APPENDIX II

TAB F

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF PENNSYLVANIA

TAMMY KITZMILLER; BRYAN AND CHRISTY REHM; DEBORAH FENIMORE AND JOEL LIEB; STEVEN STOUGH; BETH EVELAND; CYNTHIA SNEATH; JULIE SMITH; AND ARALENE ("BARRIE") D. AND FREDERICK B. CALLAHAN,

Plaintiffs,

vs. Case No. 4 CV 04-2688

DOVER AREA SCHOOL DISTRICT; DOVER AREA SCHOOL DISTRICT BOARD OF DIRECTORS,

Defendants.
/

DEPONENT: DICK M. CARPENTER, II, Ph.D.
DATE: Tuesday, May 17, 2005
TIME: 9:39 a.m.
LOCATION: 100 Renaissance Center, 36th Floor
Detroit, Michigan
REPORTER: Elizabeth G. LaBarge, CSR-4467

COPY

APPEARANCES:

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* * *

Detroit, Michigan
Tuesday, May 17, 2005
9:39 a.m.

* * *

DICK M. CARPENTER, II, Ph.D.
having been first duly sworn, was examined and testified as follows:

EXAMINATION

BY MR. WALCZAK:

Q My name is Vic Walczak, I am one of the attorneys for the plaintiffs in the case of Kitzmiller versus Dover Area School District. How are you today?
A Good, thank you.
Q How would you prefer that I address you?
A Whatever you're most comfortable.
Q Actually, I'm doing it for your comfort.
A Okay. Just call me Dick.
Q Dick?
A Yeah.
Q Okay. Is this your first ever deposition?
A No, this is the second.
Q What was your first deposition?
A It was a case, Hanson v. Ann Arbor Schools, I think.
Q And who deposed you in that case?
A The name of the attorney?

Q Who did the attorney represent?
A Ann Arbor Schools.
Q What was the nature of that case?
A The student was suing the school for free speech and religious freedom issues.
Q And were you representing the plaintiff or the defendants?
A In that case, it was the plaintiff.
Q We're going to be here most of the day, I think, and I want to make sure you're comfortable. There are cold and hot drinks there. If at some point you need a break, which I think we're all going to need breaks, feel free to ask. I would just ask that you not request a break immediately after I've asked a question.
A Okay.
Q So if you need a break, wait until you've given an answer to the question. Or if you're waiting for my next question, then by all means, we'll take a break.
If you don't hear something that I said or if you don't understand my question, I'd ask that you tell me and I'll either say it louder or I'll rephrase it, but if you answer the question, I'm going to have to assume that you both heard and understood it, is that fair?
A Yes.
Q The other thing is that Beth is really, really good, but

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she cannot take down nods of the head or shrugs of the shoulders and so your responses need to be audible.
A Yes.
Q And I've also heard that as good as she is, that she cannot take down both of us talking at the same time, so I'm going to try to wait until you respond and I ask that you wait until I've finished my question.
A Understood.
Q Any questions for me before we start?
A Not yet.
Q Last chance, because I'm the one doing the questioning here.
MR. WALCZAK: Can we mark this as Plaintiff's Exhibit 1?
(Exhibit Number 1 was marked for identification.)
BY MR. WALCZAK:
Q I show you what's been marked as Exhibit 1.
Do you recognize this?
A Yes.
Q What is it?
A That's an expert report.
Q Whose expert report?
A Mine.
Q Is this something you've submitted in this Dover litigation?

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A Correct.
Q And this contains your opinions about the case?
A Correct.
Q We're going to spend the bulk of the day going over this report.
A Understood.
Q I guess what I'm not clear on is your area of expertise.
What are you an expert in?
A In this particular case, education policy, practice, pedagogy.
Q Is that all of those things?
A Correct.
Q When you say "in this case," are you a different kind of expert in another case?
A It depends on the case. I might be able to talk about the U. S. presidency, for example, I do research on that area.
Q So what are your areas of expertise?
A In this particular case?
Q Generally.
A Okay. Well, I do research and teach in areas around educational leadership --
Q What's that?
A Educational leadership considers issues around the leadership and management of schools and school

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districts, decision-making, both in the global sense of just leadership and management, but also specific to schools and school districts.
Q Do you recognize an area known as science education?
A I'm not sure I understand what you mean by "recognize."
Q Is there an area of expertise that would be called science education?
A Um-hmm, yes, that's correct.
Q And do you have expertise in that area?
A Not specific to science education.
Q What do you mean, what expertise do you have at all about science education?
A Well, that's what I mean, not specific to science education, but more globally to issues of education and curriculum and pedagogy as it relates to schools.
Q But you recognize that there is a -- I guess a subspecialty of education on science education?
A Yes, a sub-discipline, correct.
Q Thanks for correcting my terminology.
But you are not an expert in the sub-discipline of science education?
A Not in science education, correct.
Q More generally in education?
A Yeah. When you're -- educational leaders are generalists by nature. When you work as a school

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principal, you have to be conversant in all types of pedagogy, pedagogy as it applies to all kinds of disciplines and sub-disciplines, so leadership and policy inevitably will deal with pedagogy as it applies to all classrooms.
Q But there are, for instance, specific courses taught in science education?
A In colleges of education, for example? Yes.
Q I'd like for you to tell me all of the opinions that you have arrived at in this case?
A Do you mean you want me to walk through this document?
Q Whichever way you'd like. I want to go through and understand every opinion that you are prepared to advance if this case goes to trial about the Dover Area School District's new policy.
And let's just get our definitions straight. What we're talking about is the policy passed by the School Board on October the 18th, 2004, plus any attendant implementation of that policy. So when I say "policy," it's everything the School District is doing to further that October 18th Board statement.
MR. THOMPSON: Objection. That does not characterize the issue here because the Complaint that was filed by the plaintiffs talked about the press release that was dated November 19th, I believe, and

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that included both the resolution and the following policy that was developed as a result of it, so I think that is the policy, if I'm not mistaken.

MR. WALCZAK: Well, I want to define this as broadly as we can to include everything that the School District is doing pursuant to that one-sentence statement that was passed on October the 18th, and that would include the November 19th press release and the statement that the teachers read. Am I missing something?

MR. THOMPSON: Yes. What I'm trying to point to is that the Complaint itself specifically is focused on the November 19th, 2004, press release, that is what the policy is that has been complained about, and that is what this lawsuit is all about, whether that policy is unconstitutional, as you have alleged. So going beyond that, I think, is not a fair characterization of the lawsuit.

MR. WALCZAK: Well, I'm not doing this for purposes of characterization of the lawsuit, I'm doing this so that we can be on the same page in the questions. And I would reject your characterization of our lawsuit. We are challenging what's colloquially known as the intelligent design policy of the Dover School District, and that includes everything they've done in furtherance

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of that.

So what I'd like to do is -- and maybe the best way to do this is to ask Dick about what it is he has considered in constructing his opinions, and I'll do that --

MR. THOMPSON: Sure.

MR. WALCZAK: -- in short order.

MR. THOMPSON: The other objection I have is that he has prepared an expert report and the document speaks for itself, unless you just want him to go ahead and read what he said.

MR. WALCZAK: No, I want to make sure I understand what it is that his opinions are on this.

MR. THOMPSON: Fine.

BY MR. WALCZAK:

Q So I'm going to ask you about the Dover School Board's intelligent design policy as I'm going to call it, and we'll come back to how you want to define that later, but why don't you tell me -- again, you've obviously looked at this and come up with some opinions. Let's go through your opinions.

MR. THOMPSON: And I just want the record to make clear I also object to the characterization of the School Board policy as the intelligent design policy and my continuing objection to those characterizations.

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MR. WALCZAK: That's fine.

BY MR. WALCZAK:

Q You can go ahead and answer.

A Okay. Well, then I'll just walk through this then.

Q However you'd like.

A Okay. Well, first, in speaking about the policy, one of the ways to think about policy is what incentives does a policy create or what behaviors, for example, what goals does it set out, and one of the goals that might be perpetuated in this policy is the idea of critical thinking. And as in the report, there are different definitions of critical thinking.

One that I include is that it's the ability to explore a problem, question, or situation, integrate all the available information about it, arrive at a solution or a hypothesis, and justify one's position. And then I include also in the report some different ways that one might think about it in terms of a structure around ideas of critical thinking. So what we see here is a policy that would encourage students to think critically about what they read and hear and learn in a classroom and outside of a classroom. So that's the first thing.

The second thing is how can we -- in education, we often talk about how can we encourage students to assume responsibility for their own learning. Rather than

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creating a passive one-way relationship in learning, how can we encourage students to take more responsibility and ownership in their learning. And this policy, statement, whatever we're calling it, does that, as well, or encourages that amongst students.

The third thing is that it's aligned with various standards. For example, the Pennsylvania standards specifically state that students needs to know and assume they will be tested on evolution, and the policy makes it very clear that's what's going to be taught in class, and I assume that the implementation of it is consistent that what's going to be taught in class is evolution according to the Pennsylvania state standards. But also, the standards say this, that students should be taught to critically evaluate the status of existing theories and then it has various examples. One of those is the theory of evolution. So pursuant to that particular part of the standards, it's encouraging students to critically evaluate the status of a theory. In this case, the theory in question is evolution.

And then finally, there was a part of No Child Left Behind that talks about the issue of discussing with students contemporary issues and controversies surrounding contemporary issues, and so this policy is consistent with that understanding from No Child Left

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Behind.
Q Anything else?
A Oh, I guess the last thing would be the policy also talks -- well, I guess I already addressed that, the idea of critically evaluating the status of existing theories, the notion that the theory of evolution is, as the National Science Education Standards call it, incomplete, so helping students understand that it's not fact, ironclad, but in fact is a developing theory.
Q So that would be -- that last one would be your fourth point on page 3 of your expert report?
A Correct, right.
Q Your report also mentions introducing multiple ways of knowing?
A Yes.
Q You didn't discuss that. Is that an opinion you still hold?
MR. THOMPSON: The first page.
A Oh, yes, correct, right, yep.
BY MR. WALCZAK:
Q Explain that to me?
A The three dollar word is epistemology. I define that in my research and stats class just as you said it, there are multiple ways of knowing and describing the world, reality, if you will, and there are different

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understandings amongst different members of the community, research community, and outside of the research community, as well, so introducing students to this awareness, this understanding that there are multiple ways of knowing, there are different epistemologies.
Q Is that concept appropriate in science class?
A It's appropriate in any class, in any curriculum, pedagogy, that students understand the different ways of knowing and understanding.
Q We're going to come back to that.
Do you have kind of -- I mean, it strikes me these are all sub-opinions of your grand opinion, which is that teaching problems and gaps in the theory of evolution, making students aware of alternative theories such as intelligent design, and making resources available to students to pursue independent inquiry promotes legitimate pedagogical and educational goals, and therefore enhances student learning.
Is that kind of your penultimate conclusion here?
A I assume you're reading from the report?
Q I'm reading from what I think is your report. That would be on the second to last paragraph on page 4.
A Um-hmm. I'm sorry, yes.
Q And that's kind of your penultimate conclusion?

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A Correct.
Q Any other opinions that you have formed for this case, anything since you wrote the report?
A No, I think we should leave it at that.
Q When you say "leave it at that," so you have no other opinions that you're prepared to advance about this case?
MR. THOMPSON: Objection. It's a vague, ambiguous question.
If you can answer it, go ahead.
A I guess that's why I'm somewhat equivocating, because I'm not sure I understand what you're asking.
BY MR. WALCZAK:
Q We've just discussed what I'm calling your penultimate opinion and a number of sub-opinions, is that a fair assessment? I mean, you talk about promote critical thinking, you talk about encouraging students to assume responsibility, alignment with Pennsylvania state science standards, alignment with No Child Left Behind, accuracy in helping students understand that evolution has gaps and problems, promote multiple ways of knowing, with kind of the penultimate standard that the Dover policy and ultimate opinion that the Dover policy in fact is sound pedagogy?
A Correct.

