

ASPECT OF CONTRIBUTION TO TEACHING PROCESS

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The Programme for the Integral Evaluation of Schools, for example, is established through main objectives:

- to value learning and school experience of pupils;
- to identify strengths and weaknesses in school performance;
- to lead school to set up self-evaluation strategies to ensure educational quality, to strengthen their autonomy and to engage school stakeholders in school improvement;
- to contribute to educational accountability.

We can see that area «Teaching-learning processes» is very important. For this area in focus are:

- The curricular projects of school and classes;
- The classroom work, management;
- The learning;
- The teaching (strategy, assessment, resource, providing for differences, efficiency, development);
- The pedagogical climate, educational support.

The teacher needs to have proficiency in subject area and teaching methodology, a rich repertoire of methods and teacher has to be able to cooperate on the problems of his own work, communicate within school and beyond. Various methodical concept and educational support for pupils are linked with pedagogical advices and all available resource for teaching and learning. «Teaching-learning» materials are laboratory instruments, tools, textbooks, magazines, list of addresses internet sites, movies, computers programs, computers presentations, tests for evaluation and self-evaluation, list of projects, models physics phenomena, network for exchange experiences and collaboration and other methodical materials.

Teachers of physics today are encouraged to read and extract information from a variety of sources including electronic media, textbooks and magazines and to provide written and verbal reports on what they have found out. Today majority of teachers are making their projects, examinations, presentations for teaching and other materials, but it is not widely announced. Perhaps, teachers do not enough exchange their working materials with other colleagues, schools, maybe they are not enough stimulated and motivated, maybe their role now is such. For example,

when we are solving any problem (program, presentation,...), with pupils if possible, we are making our models in many different ways, we are also learning and then we are very active and creative.

Perhaps, teachers of science have a need for the teacher training center which has special internet site with all their «teaching-learning» materials. Teachers can always send computer programs, presentations and etc. for this site and also download all materials from it. Teachers contributions, without external control, can be put in ordered by number of visits and downloads or have only code or something similar.

Through these and many other activities, the teacher develop the knowledge, competencies, their experiences and valuable skills needed to «Teaching-learning processes» and lifelong learning.-now and in future.

For example, I am sending one small contribution «Ray diagrams», geometrical optics, done in PowerPonit for approximately four hours.

Treatment of Ray diagrams can be used for pupils training in application researching method with experiment, analytical approach and computer simulation. This presentation shows us a scenario-activity plan of teachers work in case study. The first slide consists teaching / learning concept. The next slides (2, 3, 4, 5) refreshing previous pupil's knowledge about qualities of thin lenses.

REY DIAGRAMS for THIN LENSES

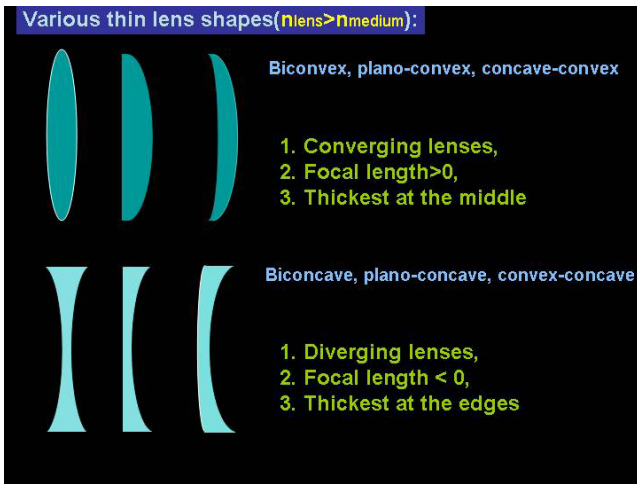
This is an example how teacher make presentation for students learning “REY DIAGRAMS” :

- 1. Evaluation students knowledge:**
 - Various lens shapes. Converging and diverging lens. (Slide 2)
 - Focal point. Students now answer. (Slides 3,4)
- 2. Easy problem:**

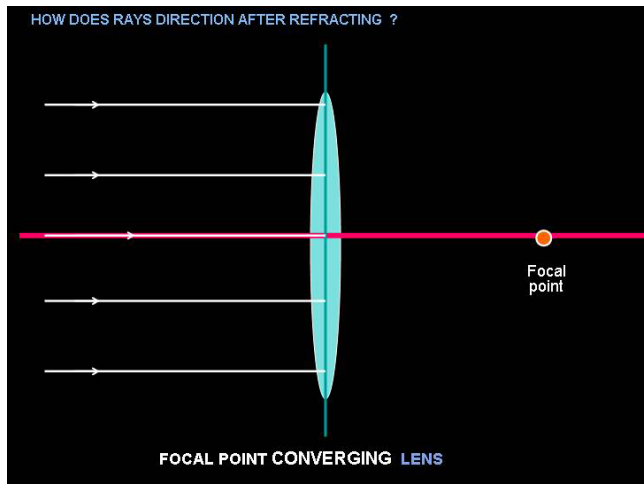
We have thin lens and an object. Where is the image located?
Teacher to lead, adding questions for students, discuss. (Slide and animation 6)
- 3. Experiment:**

