

There are 4 people in the room.
Doos: uh what?
Doos: I got diconnected
Annie: what happened , did you get scared
Doos: hehe
Doos: I pressed the wrong button I think
Annie: how is things today Jen, you feeling warm this morning
Doos: Somebody else log this aswell incase it happens again
Annie: i'll keep an eye out Doos
Annie: if you get kicked out, you loose all
Doos: thanks gemma
Doos: uh annie
Jen: Doos you drunk this morning
Doos: yah, no auto-logging
Jen: got to go get coffee brb
Annie: ok
Doos: hehe yes jen, I drank the bottle of 96%
Jen: annie i am still sick
Jen: yuck
Jen: so not really thinking straight today
Annie: oh my dear, you must take good care of yourself
Annie: i had stomach cramps before as well
Doos: my knee hurts
Annie: lol
Doos: nice bunch we are
Jen: oh this is a cold i think i got it from my grand daughter
Jen: did you fall when you were drunk
Doos: i bumped it agains the desk
Annie: probably you broosed
Doos: yah
Jen: wave motion theory
Jen: lets talk about that
Doos: okay studies has began
Annie: hang on i gotta turn my tv off
Doos: what are you having troubles with jen?
Jen: ok i am not sure what to ask yet i just know i don't get it i read it and
it lost me so i am kinda re reading
it as i do this
Annie: ok, i can pay attention now
Jen: what are undulations
Doos: till where did you understand it jen?
Doos: waves
gemma: rhythmic waves
Jen: oh ok
Doos: they just threw that word in to make in more complex
Jen: i see ok
Jen: ok and propagation is what exactly
Doos: direction
Annie: its a direction of how light travels
Doos: the continuance of the wave
gemma: propogate is to create so it is the direction the creation is from
Doos: so forget those 2 words for now and translate them in to waves and
direction
Jen: ok

Annie: ok Jen you understand the importance of light and the effects it has on the gemstones beauty
gemma: does this all pertain to how the light source affects the different colors we see at different angles
Jen: yes
Annie: yes
Annie: as light is in a form of energy
Jen: no
Annie: rays within a gemstone travel differently in form of speed
Doos: according to einstein it is
Annie: if there is no light there is no energy
gemma: movement is created, movement of anything involves release of energy
Annie: gems would be all dark
Doos: that is why there are no colours in the dark
Jen: ok
Annie: they might ask you to explain what light is and how it is transmitted
Annie: you may have something like that in your assignment of somesort
Annie: do you wana go at describing this
gemma: yes
Jen: you mean do i want to attempt to describe this
Annie: ok have a shot at it
Annie: yes
Jen: no if i want you to describe this then yes
Doos: lol
Annie: lol
gemma: yes. give us real world words to think about
Annie: lovey, we are trying to help you
gemma: that will help gel the idea i think
Doos: hehe, you made your bed annie
gemma: ok. so can we say light is energy waves that we can see with our eyes?
Annie: yep
Jen: ok i got that
Jen: duh
Doos: well, a small portion of it
Annie: and the transmission occurs through a transparent medium
Jen: my brain is not working today
gemma: and that it is transmisted in waves the length and heighth of which determines the color we see
Annie: its fine, its late here
Annie: my brain is not working either
Doos: i'm drunk, so mine is down aswell
Jen: i could not even remember how old my daughter was yesterday
Doos:
Annie: lol
gemma: but that is why we are gathered here so we have to try!!
Annie: so everyone is down today
Jen: i really had to think about it when asked
gemma: no i am not down
Jen: i felt like a fool
Annie: everyne will be on detention tonight
Annie: ok gemma, you go
gemma: ok. so light is transmitted in waves the length and heighth of which determines the color we see
scotsmaninfrance entered the room.
Annie: hello