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Q Are there any other kind of ultimate opinions, as I call them, or sub-opinions that you would like to add?
A Not at this time.
Q And if at some point you come up with more, of course, you'll let counsel know and counsel will let us know?
MR. WALCZAK: Is that a yes?
MR. THOMPSON: Yes, if you ask the question. Now, what I'm objecting to, it's such a vague question that if you ask him does he have an opinion on a particular topic, I think he can answer, but when you have such a general question, it's pretty hard to answer.
MR. WALCZAK: Right now what I've gotten is that Dick has agreed, in essence, that his opinions are what they've been stated in the report. To the extent they go broader than that, I'm asking that you advise me of that fact and then we can decide whether or not to resume the deposition.
MR. THOMPSON: Correct. Fine, we can do that.
BY MR. WALCZAK:
Q What I'd like to do now is to explore everything you did to come up with your opinions in this case, what is it that you looked at, why you looked at it, and when. So why don't you take me through sort of what you did to come up with these various opinions we've just discussed?

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A Okay. Well, first was to look at the policy and the statement that's read to the students and the press release that was pursuant to that.
Q Let me stop you. I'm going to probably interrupt a lot here and I apologize.
A Okay.
Q I think we need to get some definition.
When you say look at the policy, what are you referring to?
A The policy that was part of the press release as it's written, students will be made aware of gaps and problems in Darwin's theory and of other theories of evolution, including but not limited to intelligent design, the origins of life is not taught.
Q So you looked at the November 19th press release?
A The statement included within -- yes, ultimately, yes, correct, I was looking at the press release, and then the policy statement that was part of that press release, and then the statement that is read to students, as well, which again is part of that press release. So that's what I mean by policy and then the statement that's read to students.
Q What else did you look at to consider the policy?
A Obviously, the press release. And then I did some literature review on --

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Q Let's stop with the policy here. So you looked at the November 19th press release which includes that four-paragraph statement that teachers read to students?
A Correct.
Q Did you look at the Board resolution passed on October the 18th?
A If you're referring to this statement? Right there?
Q I'm not sure what "this" is.
A "This" being students will be made aware of gaps, et cetera, et cetera.
Q Okay. So that does -- the press release includes that October 18th --
A Policy statement.
Q Right. Anything else you looked at?
A So then we -- I looked at -- did a literature -- well, a literature review, I guess, one might call it pursuant to the issue at hand. As I listed in my report, I looked at the Pennsylvania state standards, specifically those that are related to science and technology. In preparation -- I assume you're talking about in preparation for the report?
Q Um-hmm.
A Okay. Also in preparation for the report I looked and read through Dr. Behe's expert report which was available at that time. I also looked at an excerpt

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from the course text.
Q What specifically did you look at?
A The portion of the book that talks about evolution specifically. There's a page in the book that tells readers this idea that evolution is a developing theory, that there are questions, gaps, and so forth.
Q So the book is the Levine and Miller textbook?
A That is correct.
Q And did you look at just that page or did you read the entire chapter?
A At that time, I looked at that page.
Q Which page is that, do you know?
A Page 386.
Q So that's the only page of the book that you looked at?
A For the report, yes.
Q And how did you decide to look at page 386?
A It was brought to my attention that in the book there was reference to this particular issue around evolution.
Q Who brought it to your attention?
A One of the attorneys for the defense.
Q Who was that?
A Robert Muise.
Q And what did you learn on that page?
A Essentially as I described it, that Miller and Levine -- or Levine, I don't know which is -- how he

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pronounces it, essentially as it describes, that evolution is a developing theory, and that as new data are released, that the theory continues to evolve, no pun intended.
Q Was that something new to you?
A That evolution is a developing theory? No.
Q So I guess I'm not sure why you read it and what was the significance of that page for you?
A Well, it was understanding that in the course text, there is something related to the policy that the School Board passed.
Q And so you didn't read the rest of the book?
A Not in detail, no.
Q Did you read it at all?
A The entire rest of the book?
Q Yeah.
A I mean, I skimmed portions. Not for the report, after.
Q Why did you do it after?
A To come to an understanding of kind of the tenor, the text of the rest of the book, what it covers and so forth.
Q But you didn't do that before you wrote the report?
A I didn't have it available to me before the report.
Q So the only thing you had available to you was that one page that you got from Mr. Muise?

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A Correct.
Q What else did you look at?
A Well, the various references from the literature review that are included in the report.
Q So that would be the references on Exhibit 1 at the bottom of page 4?
A Correct. And then there are, obviously, others as part of a literature review that you skim or read but don't necessarily reference.
Q Let's go over those. What else did you skim or read to prepare for this report?
A Other various articles related to what you see here in the references.
Q References -- I'm sorry, you've got to unpackage that for me.
A Sure. The references on page 4, there are other articles that are related to things that you see here. For instance, Petress, Ken Petress's work, there are other references that said very similar things to Petress. I didn't reference those because it would be redundant.
Q What I'd like to do is go over those. What were those sources?
A I couldn't even tell you. I couldn't tell you by name.
Q Why?

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A Oh, I didn't commit them to memory.
Q Are these not well known --
A Well, very few of these would be well known to the general public. I only referenced or was prepared to talk about those things that I've cited specifically. In a literature review, you'll typically skim or read through tens, dozens, scores, hundreds of different things, but that doesn't necessarily mean you've prepared to be conversant about those that you didn't necessarily reference.
Q Which ones did you end up consulting to write this report?
A Those that are listed in the reference section.
Q It's really important for me to understand what else you looked at in trying to figure out this report. I mean, what kind of texts are we talking about?
A Well, that's what I'm saying, when I say they're related to what you see here, they're things that are like what you see in the reference section, so they're articles like you see listed here or book chapters like you see listed here.
Q But you can't name any others that you consulted?
A How do you define "consulted"?
Q Read, skimmed, looked at in preparation for this report.
A No, I could not, I did not commit them to memory. You have to understand, in a literature review, you skim or read just gobs of things, but you're not necessarily prepared to use them, you're just looking to make a value judgment, would I use this, is this good, bad information, is it related to this. Because when you're doing a literature review, you see a title in a data base and the title may be something that would relate to this topic and it may not be, so you have to inevitably open it and skim it to see, okay, is this related, is it not related.

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Q So the seven references listed on page 4 of your report, those are the key pieces of literature that you actually consulted and relied on in producing your opinions?
A Correct.
Q What else did you do to prepare for this report?
A Well, inevitably there's kind of the thinking and analysis that goes into it, so taking into account these things that you see listed here, taking into account my own --
Q Wait. When you say "listed here," what are you --
A I'm sorry. The references on page 4.
Q Okay.
A The experiences that I have had as a principal, things that I've written about or taught or read just in general about pedagogy and learning and leadership and decision-making and so forth, through that frame or that filter came to conclusions and analyzed those into this report.
Q Did you look at anything else?
A By anything else, do you mean other references?
Q Did you talk to anybody about this matter?
A By anybody, what do you mean by anybody?
Q The world.
A That's pretty big. If you mean any --
Q Did you talk to a lot of people?
A No, certainly not.
Q Who did you talk to in thinking about what you say in this report?
A Obviously, I was talking to the counsel for the defense to understand what was going on.
Q Is that Mr. Muise?
A Correct.
MR. WALCZAK: And I think we have an agreement that we're not going to inquire as to communications. Is that your understanding, Dick?
MR. THOMPSON: Correct.
BY MR. WALCZAK:
Q So you talked to Mr. Muise?
A Um-hmm.
Q Who else did you talk to?

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A That was it.
Q That was it?
A Yep.
Q Did you talk to anybody else at your school?
A No.
Q Did you go to any conferences about this?
A Specific to this? No.
Q Is there anything else that you feel that you need to do before you go to trial and testify on this case?
A Well, having never done that --
Q "Done that" being?
A Being gone to trial to testify in a case, I don't know that I -- it would all be theorizing at this point, it would all be supposition.
Q How comfortable are you with your opinions here?
A Well, comfortable enough that I would put them in print.
Q So you're certain that you've come to the right opinion here?
A As certain as one can be with available information.
Q And the available information is what you've looked at here and what we've just discussed?
A Correct.
Q Well, let me rephrase my last question. And Dick Thompson will certainly correct me if I'm misadvising you here. But right now we're scheduled to go to trial

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on September the 26th. It doesn't look like there's going to be an amicable resolution to this, so we're pretty much expecting this is going to go to trial. You're going to be asked to come to the stand presumably, I don't know that you're committed to do that, but we expect that you will be called to present these opinions in court. Again, you'll be under oath and there will be a judge.

Is there anything else that you would do that you haven't already done to prepare yourself for that trial?

A Well, again, I'm just theorizing, I'm guessing. I would be interested in certainly reading through other depositions and seeing what others have to say.
Q When you say other depositions, whose depositions?
A Of the expert witnesses.
Q Why?
A Just as I read all of the expert reports after this report, I've come to some understanding of the facts in the case and other opinions in the case.
Q So you've in addition to the things we've discussed, since the report, you have read which expert depositions?
A All of them.

MR. THOMPSON: He meant expert reports. I thought you said depositions.

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MR. WALCZAK: I did say depositions, but thank you, I stand corrected.

BY MR. WALCZAK:

Q What else have you done since you produced the report and prior to coming here today, what else have you looked at or read in relation to this subject?
A I read through the National Science Education Standards.
Q So you read those after you submitted the report?
A Correct. Did a little bit more literature review.
Q What did you find that you thought was relevant?
A There were a couple of articles examining the testability of evolution, so there were some authors discussing that. Also looked at some contemporary newspaper articles around the issue as it applied to other areas.
Q What do you mean, other areas?
A Other parts of the country.
Q Can you tell me what those articles examining testability of evolution were?
A By name?
Q Um-hmm. Or by author.
A Sure. One of them is by Penny, Hendy, and Poole.
Q How do you spell that?
A Penny is Penny, P-e-n-n-y. The next one is Hendy, H-e-n-d-y. And the final one is Poole, P-o-o-l-e.

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Title, Testing Fundamental Evolutionary Hypotheses.
Q Do you know when that was put out?
A I do. 2003.
Q What did you find significant about that article?
A Did you want the other one first or --
Q No, let's do that and then we'll come back and do the other one.
A Okay. It might be helpful to do the other one first because that was written in response to the first one. This is a -- Penny and Hendy were writing in response to Sober and Steel.
Q The other one was what?
A Sober, S-o-b-e-r, and Steel, as you would expect it, without -- S-t-e-e-l.
Q Okay.
A Title, Testing the Hypothesis of Common Ancestry.
Q And the date on that?
A 2002.
Q And what did you find significant about Sober and Steel?
A Okay. Sober and Steel, as the title implies, were taking the issue of common ancestry and looking to see is it a testable theory. If it is testable, how might one test it. And they came to the conclusion that it is an intrinsically difficult theory to test.
Q Okay. Anything else?