Problem, students answer, computers answer. (Slide 8)
- 4. A few groups take a (simple) question. (Slides 10,11)**
- 5. An answer. (Slide 12)**

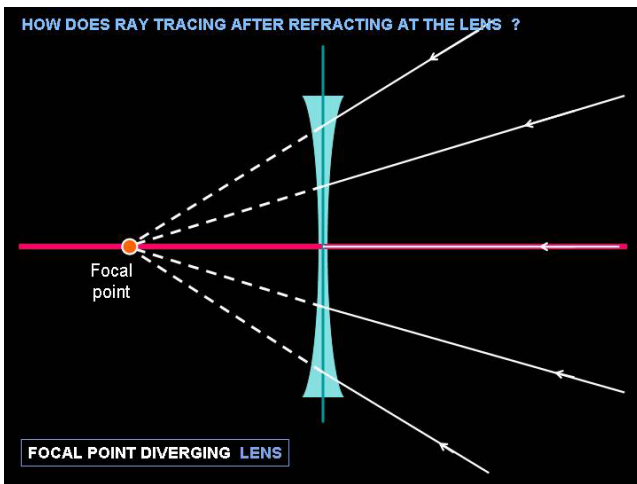
Slide 1. Concept of teaching/ learning.



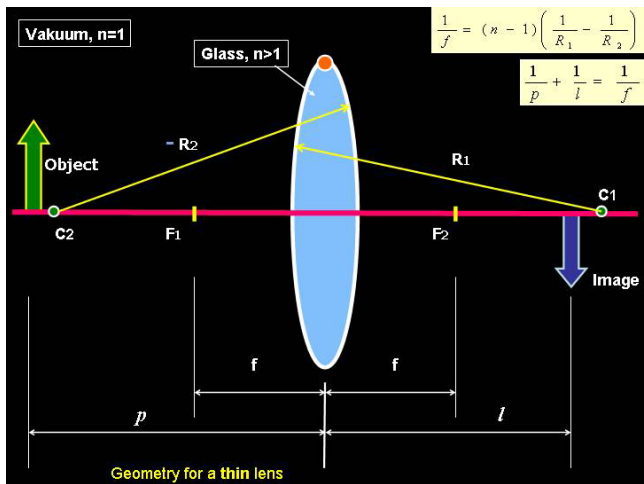
Slide 2. Various thin lens shapes



Slide 3. How does rays direction after refracting?

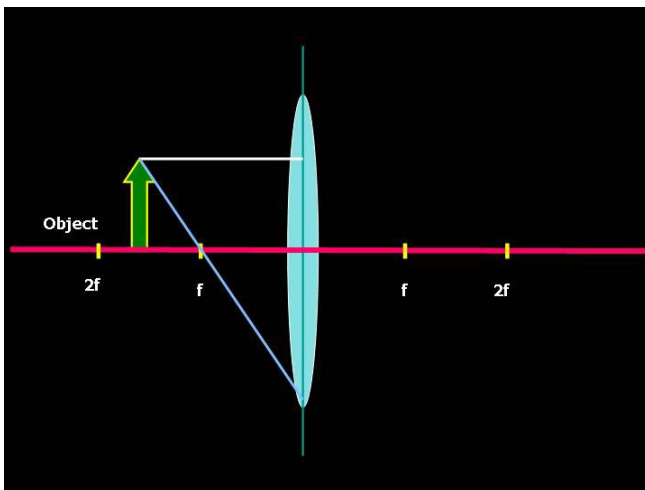


Slide 4. How does ray tracing after refracting at the lens ?

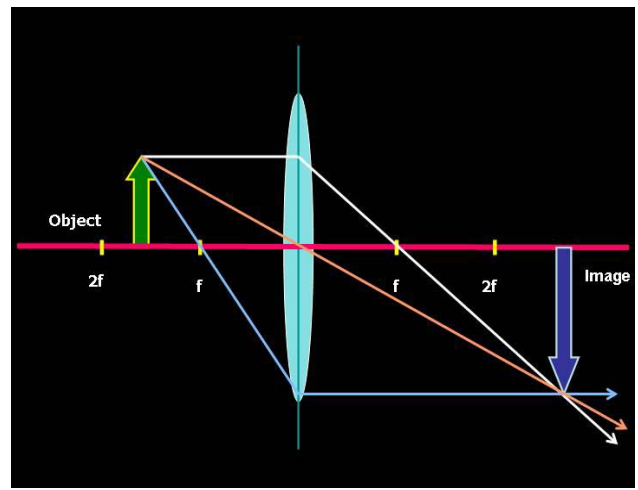


Slide 5. The parameters of a thin lens.

After that all pupils use problem method to graphically locate the image of any point on such an object, slides 6. and 7(finished).

