

Context and constraints: Immersion in Hong Kong and Mainland China

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Transcripts

Transcript 1. Hong Kong Grade 9 Integrated Science: Lenses

- Teacher: Now let's go to the terminology for convex lens. We have a similar set of terms. OK, *(Draws symbolic diagram of a convex lens)* we can draw the symbol. This is the convex lens. *(Waits for students to finish their drawings)* For the convex lens, the first term that I want to teach you is the center of this lens. The center of this lens. *(Labels 'O' on the symbolic diagram)* And I use the symbol, O, to stand for it.
- Students: O.
- Teacher: OK, the center. OK, *(Writes "O: optical centre" on the board)* we call this one the optical center of the lens. OK, we call it optical center. Optical center. Optical center of the lens. And usually we will draw a line. OK, this line will be perpendicular to the plane of the lens and pass passes through the optical center *(Draws a horizontal line)*. Do you want to guess what is the name given to this line?
- Students: *(softly)* Principal axis.
- Teacher: Yes, we will call it principal axis. *(Writes "principal axis")* We will call it principal axis. OK, principal axis. And on a principal axis, hm, we will have a point which we call principal focus.
- Students: Focus.
- Teacher: OK, principal focus. Principal focus. Where is the principal focus? How to find out this principal focus? Em! It is when parallel rays fall onto it, the two rays will, those parallel rays will be brought closer together and meet at the principal axis. And so we have a focus there. OK, and we call it principal focus. F. F. *(Writes "F:" before "principal focus")* F. When parallel rays fall onto the convex lens, they will be brought closer together. They converge. OK, they converge and meet the principal axis at the point which we call principal focus. Let me ask you a question. How many principal foci are there? Ah, principal fo foci? Foci is the plural form, OK. So here I got a principal focus.
- Students: One.
- Teacher: Can I have a second principal focus?
- Students: Yes. Yes.
- Teacher: Yes or no?
- Students: Yes. Yes.
- Teacher: Some say yes. Some say no. Can I have another principal focus?
- Students: No.
- Students: Yes, yes.
- Teacher: Can I have another principal focus?
- Students: Yes. Yes.
- Teacher: How many of you would say yes, there is another principal focus? OK, so. Ah, 梁耀忠. You think that there is another principal focus. Where where can it be?
- 梁耀忠: opposite side
- Teacher: On the.
- Student: other side.
- Teacher: On the other side. On the opposite side, very good.
- Students: Woow...
- Teacher: Do you agree?
- Students: Yes.
- Teacher: Yes, because we can have those parallel rays fall onto the lens from this side. Can you see? Can you see that?
- Students: Yes.
- Teacher: We can have the parallel rays (labeling another "F" on the principal axis) fall onto the lens from this side and then meet at this point. And still we can call it principal focus. *(Changes the "F" drawn earlier to "F'")* OK, so we have two principal foci. OK, 'foci' is the plural form. F-O-C-I. Hm, so the principal axis can mean a line joining F and F-dash. *(Writes "FF" before "principal axis")* OK. If you don't want to say that it is a line perpendicular to the plane of the lens passing through the optical center, we can make it simple. And it is the line joining F and F-dash. Do we have any terms which are known as the focal length? Do you think we can have a term known as focal length? Yes, we can have. It is the distance, *(Draws $\leftarrow f \rightarrow$ above "O" and "F" on the diagram)* ah, hm, between F and O. *(Writes "f: focal length" under the diagram)* It is focal length.

Transcript 2. Xi'an Grade 8 Science and Society: Water

- Teacher: OK so let's go on, go on with our questions. Next one. This one is easy for you. Can we drink the water from tap directly? Why and why not? Can we? *(teacher pauses)* Even a little child won't do it because he or she knows it well. Can we? Yes or no? Can we drink the water directly?
- Student: We cannot drink the water from the tap directly.
- Teacher: Why not?
- Student: Because the water is too dirty.
- Teacher: Because the water is too dirty. Can you give me any, give us some details. YangYang.
- Student: *(inaudible)* because water has many bacteria.
- Teacher: Bacteria. Because it has many bacteria in it. So any different answers? No. OK. So we cannot drink the water from the tap directly and water is very important to us.