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A I mean, obviously, it was a long article, but that's probably the biggest upshot of the article.
Q Was it impossible to test or difficult to test?
A No, they said intrinsically difficult.
Q How did you find this publication?
A Through a literature review.
Q Why did you select it?
A Because it was an example of scientists who are currently discussing certain tenets of evolution.
Q What do you mean, currently discussing tenets of evolution?
A It's obviously a contemporary discussion within the community.
Q And what is it that they're discussing about evolution?
A In this case, they were discussing -- the authors were saying that the issue of common ancestry is one of the features of evolution, and their word was it is an assumed feature of evolution, and that because it is assumed, scientists need to check their assumptions. And so in this case, they were testing their assumption, or that assumption.
Q And found that it was intrinsically difficult to test?
A Correct.
Q Is there some implication to that?
A Well, the authors are saying we need to be aware of our

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assumptions, and if we have assumptions about things that are difficult to test, how solid can our assumptions be. And I'm paraphrasing the authors.
Q And do you agree with that?
A Certainly in the general sense, yes. If we have assumptions that are difficult to test, one needs to think critically about our assumptions.
Q Anything else on Sober that you found significant?
A No. I mean, well, I wouldn't say no. It was interesting. But not pursuant to this.
Q And so then you read the Penny book, which was, I guess --
A It's an article.
Q It's an article?
A Yeah.
Q And what were they talking about there?
A They were responding by saying -- first, they were confirming things that Sober and Steel said, yes, it is an assumption, or yes, the science community often assumes this. They commended them for raising the issue and recommended others do likewise. And then they went on to examine Sober and Steel's supposition, the idea that it's intrinsically difficult to test, and recommended how one might go about testing it. And then they also said -- after they kind of lay out their

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recommendation for testing, they say here's how you might use this recommendation in other ways with other alternatives, so they demonstrated or illustrated upon other alternatives, including intelligent design.
Q What did they say about intelligent design?
A They were -- they didn't really say -- I mean, it wasn't an article about intelligent design, it was just taking their hypothesis and applying it to intelligent design.
Q So they're saying the same kind of test could be done for intelligent design?
A Correct. Yeah.
Q So how would that test work?
A Do you want to talk about it in detail, the particular test?
Q What could you tell me about it, how would you test intelligent design?
A I don't know that I'd want to be speaking on behalf of Penny and their test, that's not my expertise.
Q What's not your expertise?
A Their particular hypothesis and so forth.
Q Can you summarize it for me, how you would test for intelligent design?
A I would have to have it in front of me to kind of walk you through it.
Q Do you have it?

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A Only in electronic version on my laptop.
Q What do you remember?
A Again, I didn't commit it to memory.
Q Well, what do you remember?
A Pretty much what I've explained to you, the idea of testability, that was the critical issue in the article.
Q But you don't remember how you could test it?
A I'd have to go back and read it. That's not something I committed to memory.
Q So you do not remember how --
A Correct, I didn't commit it to memory.
Q Let's go back to National Science Education Standards. These are all things you looked at after you produced your report?
A Correct.
Q Why did you go back and look at these things?
A I was asked to craft a rebuttal to some points.
Q Who asked you to do that?
A The counsel for the defense.
Q And what were you asked to craft a rebuttal to?
MR. THOMPSON: Objection, attorney work product. This is conversations he had with an attorney.
MR. WALCZAK: Have you all submitted a rebuttal?
MR. THOMPSON: I think there were rebuttals that were going to be submitted yesterday. I haven't seen

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them, but I know --
MR. WALCZAK: Because we submitted one.
MR. THOMPSON: Okay. I believe that Mr. Muise and Pat Gillen were working on submitting rebuttals, I think yesterday was the last day. I don't want to mischaracterize what the status is. So I think that rebuttals were submitted. Now, I don't know if a Dick Carpenter rebuttal was one of those submitted.
And you can respond yes or no on that. I don't --
A My understanding is that it was.
BY MR. WALCZAK:
Q It was?
A That it was faxed -- I faxed it yesterday before I got on the plane.
MR. WALCZAK: I don't think we want to do this again, we've --
MR. THOMPSON: Right.
MR. WALCZAK: -- had enough depositions. Can we get a copy of that maybe faxed here so that I could look at it and maybe ask some questions about it this afternoon if in fact you have submitted that?
MR. THOMPSON: Do you want to take a break right now?
MR. WALCZAK: Why don't we --
MR. THOMPSON: If we wait -- we can go some more

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and then I'll call the office and do that.
MR. WALCZAK: Let's do that. Do you object if I ask him about the scope of the rebuttal?
MR. THOMPSON: See, I don't know if they even submitted the rebuttal, so that's the question I -- you might want to wait for me to make the call. If they have in fact submitted a rebuttal, then I don't have any problems with you asking him questions about the rebuttal.
MR. WALCZAK: I think it makes senses, let's take five minutes.
(Discussion held off the record.)
BY MR. WALCZAK:
Q So you were asked to prepare a rebuttal report. A rebuttal to what?
A They didn't specify specific points, they just merely said from based on what you've read, could you prepare a rebuttal.
Q And what do you mean, read what, the --
A Expert reports.
Q -- expert depositions?
A Expert reports.
Q I'm sorry, expert reports.
So were you responding to Ken Miller or were you responding to some of the other experts?

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A Some of the others.
Q And which experts were you responding to?
A Specifically, Doctors Alters and Padian. Is that how -- is that how he pronounces his name?
Q And generally -- we'll come back to this when we get the report, but generally, what did you say in this -- what are your further opinions that are advanced in that report?
A They were pretty consistent with the things that I already talked about in my first report, the idea that in this case, this policy is telling students that -- or raising awareness amongst students that theories -- or that evolution is a theory rather than a fact, and that that's consistent with the National Science Education Standards, for example, the course text and so forth, so it's not something that the School Board conjured up, that it was consistent with other sources.
It talked about how the idea of raising awareness of alternatives again is consistent with things within the National Science Education Standards, also consistent with other actions around the country that are at the center of different discussions and debates around the country.
Also talked about the idea that critical thinking, again, is consistent with the National Science Education

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Standards. And then finally -- and then that's where I introduced the discussion around Sober and Steel and Penny, Hendy, and Poole. And then finally talked about the idea that evolution is what's being taught in the classroom.
Q What do you mean by that?
A Meaning that's the focus of the biology class, it's consistent with state standards that they're teaching evolution, I mean, that's what the students are learning, that's what they're being tested on and so forth.
Q So what's the point of the policy?
A The point of the policy is to, again, help students understand that evolution is a developing theory, the National Science Education Standards call it incomplete, that's the word that they use, helping the students to understand that it's a developing, incomplete theory. Number two, encouraging students to think critically about what they're learning, help them to assume some ownership over what they're learning. So that's the idea.
Q Did you read all of the National Science Education Standards?
A Correct.
Q From start to finish?

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A From introduction to Chapter 6 or whatever it was.
Q Is that the first time you've read them?
A It's the first time I've read them all the way through.
Q And do you know what they said, if they said anything, about teaching intelligent design?
A They did not.
Q Did they say anything about teaching creationism?
A They did not. Well, they might have said something about creationism. I'd have to go back and look.
Q Did they say that -- so they didn't mention intelligent design?
A No.
Q So they didn't say that introducing students to intelligent design was something that's appropriate?
A No.
Q So you looked at the National Science Education Standards, Sober and Steel, Penny, Hendy, and Poole. Sounds like a law firm.
Anything else you looked at?
A I mentioned a couple of newspaper articles.
Q Did you consult with anybody for the second report?
A No.
Q Except the lawyers for Thomas Moore Law Center?
A Well, other than they asked me to do it, that was it.
Q Did you talk to any of your colleagues in the education

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field?
A No.
Q I want to talk about the literature that you either reviewed or are aware of, starting with the literature that supports intelligent design. I know you've mentioned you had read Professor Behe's expert report, correct?
A Yes.
Q What other literature did you read that supports intelligent design?
A That was it.
Q Ever?
A Ever? Certainly not ever.
Q Tell me what are the most important books or articles about intelligent design?
A In existence?
Q Um-hmm.
A Well, there were articles about intelligent design that were referenced in one of the expert reports.
Q Have you read these?
A Those -- are you asking me those that I've read? Oh, I'm sorry, no, I did not read those that were referenced in that report, no.
Q So would you say that you're familiar with the whole theory of intelligent design?

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A "The whole theory" meaning?
Q Well, the theory of intelligent design?
A A familiarity, yes. Certainly not an expertise.
Q And your familiarity is based on having read Michael Behe's expert report?
A Well, you had asked me earlier what I had read in relation to this report.
Q Right. Have you read anything else about intelligent design besides Michael Behe's report?
A Just in life?
Q Yeah.
A Yes, certainly.
Q What are the most important things you've read about intelligent design?
A I don't know if I'd classify them as most important, but I've read articles talking about the controversy, talking about the issue as it's unfolded in Ohio, for example, and now as it's unfolding in Kansas, and so articles related to that, for example.
Q So those would be news articles?
A Some news articles, some magazine articles.
Q Have you read any articles or books about intelligent design theory?
A You mean kind of in-depth?
Q Yes.

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A No.
Q So the only thing you've read that kind of explains intelligent design itself as opposed to the controversy is Michael Behe's expert report that he submitted in this case?
A Well, I mean, the other articles in reading about the issue of evolution versus intelligent design and so forth, inevitably, they have to define what is intelligent design and so forth.
MR. THOMPSON: This is not an objection, but I just wanted to get clear in my own mind the scope of the question, because I think earlier Dick Carpenter mentioned that he read all of the expert reports, and most, if not all of those expert reports discussed intelligent design, and now he's focussed on just Michael Behe. I just want to make sure the record is clear on that. He's read all of the expert reports and those reports also talk about intelligent design.
Is that accurate?
THE WITNESS: Yeah.
MR. THOMPSON: Okay. I sort of kind of missed that point.
MR. WALCZAK: Fair enough.
BY MR. WALCZAK:
Q And I have a series of questions like this I'm going to

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ask you about different topics, but let me just say that I'm asking about books or articles that you have read any time, already understanding that you have read all of the expert reports. So I'm looking for other stuff.

So is it fair to say that the Behe report in this case is probably the most authoritative thing you've read discussing intelligent design theory?

A Authoritative? How are you defining "authoritative"?

Q Is that the article that you think best explains intelligent design?

A I don't know if I'd say best explains. I mean, there are others that seem to explain it just as effectively.

Q Such as?

A I recall some years ago reading an article by a gentleman by the name of Mark Hartwig who discusses the issue of intelligent design.

Q Was that in a Focus on the Family publication?

A No, I think that was something he had written elsewhere.

Q What did you learn from that?

A Just an understanding of what intelligent design is, what it is not.

Q Let me ask you, what have you read that criticizes intelligent design?

A Well, certainly the expert reports would be included in those.

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Q And that would be the plaintiffs' expert reports?

A Correct. Yeah, thank you. Thank you for clarifying.

Q I was wondering if I missed something in there.

Anything else you've read that criticizes intelligent design?

A Again, when you're reading about the controversy or the debate or discussion, however you want to classify it, inevitably you'll read different perspectives or I've read different perspectives amongst those, as well.

Q Have you read articles that would be more scientific that address, let's say, gaps and problems with intelligent design theory?

A By scientific, do you mean peer-reviewed, is that what you mean?

Q Sure, yeah.

A No, I wouldn't classify what I read as peer review.

Q As not peer review?

A Correct, I would not classify them as peer review.

Q Have you read any articles by scientists criticizing intelligent design?

A Correct, I would say they were scientists. They work in the science community.

Q So you have read articles by scientists criticizing intelligent design?

A Right, but that doesn't necessarily denote that they

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were in peer-reviewed publications.

Q And do you remember what any of those were?

A No.

Q And do you consider them reliable?

A "Reliable" meaning?

Q Good sources, good arguments?

A The sources -- if you're talking about the sources, the sources are credible, certainly.

Q The source is credible.

Did you consider the arguments to be credible?

A Do you mean credible as in --

Q Do they make sense?

