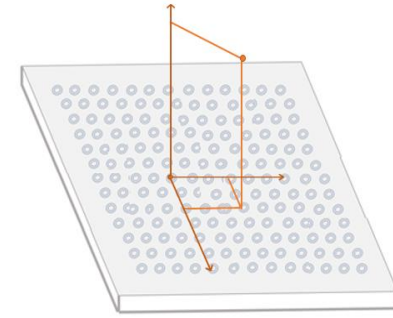
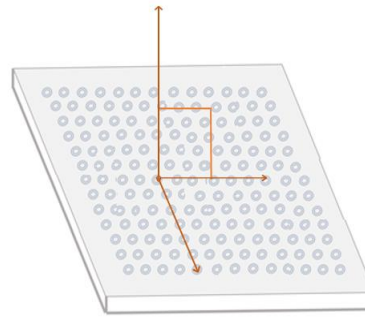
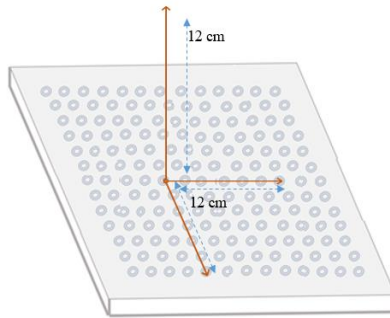


Relations between line & plane, plane & plane  
(parallel, intersecting and containing/ concomitant)

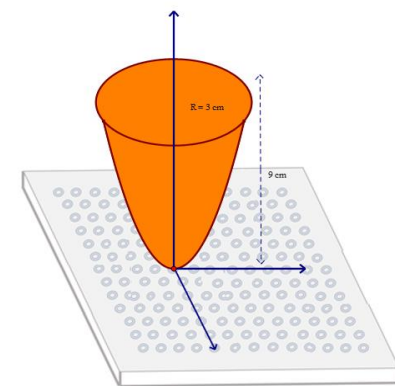
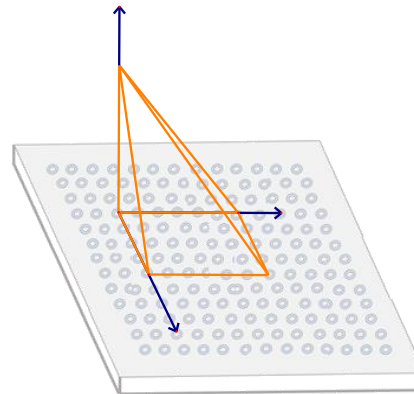
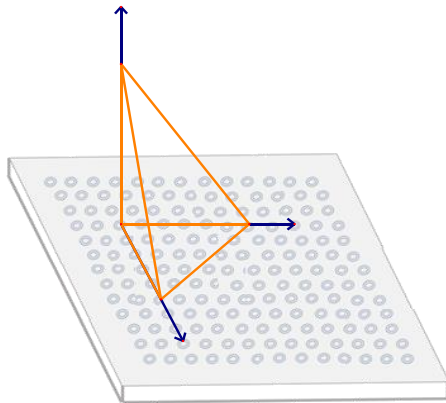


The cone and element of a cone

# Teaching aids for the high school students



Models perform Oxyz spatial coordinates in space



Coordination in solid geometry

Integral application models in simple shapes

# Conclusion and Future Orientation

Feedback from special school's teachers and students  
and VNUHCM-University of Science' students

Why only Math teaching aids?

Why only blind students?

We will construct Math teaching aids for all special schools in Vietnam if needed.

Whenever communities need, please let us know.

Now we think more about social responsibilities...

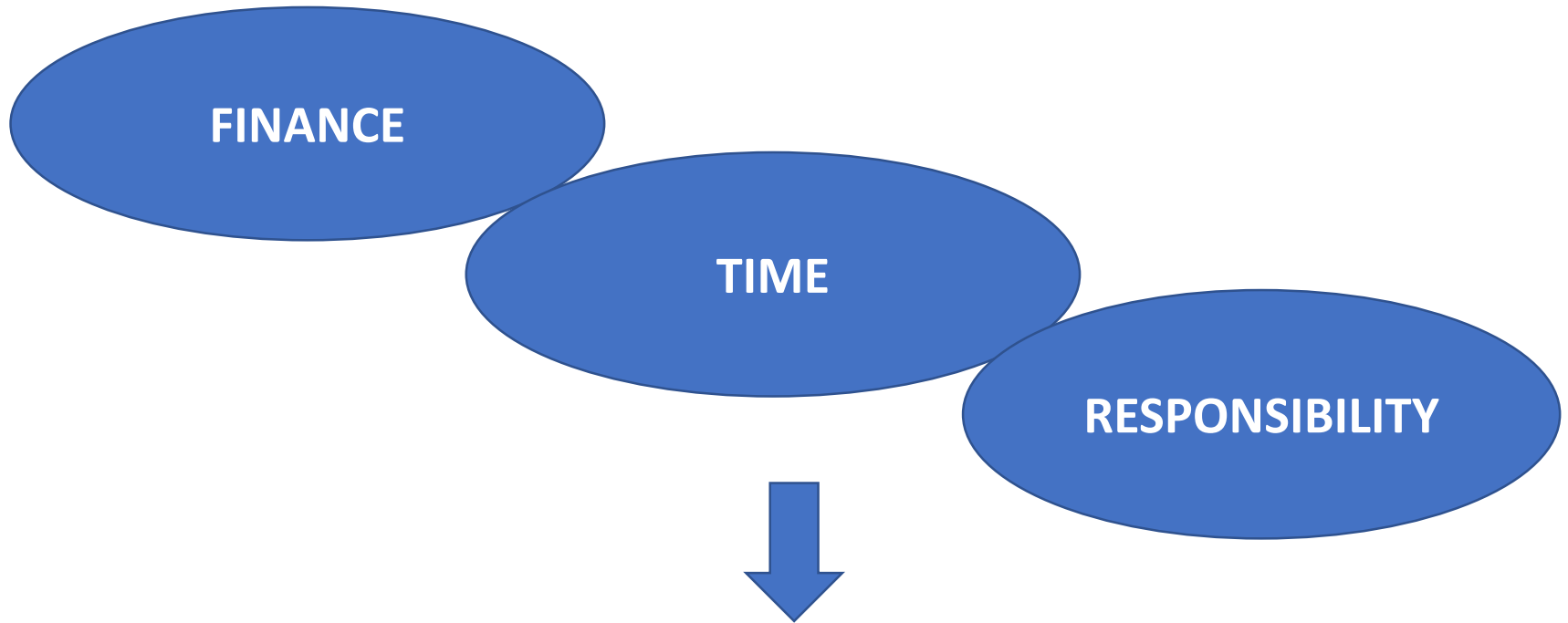
# Conclusion and Future Orientation

- Constructing over 2000 Maths teaching aids for many special schools throughout Vietnam.
- Constructing hundreds of teaching aids in different disciplines for many types of disable students.



# Conclusion and Future Orientation

**IS IT WORTH?**



**WHY NOT?**

# References

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**THANK YOU VERY MUCH  
FOR YOUR ATTENTION!**