Students: Yes!
Teacher: So we have to purify the water and then drink it. Then it's why we have purified water in our classroom. You can drink the purified water instead of the water from the tap. Is water important to us?
Students: Yes!
Teacher: Yes, and in what way? (*pauses 2-3 seconds*) if we do not drink the water, we will die. Yes. But if we don't drink enough water, what will happen? We will?
Students: (*few*) Feel sick.
Teacher: Would you give me complete sentence? We will? (*some students whisper inaudibly*) We will? So I can't hear you clearly.
Student: Unhealthy
Teacher: We will be unhealthy. Yes, we will be unhealthy. What about you?
Student: We will (*inaudible*)
Teacher: We will be unhealthy. Or we will be ill. So Chow Yi Long.
Student: We will feel sick.
Teacher: We will feel sick. Yes. And we will have many different kinds of diseases. Many diseases are caused by water shortage. OK, so in your opinion, what is the best drink among those, coffee or tea ...
Students: (*few*) Water.
Teacher: Which is the best for you? (*Many students are shout out answers*) So (*student's name*) please. What do you think?
Student: Water, cola and orange juice are the best drink.
Teacher: If you have to choose one, only one.
Student: Cola.
Teacher: Cola is the best. Thank you. Do you agree with him? (*Some students shout "no" and "yes"*) Try to find some reasons. Why isn't cola the best drink among those? Chi Jei?
Student: Water is good for us.
Teacher: So do you agree with him?
Student: No.
Teacher: Can you give him any reasons?
Student: Cola is bad for us because cola has many, many, cola has water in it.
Teacher: What? I don't know it either sorry. So is it sweet? Is cola sweet?
Student: Yes.
Teacher: Yes. So it has much sugar in it. Right? So too much sugar is bad for our health. So cola is not the best drink. So what's your idea?
Student: I think water is the best drink.
Teacher: So water is the best drink, so why do you think so?
Student: Water is pure and the now water is more expensive than before.
Teacher: Water is more expensive than before. So?
Student: So actually water is good for us.
Teacher: It's more expensive than before so it's good for us. (*some students laugh*) It has no smell, no taste, OK, Kam To please.
Student: (*inaudible*)
Teacher: What do you mean? So colour, you mean colour. Because it has no colour. So maybe there are some chemicals in it, so, thank you. (*student's name*)
Student: I think milk is the best drink.
Teacher: You think milk is the best drink.
Student: Because milk make us strong and tall.
Teacher: Milk can make us strong and tall. So that's your idea. OK.
Student: I think Cola is the best drink. (*class laughs*)

Transcript 3. Hong Kong Grade 9 Geography: Modern farming methods

Extract 1

Teacher: But we have discussed the effects on.... of scientific farming methods on our environmental pollution. And there is a way how we can elaborate or explain the points here? Can you still remember how we elaborate this point? Think about it.... What do you think? Yes? How would scientific farming methods leads to environmental pollution? What kind of pollution will we have?
[STUDENTS DISCUSS 1 ½ MINUTES]
Teacher: OK, let us try. I am not looking for perfect answers, so relax. Anna? OK, how can we describe how can the methods leads to environmental pollution.
Anna: Overuse of chemical fertilizer and pesticides.
Teacher: Yes. What else?
Anna: (*inaudible*) have resistance to pesticides and farmers use more pesticides to cause....
Teacher: Well done.
Anna: To To pollute the environment.
Teacher: Is it something related water or rivers?
Anna: And pollute the rivers.
Teacher: Yes.
Anna: And polluted the drinking water.
Teacher: Yes, how about the spraying of pesticides? What will happen?
Anna: It ... Pollute the air.
Teacher: Yes, good, well done. So, I guess it is a good way for you to remember the points. You can start with thinking about the pollution. We can divide the pollution into water pollution, and then air pollution, and then your classmate gave pretty good answers. She can remember all the details and this is what we have last time on elaborating the points. But please remember when you try to write these in your answers, you need to use "therefore", and use complete sentence, or you can say "result in" or "lead to" in order to link the several phrases together. Let's give it a second try.

Extract 2

Teacher: Scientific farming methods may lead to unemployment. This is what we have already discussed, because they use a lot of what? Alice, would you please tell us the point number 4?
Alice: The mechanization (*inaudible*) and (*inaudible*) unemployment
Teacher: Very good of you to use leads to, mechanization, you can say a higher level of mechanization leads to fewer or.... leads to less need of labour, less need of labour, and therefore results in unemployment.

Transcript 4. Xi'an Grade 7 Science and society: Classification and classification of living things

Extract 1

Teacher: Here I have five things. What do they have in common? They all have wings. And this time, please classify them into different groups. And here you have to tell us what's the key. OK, so be quick.
[STUDENTS DISCUSS 15 seconds]
Teacher: (*inaudible*) You can't remember everything. Take notes if it is possible.
[STUDENTS DISCUSS 40 seconds]

Extract 2

(*One student raises his hand*)