A Well, certainly they were clear, yes.

Q They were clear. Did they make sense to you?

A Make sense, does that mean I agreed with them or --

Q Yes.

A That doesn't necessarily mean that I agreed with them, but certainly, they were clear.

Q Do you personally believe in intelligent design?

A "Personally believe," how do you define that?

Q Do you believe in intelligent design?

A I guess I -- the word I'm keying on is not "intelligent design," it's "belief."

What do you mean by "belief"?

Q Do you personally -- some people believe in evolution,

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some people believe in intelligent design, some people believe in Raelism.

What do you believe?

MR. THOMPSON: I mean, that's a pretty general question. Again, can you rephrase it to a specific point?

BY MR. WALCZAK:

Q Let me just ask you.

Do you believe in evolution?

A What part of evolution?

Q Why don't you tell me what you believe about evolution?

A Okay. If you're asking me do I believe in change over time, there certainly seems to be evidence of change over time in lots of different areas, science, sociology, et cetera, et cetera.

Q Do you believe in descent with modification?

A What kind of modification?

Q Well, it's a scientific term.

Do you believe in natural selection?

A I guess I'm still coming back to "belief." Do you mean -- how are you defining "belief," I guess?

Q What views do you hold about how we got here today, what views do you hold on the origin of life?

A I guess the best way to define my beliefs would be to say it is a bit of an open question at this point.

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Q Open between what, what are the -- what are the things that you're open about?
A Meaning somebody would say, as you had said, do you believe in this or how did we come to be? Often my answer is I don't know. I don't know.
Q Do you believe in God?
A The existence of God? Certainly.
Q Do you believe God created the universe?
(Deposition interrupted.)
MR. WALCZAK: Would you read back the last question?
(Record repeated.)
A That is consistent with my faith system, yes.
BY MR. WALCZAK:
Q And when did God do that, approximately?
A I have no idea.
Q How old do you think the earth is?
A Again, I don't know.
Q What does your faith system tell you?
A My faith system doesn't necessarily say.
Q Doesn't necessarily say. Does it say at all?
A No.
Q I don't want to get into your personal religious beliefs. Let me just ask you what -- do you go to church? I mean, what is your faith?

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A In answer to your first question, yes, I do go to church. And the second would be typically classified as Christian.
Q Is there a -- I mean, that's broad. Is there something --
A Yeah, it is broad, that's why I say typically classified.
Q I mean, Presbyterian or Episcopalian?
A No, I don't subscribe to a denomination.
Q So you don't have any personal belief about how old the earth is?
A Not necessarily.
Q Well, do you -- well, not necessarily. Do you have any belief about how old the earth is?
A No.
Q Is that something you ever think about?
A No, it isn't.
(Deposition interrupted; discussion held off the record.)
BY MR. WALCZAK:
Q Do you believe that evolution actually took place or takes place? Do you believe in the fact of evolution, is evolution a fact?
A Well, that seems to be the central issue here, but what part of evolution are you --

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Q Do you dispute the occurrence of evolution?
MR. THOMPSON: Objection here because I think he's raised a good point. There's several different aspects of evolution and that question is misleading, so I would object as being vague and misleading and ambiguous.
BY MR. WALCZAK:
Q If I ask you to define evolution, how would you do that?
A Well, I think in the most general sense, one could define evolution as change over time.
Q Do you know what I'm talking about when I say micro and macroevolution?
A Correct, yes.
Q And so what is microevolution?
A Genetic change within a species.
Q And what is macroevolution?
A The development of new species from a different ancestor, for example.
Q Do you believe in microevolution?
A I don't mean to equivocate, but believe in?
Q Do you think that microevolution occurs?
A Do I think it does? Do I think in a professional sense, in a personal sense, in a religious sense?
Q How about professional?
A I don't know that I could render an expert professional opinion on whether in fact it is a fact.

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Q Why?
A Because that's not my area of expertise.
Q Well, you're here testifying that evolution -- that teaching gaps and problems with evolution is a good thing to do?
A I'm here testifying to the fact that that is currently an issue within the scientific community and that students ought to be made aware of that.
Q But you are -- you're not a scientist?
A Correct. Not in the sense as we're defining it here.
Q So do you professionally think that macroevolution takes place or took place or and is taking place?
MR. THOMPSON: Objection. I think he made it clear that he is not a scientist and he doesn't want to render scientific opinions.
BY MR. WALCZAK:
Q Do you think the theory of gravity is a legitimate theory?
MR. THOMPSON: I'd object to --
BY MR. WALCZAK:
Q Do you --
MR. THOMPSON: The theory of gravity, whether it's a theory or a law, I don't know, but --
BY MR. WALCZAK:
Q The theory of relativity, do you quibble with the theory

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of relativity?
A Again, I couldn't render a professional opinion about the theory of relativity.
Q Because?
A Because again, that's not my area of expertise.
Q So you don't -- I mean, if I ask you to tell me what are the gaps and problems in evolution that Dover students should be taught, how would you answer that?
A That within the evolutionary trail, if you will, particularly macroevolution, that there appear to be gaps between species, there's no ancestor or bridge across those gaps.
Q And how do you know that?
A From reading, again, about macroevolution, microevolution, and understanding what it is.
Q And do you agree with that?
A Do I agree with?
Q That there are problems with macroevolution?
A It appears to be so, that there appear to be these gaps, yes.
Q But you don't have independent scientific expertise to evaluate that?
A That's why I say it appears to be.
Q So what is the basis for your saying that?
A Again, in reading about the definitions of evolution,

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reading about the issue, the debate, et cetera, et cetera.
Q What literature can you point me to that you've read that raises these problems with macroevolution?
A One of them was an article that I mentioned earlier by Sober and Steel.
Q Anything else?
A Certainly the expert reports on both sides.
Q When you say both sides, what did you find in the plaintiffs' experts reports to support your opinion here?
A They acknowledged that -- in talking about the controversy or debate or discussion or whatever you want to call it, they're kind of defining terms, this is what macroevolution is, when people talk about gaps, this is what they mean, so forth.
Q And have you read literature that questions whether macroevolution occurred?
A The one I mentioned earlier, Sober and Steel, for example, they're talking about this is an assumption, we ought to test this assumption, et cetera.
Q Anything else?
A Certainly articles that I've mentioned already that talk about the issue.
Q So it seems to me kind of the universe of your knowledge

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about intelligent design and evolution here are the expert reports, the Sober and Steel article, and the law firm type sounding article, Penny, Hendy, and Poole. Is that kind of the universe of what you've looked at here in preparing these opinions?
A Well, in preparing the report specifically.
Q Had you ever studied evolution before you were asked to do this report?
A Studied in what sense?
Q Any sense.
A Read about it? Certainly.
Q Did you take classes in college, did you take biology classes in college?
A Yes.
Q During graduate work?
A During undergraduate work.
Q Were you taught intelligent design as an undergraduate?
A I doubt it. I don't think so, let's put it that way.
Q Can you identify any literature that would support the existence of macroevolution?
A Ask the question again.
Q Can you identify any literature that argues in favor of macroevolution happening?
A Not necessarily, no.
Q You can't?

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A Not off the top of my head.
Q Have you read any?
A Clearly, I mean, there are people out there, and I've probably read it in the course of my life, but I couldn't spout them, I haven't committed them to memory.
Q Have you read any peer-reviewed literature that supports intelligent design?
A No.
Q Are you aware of any?
A I'm aware of those that were highlighted in the expert report, or one of the expert reports.
Q Whose report is that, do you remember?
A I'm guessing it was Dembski's, but that's only a guess.
Q You're not aware of any other peer-reviewed literature about intelligent design other than what's referenced in any of the expert reports?
A Correct.
Q Have you read any of the peer-reviewed literature that may be mentioned in those reports?
A As I said earlier, no.
Q Is peer review important?
A It's important in some settings, yes.
Q What settings is it important in?
A It tends to be important in research communities.
Q Why?

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A The idea in peer review is that your work is read and reviewed by, in theory, a group of your peers, and that, again, in theory, gives it a measure of credibility.
Q Besides credibility, does it do anything else? I mean, I note that on your list of publications on the vita you distinguish peer-reviewed from non-peer-reviewed?
A Correct.
Q So besides kind of the stamp of approval or whatever you want to call it, credibility, what else does peer review do?
A It's a -- in some ways, for lack of a better word, it's a service to the authors.
Q What service is that?
A In that when you're preparing work and you submit it to a journal and it goes through this process, they give you feedback on what you write, so the service that it provides is that this feedback is designed to strengthen your article.
Q And you're not aware of any peer-reviewed literature on intelligent design other than what's been mentioned in the expert reports?
A Correct.
Q And you haven't read any peer-reviewed literature on intelligent design?
A Correct.

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Q Have you read any peer-reviewed literature on evolution?
A In life or in preparation for this report?
Q How about in preparation for this report?
A Not specifically, no.
Q In life?
A Inevitably, yes.
Q Do you remember what you've read?
A No.
Q What would you say are the most prestigious science academies or societies in this country?
A Probably the National Academy of Sciences, that's one that comes to mind immediately.
Q Can you name any others?
A I list a few in relation to the National Science Education Standards. National Science Foundation. National Research Council.
Q Did you consult the National Academy of Sciences' literature in preparing -- when I say "report" now, I'm going to mean either report. Did you consult the National Academy of Sciences' publications prior to preparing your opinions?
A The National Science Education Standards are available through the National Academy of Sciences through the Academy Press, if that makes sense.
Q So it's an arm of the National Academy of Science?

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A Right, it's kind of an extension.
Q And do you know, does the National Academy of Science have a position on the teaching of intelligent design?
A I think that was included in Alters' report, if I remember correctly, but I'd have to go back and --
Q Well, do you know? Did you look at what the National Academy of Science has said about the teaching of intelligent design?
A Only in that I read it in the Alters report.
Q So you did not consult, other than the standards, you did not consult the literature put out by the National Academy of Science?
A Correct.
Q And that would apply either to the teaching of evolution or intelligent design?
A Correct.
THE WITNESS: Could we take a break?
MR. WALCZAK: Please.
THE WITNESS: Thank you.
(Short recess.)
BY MR. WALCZAK:
Q Do you know if the National Academy of Science has taken a position on the teaching of intelligent design?
A If it's included in the Alters report, then --
Q Well, I'm asking what you know.

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A I'd have to consult the report to know for certain.
Q So what do you know as we sit here right now, does the National Academy of Science support the teaching of intelligent design?
A Again, I don't know for a fact, but I think there was a position taken that was listed in the Alters report.
Q And what's that position?
A If I'm remembering correctly, I think their position was they didn't necessarily endorse the teaching of intelligent design.
Q Have you gone back and looked at the National Academy of Science position since you read Dr. Alters' report?
A No.
Q Do you know whether the National Academy of Science has taken a position on whether a student should be taught that there are gaps and problems in evolution?
A I don't know.
Q Do you know whether the National Academy of Science has taken a position on what you call the controversy in the scientific community about intelligent design?
A I don't know.
Q Do you know whether the National Science Foundation has taken a position on intelligent design?
A The same answer as I gave the National Academy of Sciences.

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Q But that's not something you've consulted in rendering your opinion?
A Correct.
Q And the National Research Council?
A Correct, again, the same thing.
Q When I say AAAS, do you know what that means? What does that stand for?
A I don't know.
Q So you don't know what AAAS stands for?
A Correct.
Q How about the American Association for the Advancement of Science, did you ever hear of them?
A By name, yes.
Q Did you look at whether they have any position on the teaching of intelligent design?
A No.
Q Can you point me to any science foundations, academies, societies that support the teaching of intelligent design?
A No.
Q You cannot?
A No.
Q Did you consult any science education societies or academies or organizations?
A By consult?