Doos: hi scot
Annie: welcome
Jen: hi scot man
Annie: glad you can join us
scotsmaninfrance: Hi all..thanks.
gemma: we are talking about why and how one perceives light
gemma: and how it pertains to gemology
Annie: we are talking the nature of light optics and phsical properties
gemma: show off
gemma:
scotsmaninfrance: and have you shed light on either?
gemma: we're in the dark hahaha
Jen: ok here is one they say propagation direction
gemma: yes?
Jen: if it means direction then why put the 2 words together
Doos: jen: that means the continuance of light in a direction
gemma: this is where angles figure in, right?
Jen: oh ok now i see
Doos: jen: and it looses in power along the way
Jen: i think i will carry this on next week aswell when i am feeling better
gemma: b ecase it enters a solid
Doos: think of a very long skippy rope
Jen: and take some time with it
Jen: ok
Annie: one direction will be faster
Doos: make a wavy kind of motion with it and you see that at the end the waves
are not as high as in the beginning
Annie: and other will be slower
Annie: yes, when you hold a rope on one end and gemma holds the other
Annie: and you start to wave it
Doos: or think of it as a snake, at his tail the waves are smaller
gemma: wait
Annie: don't talk about snakes
Doos: lol
Annie: i get goosepumps
gemma: we are using small but shouldn't we be saying higher
Jen: why i have snakes
gemma: and the lenth of the wave remains the same
Doos: yes gemma
gemma: for the same color
gemma: the height effects the hue
gemma: no
gemma: the saturation
Annie: i watched batman and robin tonight, enough of snakes
Doos: the intensity, so that is saturation
gemma: ok
scotsmaninfrance: sorry but by hight are you reffering to the waves amplitude?
gemma: yes
Doos: yes
Annie: yes
gemma: that's more correct
scotsmaninfrance: ok..sorry engineering background
Doos: just trying to illustrate it in some way
gemma: that's ok because beginners need visualization to help
Doos: aha scot, you have a go at it in easy words

gemma: the terms come later
Annie: wavelength of a medium is between two points
gemma: yes
Annie: say your A is red and B is blue
gemma: 2 wavelengths?
Annie: as it travels from A to B it dravels differently in waves
gemma: it changes from a red to b blue?
Annie: yesp
gemma: how can that happen
Doos: blue waves are smaller
gemma: by entering/reflecting a solid?
Jen: oh i just saw it
Jen: well no not it
gemma: so it slows down and becomes blue?
Jen: but the length and heiht in my diagram
Doos: uhm no
gemma:
Doos: how does one explain this
gemma: let jen ask her question
gemma: that may help answer
Annie: yes and they have special lengths
Jen: no it isn't a question
Jen: i just see the height and length now
Jen: but in my diagram A and B look the same
gemma: right. they are
Jen: just seperated as A and B
Doos: because they used the same
Annie: they would be above the line direction of traveling
Jen: but the waves are akll the same size
gemma: jen is correct
gemma: they are giving the example of wavelength of one color
Doos: they did that to illustrate that you measure between the peaks
gemma: how the length between a and b stay the same
Doos: for all reds yes
gemma: ok
Doos: and for blues the waves will be closer together
gemma: at same lenght for same hue
Doos: did i say that right?
Annie: maybe first you need understand the nomenclature of the waves
Jen: hold on i am measuring
Annie: Jen
gemma: jen, they will be the same. as will the amplitude in that illustration.
Annie: Jen, do you understand what a ray is ?
Jen: why how are A and B different
Jen: a ray well yes
Jen: you see rays of light all the time
Annie: a ray is your straight line ath
Annie: moving from A to B
Annie: yes !!
Annie: you should have a diagram there
Jen: ok
Jen: yes
Annie: yes,
Annie: the ray is a direction in which light travel
Annie: STRAIght