Teacher: Yes, please!
Student: They can be classified into 2 groups
Teacher: What are the two groups?
Student: One is living things.
Teacher: One is living thing, the other is
Student: Um non-living thing.
Teacher: Non-living thing. OK so I have the same classification as you. Living thing and non-living things
Student: (*inaudible*) into two groups. One is birds, one is mammals.
Teacher: One is birds the other is mammal, and what else? Non-living things. So what is in this group?
Students: Plane
Teacher: Yes, plane, plane. Birds and mammals birds. Birds. Birds and and mammals. That's your classification.
Student: Yes
Teacher: What about butterflies? Which group does it belong to?
Student: It is a living thing
Teacher: Living things. Do butterflies have backbones?
Students: (*class*) No.
Teacher: No? mammals and birds, which one does butterfly belong to?
Student: (*Various replies*)
Teacher: Two groups are not enough. Thank you! Sit down. (*Invites another student*)
Student: They can be classified into two groups
Teacher: Are they living things and non-living things?
Student: No.
Teacher: No.
Student: The first group are they can fly.
Teacher: They can fly. Oh yes.
Student: The second group are they can't fly.
Teacher: They can't fly
Student: It can't fly.
Teacher: It can't fly. It (*inaudible*) so which one is in the second group?
Student: The plane is in the sec... the penguin is second group.
Teacher: The penguin belongs to the group it cannot fly and
Student: The first group it can be classified into two groups, one is living things another is non-living things.
Teacher: Oh living things and non-living things, good! And non-living things have
Student: And non-living things have plane
Teacher: Plane
Student: And living things have penguin
Teacher: Penguin
Student: Butterfly
Teacher: Butterfly
Student: Bat
Teacher: And bat
Student: Maybe we can classify into two groups
Teacher: Two groups.
Student: One is insect
Teacher: Insects
Student: One is (*inaudible*) one is
Teacher: What about a bat?
Students: (*few*) Mammal
Teacher: A bat is a mammal
Student: Mammal, Yes
Teacher: What about..... We have five things, penguin, bird, bat and mammal what else? Yes, one left.
Student: (*inaudible*)
Teacher: Thank you! so my classification is different from his.

Extract 3 (the following lesson)

- Teacher: Let's have a quick look! At about the classification we had in the last period. Well, this is my classification and this is I want you to repeat, repeat and follow, OK. Well, (*inaudible*) (*Inviting one student*) I will show you.
- Student: Non-living things are
- Teacher: The things with wings
- Student: they can be classified into two groups
- Teacher: They can be classified into two groups. What are the two groups?
- Student: They are non-living things and living things.
- Teacher: They are non-living things and living things. (*inaudible*) (*Inviting another student*) so what is the non-living thing?
- Student: The plane.
- Teacher: Ah, the plane is a non-living thing. Thank you! And the next one. (*inaudible*) (*Inviting another student*)
- Student: Living things can be classified into two groups.
- Teacher: Two groups.
- Student: The first group is vertebrates and the second group is invertebrates
- Teacher: The other group is invertebrates which means they don't have
- Students: (*few*) backbones
- Teacher: backbones. Yes they don't have backbones to support their body. Thank you! (*inaudible*) (*Inviting another student*)
- Student: Vertebrates can be classified into two groups, one is birds.
- Teacher: The other.
- Student: is mammals.
- Teacher: The other is mammals. OK, thanks! And we have two examples in the group of birds. They are a pigeon and a penguin. OK, and the last one is ...
- Students: (*Few*) bat
- Teacher: bat, bat is a mammal it is not a bird. And invertebrates we have an example, that is
- Students: (*class*) Butterfly.
- Teacher: That's my classification and I want you to have a look at (*inaudible*) classification. He hasn't finished it in the last lesson. OK, (*inaudible*) (*Inviting another student*) would you please repeat your classification?
- Student: Things with wings can be classified into two groups.
- Teacher: Two groups.
- Student: One is, the first group is can't fly.
- Teacher: Oh! The first group is the things that can't fly.
- Student: The second group is the things Teacher: that
- Student: that can fly.
- Teacher: Can fly, OK.
- Student: The penguin is, the penguin is ... the penguin can't fly.
- Teacher: The penguin can't fly so it belongs to this group, and
- Student: And the things that are can fly can be classified into two groups, one is living things another group is non-living things.
- Teacher: Ah, sorry, not another, the other.
- Student: the other group is non-living things.
- Teacher: Non-living things. OK, so what are the non-living things? Can you remember?
- Student: A plane.
- Teacher: A plane, yes, a plane is a non-living thing, what are living things?
- Student: Living things can be classified into two groups, one is, the first group is invertebrates and the second group is (*mispronounced*) vertebrates. Invertebrates can be classified Butterfly is invertebrate.
- Teacher: (*inaudible*) belongs this group
- Student: vertebrates, vertebrates, bird is vertebrate. Birds and mammals are vertebrate Penguin, birds and mammals are vertebrates, penguin is bird. Pigeon is bird
- Teacher: A pigeon belongs to this group, and
- Student: Bat is mammal
- Teacher: Bat is a mammal or a kind of mammal. Is it the same with what we said in the last lesson? A little bit different.
- Student: Yes.
- Teacher: So what is the difference? Last time we justfor the things that can't fly we have have birds, we have mammals and non-living things but they don't belong to the same level, right?
- Student: Yes.
- Teacher: So living things and non-living things, they are at the same level and the four living things we can have more classifications, two groups – vertebrates and invertebrates (*inaudible*) so I modify this classification, you can see which one is better but these two are acceptable so next we will have to do some exercises. Let me see it, you can classify some by yourselves.

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