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Q Did you look to see what their positions were on the teaching of intelligent design, on teaching gaps and problems in evolution, or in discussing the so-called controversy in the scientific community?
A Insomuch as the National Science Education Standards were crafted, I guess, by members of various organizations, some of which we've mentioned.
Q Have you ever heard of NSTA?
A National Science Teachers Association.
Q Do you know if they have a position on the teaching of evolution?
A Again, only in what I read through the Alters report.
Q So you didn't look at what the NSTA position was on the teaching of evolution before preparing your opinions?
A Other than reading what I read in the report, Alters' report, of course, which was after my initial report.
Q I thought they were contemporaneous.
MR. WALCZAK: Your reports weren't due after ours.
MR. THOMPSON: His report came in after, I think, Alters' report.
MR. WALCZAK: Ours went out on the deadline.
MR. THOMPSON: I'm not positive.
BY MR. WALCZAK:
Q But you have not gone, for instance, to look at the NSTA web site?

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A Are you asking me have I visited their web site?
Q Yes.
A Well, certainly I've visited their web site.
Q And on their web site, they have various publications?
A Um-hmm. Correct, sorry.
Q And they have a publication about the teaching of evolution. Did -- I'm telling you they do.
A Okay.
Q Did you look at that publication?
A Is there a specific publication? I mean, was there a title to it?
Q It's a publication about the teaching of evolution. It's called The Teaching of Evolution.
A Just as you said.
Q Did you read that position statement?
A No.
Q Have you read it since you read Dr. Alters' report?
A No.
Q Have you read it ever?
A No.
Q So you don't know what position the National Science Teachers Association takes on intelligent design?
A Insomuch as what was reported in the Alters report.
Q But you don't know firsthand --
A Correct.

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Q -- from having --.
Is the National Science Teachers Association a prestigious organization in your view?
A Prestigious meaning?
Q Is it a respected association?
A Presumably.
Q It's not somebody you work with in your line of work?
A No.
Q Are you familiar with the NABT?
A National American -- or Association of Biology Teachers.
Q Are you aware of whether they have taken an official position on the teaching of intelligent design?
A Not firsthand.
Q They have a publication about the teaching of evolution. Did you look at that publication?
A No.
Q Do you know what position the NABT takes about so-called teaching the controversy?
A I do not.
Q Or teaching that there are gaps and problems with evolution?
A No.
Q Can you point to any science education organizations, societies, academies, that support the teaching of intelligent design?

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A No.
Q So every major science academy, foundation, organization, and every important science education organization opposes the teaching of intelligent design?
MR. THOMPSON: Objection. A fact not in evidence. You used the word "every." We don't know if that includes every, just the ones that you've mentioned.
BY MR. WALCZAK:
Q Well, let me ask you.
Please identify any science organizations, associations, academies that support the teaching of intelligent design?
A Well, I think you already asked me that, and I said --
Q And you couldn't?
A Correct.
Q And can you identify any science education organizations, associations, societies that support the teaching of intelligent design?
A Again, isn't that the same question?
Q No. One is science. Okay?
A Okay. So you're saying a teaching association?
Q Well, we talked at the beginning that there is this specialty in science education, the teaching of science?
A Sure, I understand.
Q So the first question is about --

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A Broader.
Q -- the scientists.
A Sure, sure, sure.
Q The other is about the science teachers.
A The sub-discipline, correct.
Q Right.
A Gotcha.
Q And you're not aware of any science education organization, societies, academies, that support the teaching of intelligent design?
A Correct.
Q Now, given that you are in this case opining that schools should teach intelligent design or that teaching intelligent design is good pedagogically, how do you reconcile your opinion --
MR. THOMPSON: Objection. He has never opined that teaching intelligent design is good pedagogy. That's not the policy.
MR. WALCZAK: We're going to come back to that.
BY MR. WALCZAK:
Q You have opined that teaching problems and gaps in the theory of evolution, making students aware of alternative theories such as intelligent design, and making resources available to students to pursue independent inquiry promotes legitimate pedagogical and

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educational goals.
So exposing students to intelligent design is not supported by any of the science or science education academies, so how do you reconcile your opinion with their positions?
A By "exposing to," how are you defining "exposing"?
Q Well, let's talk about Dick Thompson says that they're not teaching intelligent design. What's your understanding of what they're doing with intelligent design in Dover?
A My understanding is based on what we have here in front of us in terms of the statement that's being read and so forth, that, number one, they're making students aware of the fact or the idea that evolution is a developing theory, not a fact or a law. Number two, that there are other theories or ideas in discussion about it, and one of those is so identified as intelligent design. And number three, they're telling them that they could find more information about that in the library.
Q And how are they exposing students to that?
A My understanding is they have a statement that they read prior to the lessons on evolution.
Q And who reads those?
A Again, my understanding is it's the school principal or AP or somebody who works in the school.

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Q And do you know how it actually was implemented in January, do you know what happened?
A Again, I'm just -- from what I've been told --
Q Was is it that you know about what happened in January?
A Presuming you're talking about that's when the statement was read to the students?
Q Do you know?
A I was told that a statement was read to the students prior to the evolutionary lessons.
Q And who told you that?
A The counsel for the defense.
Q Have you talked to any of the teachers in this case?
A No.
Q Have you talked to any of the School Board members?
A No.
Q Have you talked to any of the Dover administrators?
A No.
Q Have you talked to any Dover parents?
A No.
Q Have you talked to any Dover students?
A No.
Q Have you ever been to Dover?
A No.
Q You're really missing out.
So if a teacher or administrator stands up at the

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front of the class and reads this four-paragraph statement, is that teaching?
A Not in the classic definition of teaching.
Q What's the classic definition of teaching?
A It would be that there is some systematic, deliberate, coordinated effort, if you will, to instruct students about X.
Q And so what would go into that systematic, deliberate effort?
A There would be a printed, slash, published curriculum approved by the School Board and those who work within the school. That the curriculum is implemented by the instructional staff, teachers, aides, whomever. That there is -- or that there are assessments aligned with that instruction. And in our age of state standards, that that instruction is aligned with state standards and that it would prepare students to complete the state assessments.
Q So what part of what Dover is doing doesn't satisfy the systematic, deliberate effort?
A Well, the students aren't tested on it in either the classroom or the school, they're not tested on it in the state assessments. It's not something that's woven into the school curriculum.
Q It's in the school curriculum.

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A That's why I'm saying it's not woven into the school curriculum.
Q What does "woven into" mean?
A Well, the ideal in the school curriculum is that you start from an end, whatever your end is, objectives, what is it you want the students to know and be able to do, and that you work backwards from there, and that throughout your lessons, your units in your lessons, that you're designing very specific, systematic activities and instruction to help students know and be able to do whatever it is that you've identified in your objectives and state standards, presumably.
Q So if you don't do those things, then is that good teaching?
A If you don't do the things that I just mentioned?
Q Yeah. Is that good pedagogy to --
A Yeah, I think I understand your question. I think I understand it. Are you saying the omission of something is bad pedagogy?
Q Well, as I understand it, it's woven into the curriculum, it's done by instructional staff, there are assessments, it's aligned with standards, it's tested, and it directly correlates with some objective.
So that's how you would properly construct a curriculum?

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MR. THOMPSON: Objection. He was responding to your question as to what he meant by teaching, not in constructing a curriculum, but what does teaching mean, the definition of teaching, and now you're asking him a different question, how would you construct a curriculum.
BY MR. WALCZAK:
Q Certainly I'm not trying to mislead you, and if I'm confusing, I apologize.
To construct a unit on any topic or to teach students whatever the School Board decides to teach, presumably there's a right way and a wrong way or a better way and a worse way?
A I go back to the word, I think, that kind of got us down this trail, and that was the classic definition of teaching. There are multiple understandings of teaching and learning, so that's --
Q Of what?
A Teaching and learning.
Q Teaching and learning?
A Yeah.
Q Okay.
A So when I say "classical definition," that's kind of what I was describing, is a classical definition of teaching.

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Q And did it include the components that I just mentioned?
A Correct.
Q Any others?
A Well, there's now -- I don't want to make it seem as if it's just within the past year, within some years, the past some years, there's been discussion around shifting from this classical definition of teaching to encourage more ownership amongst students in their learning.
Q Is this the constructivist school that --
A Correct, right, yes, correct. So now there's a lot of discussion about how does one, recognizing that we live in this kind of standards world, how does a school balance what we've done for years and years with a more contemporary understanding of wouldn't it be nice to do this. Does that make sense? So anyway.
Q So you say what Dover is doing with intelligent design is not the classic definition of teaching.
Is it some form of teaching?
A I would classify it more as some form of learning. That's why I said teaching and learning.
Q Explain that. You're getting the idea of what a deposition is like?
A No, I'm just thinking about what my classroom is like.
Q Are your students really learning anything, Mr. Carpenter?

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A That is the critical question for any teacher, honestly. For years it's -- we've thought about what we do in the classroom as what a teacher says and does and so on and so forth, but the critical question has always been does that equal learning and is it the same as learning. So now there's contemporary discussion that kind of separates one from the other, and not separates them as in a complete isolation, but as in kind of defining one from the other and understanding that teaching doesn't always produce learning and learning doesn't always result from direct teaching.

Does that make sense?

Q Yeah, but if -- I mean, a teacher has some stature in the classroom and probably regardless of the classroom, right, regardless of the grade or the school?

A In most cases.

Q Unless the teacher has completely lost control?

A Right.

Q Ideally, the teacher has some stature?

A Right.

Q And if the teacher passes gas repeatedly, is that something that the students would learn from? Or hopefully not?

A Potentially.

Q What the teacher does in the classroom is something that

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students would -- at least some students would observe?

A They would observe it.

Q And they might learn from that?

A Potentially.

Q And certainly what a teacher says in the classroom students might learn from?

A Presumably.

Q And if a teacher really would not want students to learn something, should he or she ever say that in a classroom?

A If they don't want students to learn something?

Q Right. I mean, anything that the teacher says the students could potentially learn from, is that a fair assumption?

A I don't know if I'd say "anything."

Q What could a teacher say that a student wouldn't learn from?

A In the course of a day, teachers say all kinds of things, both that are related to instruction and not, and potentially a teacher might talk about something that's not instructionally related that students discount or ignore or don't necessarily cognate.

Q Can you give me an example of something that's instructionally related that wouldn't be teaching?

A Directions in a classroom aren't necessarily always

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teaching as much as they are just instructions.

Q Directions such as go to the blackboard?

A Go to the blackboard, get --

Q Sit down?

A -- a pencil, right.

Q Is the four-paragraph statement read during classroom, is that instructional?

A It's instructionally -- yeah, it's motivated by instruction, I suppose, is what it's --

Q So it's motivated to do what?

A Well, as we talked about before, it's motivated to, number one, raise some awareness amongst the students about the nature of evolution. Number two, encourage them to think critically about what they're going to hear over the next X number of lessons. Number three, encourages them to explore this further on their own. And that's where I was trying to draw a delineation between teaching and learning.

Q So are students in the Dover School District learning about the information conveyed in this four-paragraph statement?

A What they're learning -- I mean, presumably they could, yes, they're encouraged to learn about that by going and reading about it further.

Q I mean, the goal of this policy presumably is to

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transmit the information in these four paragraphs to the students?

A Right.

Q And so the goal is to teach students that there is an alternative to evolution known as intelligent design?

MR. THOMPSON: Objection. Again you're using the word "teach," and we've defined teach in a totally different way than what you're talking about now.

BY MR. WALCZAK:

Q Well, I'd like you to answer that question.