Jen: yes
Annie: yes
Jen: yes
Annie: this is like the same in all isotropic mediums
Annie: yes
Annie: like cubics
Jen: ok you just lost me
gemma: me too
Doos: maybe you should leave out the isotropic part annie
Jen: no doos i understand that
Doos: oh
Annie: ok
Jen: but how
gemma: yes , how doesthat coment apply
Annie: THEN You have beams
gemma: back up
gemma: are we talking about cubic
Annie: which are groups of light waves
Jen: yes
Jen: i think so
Annie: we bypassed that
gemma: thank you
gemma: are beams grups ov waves or rays
Doos: same thing
gemma: thank you
Annie: group of light waves - more or less same
Annie: then the crest
Annie: the crest is wave with upward
Annie: trough is downward
Annie: they should have some diagram there
Annie: for you
Jen: so when the wave goes up that is crest
Jen: the wave goes down that is trough
Annie: yes
Jen: ok i see that in my diagram yes
Annie: you have diagram there
Jen: yes
gemma: yes
Annie: so when we talk of wavelenghts
Annie: is the distance between two crests or throughs
Annie: or correspondence of distance along the waves
Doos: (the peaks)
gemma: these show as points a and b
Annie: these are measured in nanometres
Annie: yes
Jen: ok well A goes fromthe start of the wave from the ray
Jen: and B starts at the peak of the waves
Doos: from the peak of the wave
Jen: is that the difference
Annie: yes
Jen: ok
Guest20348 entered the room.
Doos: hi guest
Annie: i think you should have some of these explanations in your notes maybe
Jen: wow we are busy

Annie: hi Guest, welcome
Jen: hi guest
scotsmaninfrance: Hi guest
gemma: yes, it explains it a bit as captions
Annie: you may have to go over these parts to understand
scotsmaninfrance: What does it mean when they talk of the rays being on different planes?
gemma: i think the confusion is they use letters a b for length and c d for trough
gemma: i mean amplitude
Annie: yes the amplitudes would be the line of transmission of difference
gemma: ok
Annie: does that make sense so far
gemma: yes
Jen: yes and no for me
Jen: but i can get gemma to help also
Annie: oh Jen i get worried when you say that
gemma: hahaha
Doos: scot, light moves in all directions, one ray is a cross section of that light
gemma: me too!
Jen: like i said my brain is not all here
gemma: don't worry annie, jen eventually gets it from the discussion. she just thinks she's dumb
gemma: which she ain't!
Jen: well you are always around to help annie
Annie: no i don't want you feeling like that
Jen: i will get it sooner or later
Doos: jen: you struggled with other topics before which you now fully understand .. give it a little time to sink in
Jen: yes i know doos
gemma: i keep telling her it is hard to do distance, that classroom has q and a all the time and it sinks in sooner
Annie: ok, then that part from A is the red end and B is your blue end of spectrum
Jen: ok
gemma: no
Annie: and that is the part our eyes are able to see from 700 - 400 nm
Jen: oh ohh
gemma: will you explain how it gets from red to blue again
Jen: now you lost me again
Annie: when what happens to white light when it hits a prism
gemma: oh duh
gemma: got it
Annie: white light has the ability to split wavelengths in spectrum of colours . right
gemma: white light is all colors isn't it?
Doos: the 7 rainbow colours
gemma: ok
Jen: ok
Annie: white light can split rays into different colours from red orange, yellow, green,
Annie: and what else
gemma: blue violet
Doos: indigo