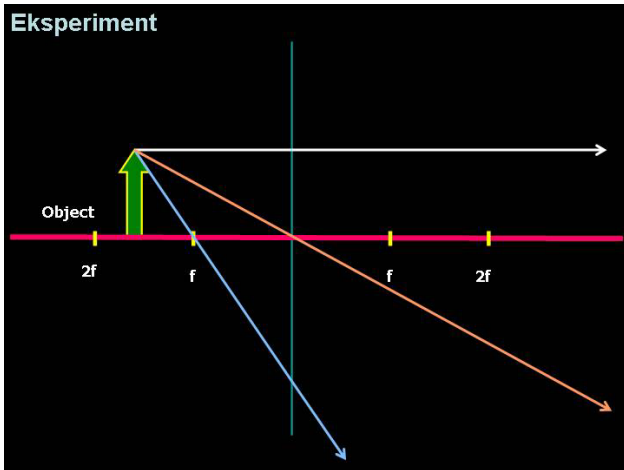


Slide 6. How we can find the image?

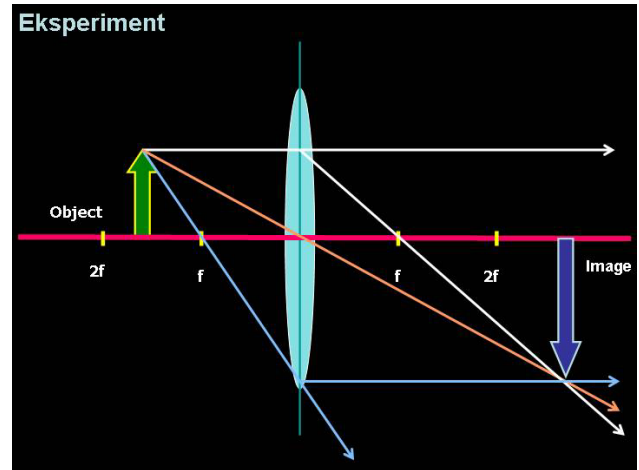


Slide 7. The ray diagrams are finished.

Then all pupils are involved in experimental locating of the image, formed by a thin lens, slides 8,9.

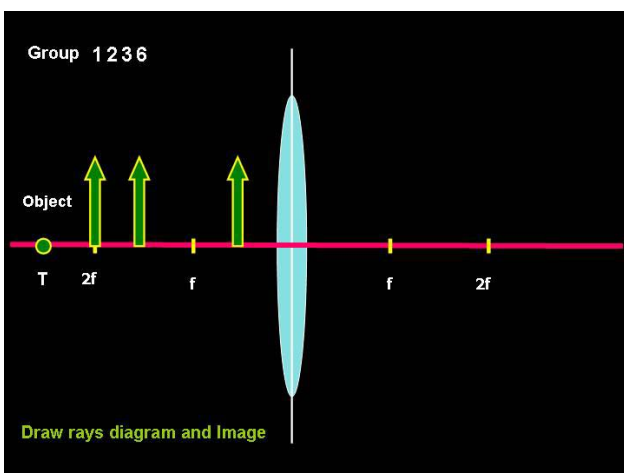


Slide 8. Special rays only without thin lens.

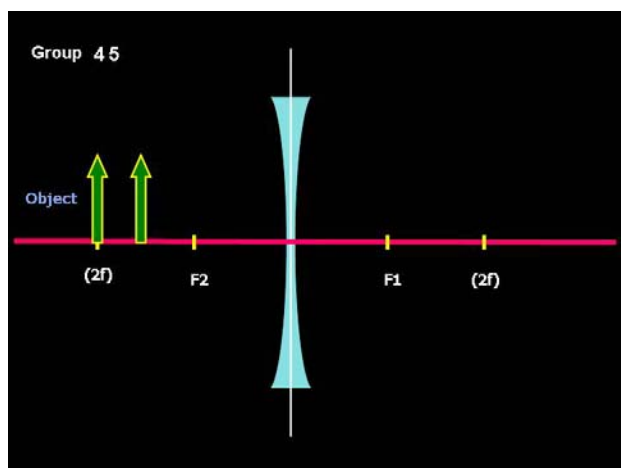


Slide 9. Object, lens, special rays after refracting, the image.

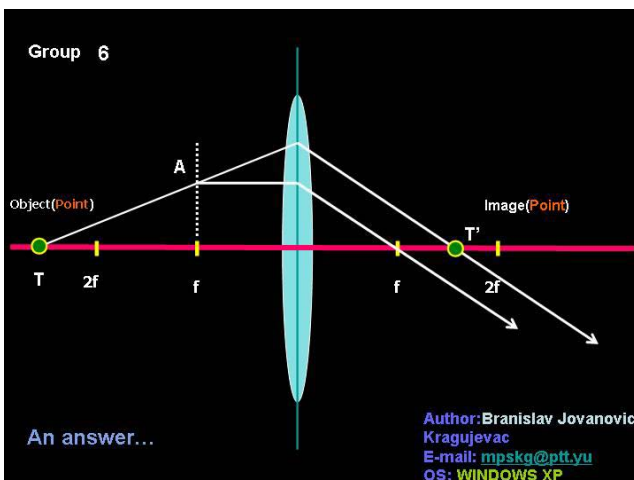
After that pupil's groups (six) take tasks, slides 10,11. We have an answer on slide 12. for task 6.



Slide 10. Tasks 1,2,3,6.



Slide 11. Tasks 4,5.



Slide 12. An answer for a point object, task 6.