So is it not safe to say that the goal of this policy is to teach students that there is an alternative to evolution known as intelligent design?

A I think it's fair to say that the goal, if we can take it at face value, is to encourage students to learn as much as possible about this thing that we're talking about here.

Q About intelligent design?

A No, not necessarily. Not limited to intelligent design, no.

Q Intelligent design and evolution?

A Certainly evolution, that's the focus of the class, is that's what the students are going through in a systematic fashion, but also that they would understand that it's an incomplete, developing theory, and that

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there are other alternatives that are discussed within the science community and --
Q So will you agree that a goal of this policy is that students learn what is read to them in these four paragraphs?
MR. THOMPSON: Objection. Again, it's conflicting with the policy itself, the question that you've asked.
MR. WALCZAK: How is that?
MR. THOMPSON: The policy itself says that no teacher will teach intelligent design, creationism, or present his or her or the Board's religious beliefs.
MR. WALCZAK: That's fine, I --
MR. THOMPSON: That's the goal. The goal is not to teach intelligent design.
MR. WALCZAK: That's what the Board says.
BY MR. WALCZAK:
Q If this four-paragraph statement is read to students by either a teacher or a principal, would it make any sense to read it if you didn't want the students to learn that?
A To learn what?
Q What's read to them?
A If by learning you mean understand what they're saying, well, obviously, the goal is that the students would understand what they're saying, but that doesn't

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necessarily mean that the goal is that students -- the goal isn't necessarily to teach intelligent design.
Q What is it?
A It's pretty self-evident. The goal is that students would, as it says here, understand that it's a developing theory.
Q So "understand," is that --
MR. THOMPSON: Evolution is a developing theory.
THE WITNESS: Yes. Well, intelligent design --
BY MR. WALCZAK:
Q Isn't learning another -- a synonym for understanding?
A Not necessarily.
Q You want students to know these things, right, is that a goal of the policy, for students to know that this --
A You want them to understand what they're saying, what they're -- you want students to cognitively understand what is being read to them.
Q And that's different than learning?
A Potentially, yes.
Q How?
A Just because I understand something that is said doesn't necessarily mean that I take ownership over what's contained within it.
Q If you teach something, do you expect that students will take ownership of it, is that a goal?

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A That is a goal and an expectation.
Q And would you want to teach things that you did not expect or hope that students would take ownership of?
A There are things that are taught every day that students don't necessarily take ownership of.
Q But would you teach something where that was not a goal and an expectation?
A I mean, realistically, yeah, that does happen.
Q Like what, give me an example?
A In my class, I may talk about certain concepts or ideas that I know students aren't going to be tested on. In my case, I deal with graduate students, so I'm always cognizant of the fact that as adult learners, they're always thinking about how am I going to use this tomorrow in my classroom or next week or next month. So I know that there are times that we'll talk about things in my class that are not going to apply immediately and maybe even ever, so I'm not necessarily expecting them to be able to apply -- learn it to a point of being able to apply it.
Q So what's the point of introducing them to it?
A Well, number one, that whatever it is we're talking about, it's a -- it's something that may be related to something else that we're talking about and so it kind of plays a part of understanding whatever it is.

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Q So you've made some judgment that this is important enough for you to take class time on?
A Well, yeah, but that doesn't necessarily -- we're getting at this point of does that necessarily equal learning.
Q We must have just very different understandings of what learning -- so is learning different than understanding? Learning is the process?
A I would put it the other way, understanding is different than learning.
Q Okay. Explain.
A Well, specifically here, if I read this four-paragraph statement to you, I would hope you would understand what it is I'm saying. Right? The message is conveyed and received. But that doesn't necessarily mean that I expect that as a result of what I've read and what you've heard that some learning is, has, or will take place.
Q But it's likely to take place?
MR. THOMPSON: Objection, no foundation for that.
MR. WALCZAK: Well, I'm asking him.
BY MR. WALCZAK:
Q Is it likely to take place?
A That's a huge speculation.
Q Well, if I was a teacher and I stood up at the front of

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the classroom and I said homosexuality is a biological trait and people are born that way and so that's -- they really can't change, would I be teaching?
A Potentially.
Q Why?
A Presumably you have a motivation in mind in saying such. It's not a direction, if that makes sense.
Q No, that doesn't make sense.
A Meaning go to the blackboard, pick up your pencil.
Q Is that any different than the four-paragraph statement in Dover? I mean, substantively, of course it's different, but is that any different than this statement here?
A I would classify this more as direction or instruction, or directions rather than teaching. Instructions in the sense that we were talking about earlier, pick up your pencil, go to the blackboard.
Q Because Darwin's theory is a theory, it is still being tested as new evidence is discovered, the theory is not a fact. Gaps in the theory exist for which there is no evidence. A theory is -- blah, blah, blah. Intelligent design is an explanation of the origin of life that differs from Darwin's view. The reference book Of Pandas and People is available for any student to see if you would like to explore this view in an effort to gain

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an understanding of what intelligent design actually involves.
So if I read a statement that said, "Homosexuality has biological origins. Now, there is another view that in fact homosexuality is not biological, there is a book that you could read about this in the library," if I said that at the beginning of class, is that teaching?
A I'd say that's more of an admonition and encouragement.
Q And what's the admonition or encouragement?
A The admonition is to try to encourage students to learn about this presumably on their own if you're telling them to go to the library and get a book and so forth.
Q And is that any different than what Dover is doing?
A That's what I'm saying, this is more of an admonition, an instruction.
Q And is it reasonable to expect that students will learn this?
A Reasonable to expect?
Q Is it reasonable to expect that -- well, you wouldn't say it if you wouldn't expect students to hear it, right? And upon hearing it, they're going to process it in some way?
MR. THOMPSON: I object again. This is far afield, this is speculation as to what some student is going to do with that particular four-paragraph statement. I

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mean, they don't even talk about what intelligent design is other than to say it's an alternative theory, they don't even explain it.
BY MR. WALCZAK:
Q Do you know what the goal of the policy is?
A Are you asking me was I in -- or am I privy to School Board discussions and so forth?
Q Do you as we sit here right now know what the School Board's goal was in passing this policy?
A That's what I'm asking, are you asking me was I -- am I privy to the discussion that precipitated this policy?
Q Well, we'll start there.
A Okay. No, I was not privy to what premeditated it.
Q Have you talked to anybody within the School District about the goal for this policy?
A No.
Q Has anybody told you what the goal of the policy is?
A No.
Q So in your report when you talk about how this policy promotes critical thinking and raises student awareness, you don't know that that was the Board's goal?
A Not necessarily.
Q But if you in your report opine that this policy will raise student awareness, introduce students to the idea of multiple ways of knowing, establish critical

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thinking, have students assume more responsibility for their learning, teach them something that is a simple matter of accuracy, that there are weaknesses, gaps, and problems, then that must be what this policy does, or are you not saying the policy does those things?
A So what are you asking exactly?
Q So you do not know what the Board's goal is in teaching this?
MR. THOMPSON: That's been asked and answered. He says he doesn't know, he's --
MR. WALCZAK: He does not know.
MR. THOMPSON: Right.
BY MR. WALCZAK:
Q So you do not know that a goal is to promote critical thinking?
MR. THOMPSON: He doesn't -- objection again. I think it's getting confusing here. He knows -- he's looked at the policy, and he says these, based upon the fascial reading of the policy, these are the laudable goals of that policy. He doesn't know what the motivation of the Board was to pass it. The distinction is what was in the mind of the board members when they passed it. He doesn't know that. But he can look at the face of the policy and say these are laudable pedagogical goals, there's no inconsistency there.

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BY MR. WALCZAK:
Q So you're inferring what the goals might be?
MR. THOMPSON: Objection. Again, he can't answer, it's pure speculation as to what was in the minds --
MR. WALCZAK: That's not what I'm asking.
BY MR. WALCZAK:
Q So you're inferring what -- your report essentially infers the District's goals?
MR. THOMPSON: Objection again.
BY MR. WALCZAK:
Q Go ahead, you can answer that.
A I'm looking at the policy and thinking about it and analyzing it based on what I read both in the policy and those sources that we've talked about outside of, and then as I do with any policy, I'm looking at the policy on its face and what's incentivized by it and so forth, not necessarily who motivate -- who was motivated and why they were motivated by it and so forth. All I can know is what I see there. And then analyze it.
Q So how does reading this four-paragraph statement promote critical thinking?
A As stated, it says with respect to any theory, students are encouraged to keep an open mind. So starting from that point, the idea is that in any learning, in this case with respect to the theory of evolution, students

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are instructed to keep an open mind about what they hear, to analyze it, to weigh evidence one against the other or weigh multiple types of data, to think critically about that, and come to some conclusion.
Q What about the rest of -- so that sentence --
A That's what I'm saying, with that as a starting point, and the rest of it kind of dovetails in with that.
Q So how else does -- so the only way this promotes critical thinking is by telling students to keep an open mind?
A No, that's not what I'm saying. I'm saying from that point for -- not literally forward, but also the idea it says theories are tested as new evidence is discovered, so it's again telling students, encouraging students to keep in mind that this is a theory, that as scientists do, that you need to test this, weigh the evidence, weigh the data and so forth.
Q What else does it promote critical thinking on?
A Critical thinking also -- a part of critical thinking is that tying in with this idea of owning your learning, that students or learners would consider multiple definitions and understandings and explanations, if you will, so it is encouraging students to consider that there may be alternatives, to weigh the alternatives and so forth.

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Q And does it direct the students to any alternatives?
A The policy -- the referenced statement itself directs them to a book. It says there are alternatives, but it references one in particular.
Q Does it reference an alternative theory?
A By name, yes.
Q So does this promote critical thinking about intelligent design?
A It promotes critical thinking about several things generally, but also several things, as well, specific to the science classroom.
Q Does it promote critical thinking about intelligent design?
A Presumably, yes.
Q Does it promote critical thinking --
A Hold on, I want to go back. I wouldn't say promote as much as I would say encourage.
Q But it encourages critical thinking about intelligent design?
A And evolution and theories and science and so forth.
Q Do you know whether the Miller and Levine textbook encourages any of the aforementioned critical thinking areas?
A Meaning do they have a chapter on critical thinking?
Q Do they in the Miller and Levine textbook, do they

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promote critical thinking about evolution, about what a scientific theory is? Do you know what Miller and Levine says about those things?
A Implicitly, yes.
Q What do you mean, implicitly?
A The fact that they have this page in their text that talks about the developing nature of evolution.
Q What was that -- I'm sorry, what was that page?
A 386.
Q And what did that page talk about?
A Well, I'd have to pull it up.
Q Oh, it's on your computer.
A Which I can if we want to wait.
Q Maybe we can do that later.
A Actually, I think I may have -- oh, here. This is quoting from the text: Like any scientific theory, evolutionary theory continues to change as new data are gathered and new ways of thinking arise. Researchers still debate such important questions as precisely how new species arise and why species become extinct. There is also uncertainty about how life began.
Q And so how is the statement that Dover reads different than what's in the book already? I mean, it sounds to me pretty similar.
A Um-hmm. I'm sorry, yes.