Guest20348 has left the room.
gemma: grr
Annie: oh Doos did you scare our guest
Doos: i think so
gemma: is indigo the proper term or -- that was guest's secret name
Annie: ok, just wanted to check with you
Jen: doos has not got normal color perception lol
gemma: so . . . what colors are left
Annie: yes, the kids name is ROY G BIV
gemma: oh missed indigo, the inbetween
Annie: red orange yellow green blue indigo and violet
Annie: RIGHT
Jen: it says nothing about indigo in my notes
Annie: Dont worry about that
Jen: ok
gemma: north america has only 6 colors to its rainbow
Annie: 6 colours is sufficient
gemma:
Annie: and its the same thing happens when it rains
Annie: and then the sun comes out later
gemma: light hits water solids
Annie: the little rain puddles act like prism
gemma: prisms into colors
Annie: and split the rays into spectrum of colours in the sky
Jen: i never thought of it that way
gemma: and so the oil slick on the mud puddles is light reflecting from
different solids on surface
Annie: lol
Annie: thats something to remember
Doos: very nice one
Annie: does that make sencse
Jen: yes
Annie: SO the light reflects and refracts
Annie: and disperses in colours
Annie: i don't know how to make it any easier
gemma: i understand it.
Annie: Jen you gone quite,
Jen: ahh yeah
Jen: annioe you are going to hate me
Annie: scott do you understand that
Jen: i understand the rainbow
Jen: but still lost on the paper
Annie: what
Annie: why would i hate you
scotsmaninfrance: yes
Jen: ok i am going to reread this some more and more and more and then i will
know more of exactly what my troubles
are here
Doos: should I start making a "opticals made easy" for yey?
Jen: maybe DOos
Annie: yeah Doos, that would help
Annie: to Jen, Gemma and Scott
Jen: i think i should also go to YG and look this over
Jen: there is physical optical properties in there right
gemma: yes

gemma: wht annie
Jen: well i will read in there too
Jen: and my work
Annie: Robert would explain it much simpler
Jen: and ask you guys when i have done that
Doos: oh that saves me some work
Jen: and then if i have troubles then i will put Doos to work
Jen: and keep asking annie
Doos: okay, deal
Annie: Jen, this is not an easy subject
Annie: light is a little intriguing,
Jen: i see that
Jen: i got what they are doing
Annie: so you may need to re-read
Jen: they give me a couple easy lessons then a hard hard lesson
Annie: without light life would be very useless
Doos: and don't worry jen, it will only get harder
gemma: thats so you dont get discouraged lol
Jen: oh thanks Doos
gemma: like life
Doos: lateron we will need to discuss quantum mecahnics
gemma: i have my hawkings book at the ready
Doos: heh
Jen: ok i will do some reading and research on YG and see what comes of that,
and we will continue this next week
gemma: ok i have to buy a halloween pumpkin
gemma: my fav holiday and ive done nothing for it this year
gemma: nada
Annie: i hope i didnt say much that confused you
gemma: no annie it clarified it
Annie: it will be easy once you understand, and you will
gemma: the point a to be thing
Jen: so are we going then we are done for now
gemma: i have too. pumpkin time.
gemma: wait
Jen: ok
scotsmaninfrance: Thanks to all for having me.
gemma: doos and annie what do you think we are missing in our understanding
Doos: scot do you have questions? on any gemmology topic?
scotsmaninfrance: millions
gemma: oh heck ask away. ill stay
Annie: we are not going yet,
Doos: I think the general wave visuals and the wavelengths gemma
Jen: ok i am going to siut back and watch
Doos: lol scot
Annie: please ask if you have any questions
Doos: shoot
Jen: i have to make some calls
gemma: i am on standby with my hawkings
scotsmaninfrance: don't put yourselves out. I'm going to sign up for the ISG
course to start with. I'll wait and see
if I can trim my questions down to a few thousand
Doos: good, anytime you need help .. come here at this time
scotsmaninfrance: Thanks to you all
gemma: thanks for signing up with isg!

Annie: you welcome, Scoitt
Annie: same time next week,
scotsmaninfrance: are you part og it all gemma?
gemma: i am a isg student and forum member
gemma: and i buy a lot of equipment and stones
gemma: lol
Annie: have you just found Your Gemologist Scott
scotsmaninfrance: a few weeks ago. I've been working my way through the forums
Annie: oh thats good Scott, you will like it
gemma: wonderful. forums got me hooked
scotsmaninfrance: Great site though...."seems like home"
gemma: oh yes, and robert will love that comment
Annie: yes
Jen: it is home to alot of us
gemma: a real breathing space away from the rest of the world
Jen: and we are all a tight nit family here
Annie: "we are like a big family"
gemma: yes, we argue but never hate. so refreshing
scotsmaninfrance: sounds like home as well in that case
Doos: lol

lots of chitchat followed