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Q So what does the Dover statement add to what's already in the book?
MR. THOMPSON: Objection. You're assuming that that section, that page, is covered in the text -- in the lessons that the teachers give, because I know that they don't -- excuse me -- I understood that they don't teach the whole book.
BY MR. WALCZAK:
Q Do you know what they teach?
A From the book?
Q Um-hmm.
A Not from the book, no.
Q Assuming they teach that, is this policy not redundant, this statement?
A That assumes -- let's assume that for a moment. That would assume redundancy is a bad thing.
Q Well, is it -- assuming that is taught, is the statement duplicative without any value judgments?
MR. THOMPSON: The documents speak for themselves. The text speaks -- states one thing and the policy states, again, something else.
MR. WALCZAK: Well, in terms of the concepts that Dr. Carpenter has pointed to that we're encouraging critical thinking about.
BY MR. WALCZAK:

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Q Isn't that duplicative, isn't the Miller and Levine textbook chapter, assuming it's taught, duplicative of the statement that the Board has required the school to read to students?
MR. THOMPSON: The text doesn't say anything about a fact, that the theory is not a fact.
MR. WALCZAK: You know what? I'm asking him the questions.
MR. THOMPSON: I know, but the two documents speak for themselves.
MR. WALCZAK: Well, you know, can he answer the questions?
A They are not exact representations one of the other, if that's what you're asking.
BY MR. WALCZAK:
Q So what's different? What does the Dover statement add to the Miller and Levine lesson plan?
A Well, number one, it says that students are going to learn -- or students will be taught and will be tested on evolution specifically. That's not in the Miller and Levine. This statement talks about -- talks a bit more about what a theory is. This statement talks about issues around alternatives, in the Dover statement.
Q What alternatives?
A Well, what it lists here, intelligent design.

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Then it has various, kind of going back to what we were talking about earlier, instructions, admonitions, so forth.
Q About discussions with parents?
A Correct.
Q So do we need to promote critical thinking about students being tested on evolution, is that something you need to promote critical thinking about?
A That's what I'm saying, there is some of that that's admonition or instruction.
Q So the only thing that I heard you say, and correct me if I'm wrong, the only thing I heard you say that this statement adds to what is already in Miller and Levine is to encourage critical thinking about intelligent design?
A Are you saying that Miller and Levine aren't encouraging critical thinking?
Q I'm saying they are encouraging critical thinking about different things.
A Implicitly.
Q Well, and that's the only page you've read in the book, right?
A Specific to this.
Q Specific to --
A The issue of critical thinking.

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Q What other pages have you read in Miller and Levine?
A As I mentioned, I just skimmed through the text.
Q But you haven't read it?
A No, not read it as in a verbatim --
Q Have you read the chapter on the science of biology?
A No.
Q That's Chapter 1.
A Um-hmm.
Q So you don't know what it is that Miller and Levine actually teaches about biology?
A As I said, I only skimmed through it just to get an understanding.
Q And what was your understanding about what it says on encouraging critical thinking about scientific theories?
A My understanding is that's not a central focus of the book necessarily.
Q And what is that understanding based on?
A In looking at the table of contents and so forth.
Q From the table of contents?
A Right.
Q But you have no idea what the book says about critical thinking other than from that page?
A Correct.
Q So the big addition of this reading this statement to the students is that it encourages students to think

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critically about intelligent design?
A That's one of the things addressed in the statement.
Q And I can tell you that there's no mention of intelligent design in the Miller and Levine textbook, you can just take my word for it.
So this statement does introduce students to a new concept of intelligent design, is that correct?
A If I'm -- if what you said is true.
Q If it's not in Miller and Levine, then this is introducing a new concept to them?
A Potentially. We don't know. I mean, they may have already known about it from somewhere else.
Q But now they will definitely know about it, right?
A Well, they'll -- know in what sense?
Q They'll definitely know about the concept of intelligent design?
MR. THOMPSON: Objection, that's speculation. We don't know if they even hear the statement or if it even registers. It would be a historical fact that after you've read this statement whether they really know anything about intelligent design.
BY MR. WALCZAK:
Q Would it make sense to have passed this without having the hope and expectation that students would now recognize that there is an alternative theory to

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Darwin's called intelligent design, would it have made sense for the School Board to have passed that policy?
A Would it have made sense for them to pass the policy --
Q Unless they had the hope and expectation that students would come to understand that intelligent design is an alternative explanation to Darwin's theory?
A That there are alternatives, one of them being intelligent design?
Q Yes.
A Presumably. I don't know because I haven't -- I wasn't there, I haven't had discussions with them.
Q But from a pedagogical sense, it wouldn't make sense, would it?
A Make sense to what?
Q Be a sensible thing to do? Is that a pedagogically valid -- would you pass a policy identifying some concept that you're going to share with the students without having the hope and expectation that students would learn or understand or at least be aware of it?
A Presumably the idea is here that students would understand, cognitively understand that there are alternatives to what they are going to hear over the next X lessons.
Q And presumably, this statement promotes that?
A Promotes what?

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Q This kind of understanding about this concept of intelligent design?
A Are you asking me does it promote intelligent design?
Q Does it encourage students to think critically about intelligent design?
A Well, first it encourages students to think critically, period. And to think critically about what they're going to read and hear. And then presumably, if they go and read a text in the library, to think critically about what they read there.
Q Does it encourage the students to read that text?
A It makes them aware of the text.
Q And do teachers often make references to things that they don't want students to do? Would you identify, say, extra reading material without some hope and expectation that at least some students would take advantage of that?
A I do it all the time.
Q Without any hope and expectation that students will take advantage of it?
A Exactly.
Q Why do you do it?
A As I tell the students in class, the reason I include bibliographies and other readings on a syllabus or reference them in class is if you are interested in

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this, this is where you may find more information about X, Y and Z, but the reaction of the students make it very clear that we all know that they're not going to necessarily go out and do extra reading and so forth.
Q Is there some implicit value judgment that you transmit to the students by making that statement?
A Not necessarily. It's a service that I provide.
Q So there's no implicit message that this would be a good thing for you to do?
A I say very explicitly in class that I think students ought to read very broadly, that they ought to read, number one, and then number two, read very broadly outside of their discipline and outside of their own kind of sub-discipline, so forth. But beyond that, that's about as explicit as I get. I provide those things as a service.
Q Have you talked to any, quote, unquote, experts on intelligent design?
A "Talked to," what does that mean?
Q Spoken with?
A In preparation for the report and so forth?
Q Ever.
A Ever?
Q Ever.
A I'm hesitating over the word "expert."

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Q Let me narrow it. About intelligent design. I mean, if you said hello to Michael Behe, then that doesn't count, but talked to a self-proclaimed expert on intelligent design about the theory of intelligent design?
A I want to say no, but I don't want that to --
Q Not that you can remember?
A Yeah, right. I'm not here to commit perjury, but no, I think.
Q Have you ever attended any conferences where intelligent design was discussed?
A No.
Q Have you ever attended any conferences where evolution was discussed?
A No, not that I remember.
Q Have you ever attended any science conferences?
A "Science" meaning?
Q Science.
A I think there are a whole lot of people who would debate you on what science is, but are you meaning what we're talking about here as science? As opposed to political science or economics or --
Q What's your definition of science?
A As I typically talk about it in class, I term it -- I put it in terms of research, is how does one define the nature of reality. So if we're talking about science

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in -- kind of in this milieu, no.
Q And how is this milieu different from your understanding of science?
A What I'm saying is if you're talking about this milieu of science, this understanding of science, no, I haven't attended a conference --
Q What understanding? I'm not sure -- I want to make sure we're on the same wavelength here.
What's your understanding of the science that I'm asking about?
A We're talking about biological science, that kind of --
Q Not political science.
A Not political science, not economics, not psychology --
Q The natural sciences?
A Yeah, I guess one could define it that way.
Q Is that a fair definition?
A I think that's the common --
Q Biology, chemistry, physics, astronomy, geology, paleontology. Have you ever attended any science conferences as we've just defined that term?
A No.
Q Have you ever attended any science education conferences?
A Not that they were specific to science education.
Q So what -- well, tell me what you did attend?

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A Something like the American Education Research Association, for example, would have science education as a sub-discipline.
Q And were you an attendee or a presenter?
A Both.
Q And how often have you attended those?
A That specific one or other conferences of that nature?
Q Well, American Educational Research Association?
A I've gone to that one once.
Q When was that?
A April of 2004, I think.
Q Last year?
A I think. It could have been two years ago, but --.
Q Did you attend any programs that discussed science as we've defined it?
A No.
Q Did you present on any programs that discussed science?
A As we define it, no.
Q What did you present on?
A Two things. One was on education policy. And the second one was on -- well, I guess they were both education policy related. One was on school discipline and one was on presidential education policy.
Q Presidential educational policy?
A Correct.

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Q Like the No Child Left Behind stuff?
A Well, it wasn't that specifically, but in that kind of venue.
Q So you didn't hear any discussion of science content as we've defined it?
A Correct.
Q Did you hear any discussion of intelligent design?
A No.
Q Any other science education type conferences that you've been to?
A No.
Q Do you know what, if any, instruction Dover School District has given teachers about what to do or not to do with this statement?
A No.
Q So you don't know if there's any limitations on the teachers, whether the school administration has placed any limitations on what teachers can and cannot say in addition to this statement?
A Well, insomuch as what it says here, no teacher will teach intelligent design, creationism, or present his or her or the Board's religious beliefs. So that seems to be pretty clear.
Q Do you know whether the teachers have gotten any instructions about what they are supposed to do if they

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get a question about intelligent design?
A No. Is it -- I didn't see it in here. Is it in here?
Q I'm asking if you know.
A Oh, no.
Q Have you read any of the fact witnesses' depositions in this case?
A What is that?
Q You're an expert, Brian Alters is an expert, you are people who have some expertise in a field and are --
A Rendering an opinion.
Q Right, rendering an opinion. Fact witnesses are people who are players in --
A Oh, those involved.
Q -- the movie.
A I see. No.
Q Have you looked at anything related to the history of how this policy came into place?
A Does that count the Complaint and the Answer?
Q If that's -- I mean, have you looked at -- you've looked at the Complaint and the Answer?
A Right.
Q Have you looked at anything else?
A No.
Q Have you gone back and looked at news clips?
A Not from this case.

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Q Have you read Of Pandas and People?
A The book itself?
Q Yes.
A No.
Q So you haven't looked at a whole bunch of -- you haven't looked at a lot of literature either about intelligent design or evolution and you've mentioned a few things here and I want to go over those.
You haven't consulted the science academies and societies except for the science education standards. You have not consulted science societies and academies or science education societies and academies. You haven't talked to any self-proclaimed experts about intelligent design. You haven't attended any conferences where intelligent design or evolution has been discussed.
You have not talked to anybody in the School District?
A Correct.
Q You have not read fact witness depositions. You have not looked at the history of the passage of this policy other than it's referenced in the Answer or the Complaint.
Did your counsel at any time instruct you not to do any of these things?

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A No.
MR. WALCZAK: I'll tell you what. This is actually a good time for a break for me.
(Deposition recessed for lunch at 12:22 p.m.)
* * *
(Deposition resumed at 1:13 p.m.)
BY MR. WALCZAK:
Q I have had a chance to scan your rebuttal report and I have a few questions about it. You talk about this controversy in the scientific -- inside and outside the scientific community.
Now, other than Doctors Dembski, Minnich, and Behe, who else can you point to for the proposition that there is a debate in the, quote, scientific community?
A Well, I quote a couple here, at least reference a couple here.
Q And that would be the Steel, Sober and Steel?
A The discussion amongst those folks.
Q And so the universe of people who you took into account in this assessment are Behe, Minnich, Dembski, Sober and Steel? And Penny, Poole, the law firm --
A Et al. And others that Dr. Behe, for example, references or others that reference -- that they reference.
Q Did you read the reports that they reference?

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A Only insomuch as what they included in their report.
Q You didn't read the referenced-to reports?
A Correct.
Q So you don't have any independent knowledge --
A Other than what -- Behe includes some of those in his report.
Q And did you read those?
A Correct.
Q You did?
A Yes.
Q You're not aware of any other reports that -- beyond those that are mentioned in the Behe, Dembski, Minnich reports?
A If you're asking me anything in addition to what we've already discussed, no.
When we say "reports," are we including all of the expert witness reports other than what you and I just said?
Q Yes.
A Okay.
Q So the debate in the scientific community about alternatives to evolution, including ID, what scientific community do you point to? Is it just these scientists who have submitted expert reports on behalf of the School District or are there other scientists?

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A And those that I reference here and others that they reference, as well.
Q How would you define the scientific community?
A In this case, it would be those who are teaching and/or researching in the field under question.
Q So that would be intelligent design?
A No, I would expand it beyond that.
Q What would you expand it to?
A When we say the scientific community, the community is greater than those -- just those who are researching and are teaching about intelligent design.
Q You've never attended any science conferences, so you haven't heard any debate or discussion at a science conference, right?
A Not firsthand.
Q Are you aware of any publication by the National Academy of Science that talks about this controversy?
A By publication, do you mean --
Q Well, anything that they put out or endorse or sponsor, are you aware of any?
A I'd have to look into what I have on my laptop, but at least one site that I visited, and this is under question, which site was it, that's what I'm not remembering, is it the National Association of Science or is it the -- whatever else I visited, there were

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postings or web documents that referenced the discussion, debate, controversy, however you want to classify it.
Q And do you know what they said?
A They were -- it was essentially a publication about it or a web posting about it, this is what's going on, kind of a look at contemporary events.
Q When we take a break, I'm going to ask you to identify that for me, okay?
A Okay.
Q We'll wait until we take a break.
Are you aware of any publications by AAAS that recognize this controversy?
A No.
Q Are you aware of any publications within or emanating from the National Science Teachers Association?
A Again, that may be the web site I'm referencing, but --
Q So you can only think of one in all the things you looked at that has referenced this controversy over intelligent design?
A Um-hmm. I'm sorry, yes.
Q You say that intelligent design has been published in peer-reviewed scientific journals. Can you identify those?
A I'd have to look at the expert report to tell you which

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ones.
Q Are you aware of any other than what may be referenced in the other Dover Area School District's experts' reports?
A No.
Q And you say IDT researchers have a clear scientific research agenda.
What's your basis for saying that?
A Again, the expert report.
Q So you have no independent knowledge apart from what the other experts have said?
A Correct.
Q You say IDT principles inform the work of research scientists?
A Um-hmm.
Q What's your basis for saying that?
A The same sources.
Q So you have no independent knowledge about any of those things?
A Correct.
Q Do you know if Sober and Steel's article is a peer-reviewed article?
A I believe it is.
Q Do you know it is?
A The fact that it appears in a peer-reviewed journal

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would lead me to conclude that it is.
Q Evolution is just one scientific theory, correct?
A In the grand scheme of things?
Q Yeah. I mean, there's other scientific theories?
A And there are other -- and there are multiple ways of understanding evolution, as well.
Q I'm just asking you, there are other scientific theories besides the theory of evolution?
A Sure, yeah.
Q There's the theory of relativity, the theory of gravity, the theory of platechtonics, correct?
A Et cetera, right.
Q Are all of those theories subject to the same, shall we say, admonition that they are being tested as new evidence is discovered?
A Presumably, yes.
Q Well, yes or no?
A Presumably, yes.
Q Why do you say presumably?
A Because as -- because, as you read, as new data is entered, discovered, or whatever.
Q Well, is that the definition of a scientific theory, that it's constantly updated?
A In the real working world, that's typically how it works.

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Q Define scientific theory for me?
A Are you asking me is there a single scientific theory?
Q How would you define scientific theory?
A It's somewhat similar to what we talked about earlier, and that is a way to describe or define observed data and maybe not observed data.
Q And does science as that term is commonly understood, does that limit how we can look at things?
A Does it or should it, which are you asking me?
Q I'm asking does it?
MR. THOMPSON: I'll object. That's a pretty ambiguous and vague question. I don't know what the relevancy of it is.
BY MR. WALCZAK:
Q Go ahead.
A Not necessarily.
(Exhibit Number 2 was marked for identification.)
BY MR. WALCZAK:
Q I show you what's been marked as Exhibit 2.
Do you recognize this?
MR. THOMPSON: I need a magnifying glass here.
MR. WALCZAK: I was anticipating that.
BY MR. WALCZAK:
Q If you turn to the last page, I have blown up a section of the first page.

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A It appears to be the course text or something looking like it.
Q But you don't know for sure?
A Well, based on what I see here, I assume -- it looks like the course text.
Q Have you read this before?
A As we talked about earlier, I would classify it more as a skim.
Q I'd like you to take a minute and turn to that last page, and I have enlarged only the text that says "What is Science," and perhaps you could read what science is and is not to yourself and then tell me when you've finished doing that?
A Okay.
Q Do you agree with that definition of science?
MR. THOMPSON: Objection. I think it's an ambiguous question. Can you get more particular as to what "that" means, "that definition"?
BY MR. WALCZAK:
Q You just read a definition in this exhibit. Do you agree with the definition that you just read?
MR. THOMPSON: Objection, calls for a legal conclusion.
MR. WALCZAK: Objection noted.
BY MR. WALCZAK:

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Q Do you agree with this definition?
A I agree that it is a definition.
Q Is this a definition of science?
MR. THOMPSON: He just answered the question, it is a definition of science.
BY MR. WALCZAK:
Q Give me another definition of science?
A The reason I say it's a definition is it's a definition specific to a discipline.
Q Okay. Which discipline?
A When it says "the natural world," we're talking about what you and I defined earlier as the natural sciences, biology, chemistry, physics, et al.
Q So you would say this is not a definition, but the definition as applied to the natural sciences?
MR. THOMPSON: Objection, calls for a legal conclusion.
MR. WALCZAK: You know what? This has nothing to do with legal conclusions.
MR. THOMPSON: Sure it does.
MR. WALCZAK: This is not a legal --
MR. THOMPSON: Yes. The courts have defined what science is in the McLean case and that was Judge Overton's definition of what science is, and that's been disputed now, and ultimately, Judge Jones is going to

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have to come to a decision as to what the definition of science is.
MR. WALCZAK: But he's going to come to that conclusion with the aid of your expert and supposedly, you know, whether this is good pedagogy when we're talking about science education. I have every right to ask him about his understanding of the definition of science.
MR. THOMPSON: Certainly you have a right to ask him, but the question is, is he qualified to respond. He is not a scientist, and these are questions for scientists, what is science.
MR. WALCZAK: But he has opined that this is appropriate science education. So if he can't answer this, he can tell me that, but I think it's fair for me to assume that he should be able to answer this if he's opining on the material that's at issue here.
MR. THOMPSON: And that is an ultimate conclusion that a judge is going to have to decide.
MR. WALCZAK: That's fine.
MR. THOMPSON: That's all I'm saying, is because -- okay. I don't want to --
BY MR. WALCZAK:
Q So you can still answer the question unless your counsel is going to instruct you not to.

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MR. THOMPSON: No, I mean, I just think it's important to note that you're asking him for a legal conclusion as to what is science. That's a part of the controversy that exists in this case.

BY MR. WALCZAK:

Q I want to know as you would define science, in your understanding of science and the understanding that you have brought to bear on your opinion, is this the definition of science, is this an accurate definition of science as applied to the natural sciences?

A It is a definition of science applying to the natural sciences.

Q Give me another definition, what would you add to this or how would you change this? I need the other -- I need alternative definitions of science if this isn't it.

A There are some who work in the theoretical world of science, that is, they're unable to directly examine natural evidence and events and factors.

Q And are these people scientists?

A Most certainly.

Q And give me examples of who those people are?

A By name? Well, initially, Einstein was one. But contemporary, I'd have to -- I don't have them committed to memory. The String Theory might be one example.

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Q And how does this definition not apply? I mean, they're looking for natural causes of certain phenomena. I mean, Einstein was looking for natural causes of certain phenomena.

A Correct.

Q Is your dispute the natural causation aspect of this?

A Well, that's implied in it in the sense -- that's implied, but more specifically to the idea of explanations that could be attested by examining evidence, for example. That implies that the students or the scientists would be able to examine evidence directly and weigh evidence one against the other and thereby theories one against the other, but somebody working in the world of the theoretical, unable to directly examine the evidence.

Q Well, directly examine, do you mean -- if you're studying dinosaurs, you can't directly examine dinosaurs, but you're still looking for natural causes there?

A Right.

Q I guess I want to try to understand where the differences are here.

Science is an explanation or is an attempt to explain the natural world, do you agree with that?

A As they define it here?

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Q No. I'm asking do you agree that science looks to explain things in the natural world?

A That's one branch, slash, definition of science, yeah.

Q What else would it look at, what's another definition?

A Some scientists aren't concerned with the natural world.

Q What are they concerned with?

A Some scientists might be interested in the sociological, for instance.

Q Sociological what?

A Sociological interactions between people, sociologists, anthropologists, that kind of thing.

Q Those would not be the natural sciences.

In terms of the natural sciences, they are looking at explaining what's going on in the natural world, right?

A Yes, I suppose so.

Q But is it broader than that, are they looking to explain supernatural causes?

A I don't know that I could say one way or the other.

Q In your definition of science, does it allow for supernatural causation?

A "Supernatural" defined as?

Q Not of this world.

A I mean, Jupiter is not of this world. I mean, what --

Q A non-material explanation, a non-naturalistic

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explanation?

A So your question is?

Q Does science as commonly understood today allow for non-natural causation or supernatural causation?

A That I don't know.

Q You don't know?

A No.

Q Why?

A Because I can't possibly know every person's and sub-discipline's understanding of the definition of science.

Q So you say science may entail supernatural causation?

A I'm saying I don't know, that's what I'm saying.

Q Does your definition of science include the ability to test hypotheses?

A Yes.

Q So it's got -- whatever the hypothesis is, for it to be scientific, it must be testable?

A What you said before was does it include the ability to test the hypothesis.

Q Is an essential element of science testability?

MR. THOMPSON: This is where my initial objections were, and that was Judge Overton had a definition of science in his case and that definition now has been a point of controversy, and so testability then becomes an

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issue that involves evolution, as well.
MR. WALCZAK: Thank you.
BY MR. WALCZAK:
Q Is your understanding or your -- would your definition of science be that in order for a process to be scientific, it must be testable?
A Some definitions of science, yes, and some, not necessarily.
Q Can you name scientists who would say that it does not need to be testable in order to qualify as science?
A Again, are we talking -- what realm of science?
Q Natural sciences.
A Okay, I'm sorry, I was talking outside of --
Q Assume all of my questions are natural sciences.
A Okay. Perhaps, but I don't know that. Again, I can't possibly know everyone's definition.
Q Now, it's not okay to just teach students anything, correct?
MR. THOMPSON: Objection, vague, ambiguous question.
BY MR. WALCZAK:
Q There are limits on -- there must be limits and standards on what should be taught to students?
MR. THOMPSON: Again, same objection.
BY MR. WALCZAK:

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Q Go ahead and answer it.
A Well, there are limits to what students are taught, certainly.
Q You know, in assessing what is good pedagogy, certainly there are things that guide that assessment, correct?
A Typically, yes.
Q So for instance, one would be that what is being taught is accurate?
A Yes and no. If one were to talk about thesis and antithesis, black versus white, one might teach about something that one might classify as inaccurate.
Q Give me an example?
A If you were to make a statement about -- this is extremely elementary --
Q Please, that's about my level.
A -- you know, what two plus two is, you might also talk about what it is not.
Q What would be inaccurate in that?
A What would be inaccurate in that?
Q Right. If you're telling them two plus two is four and two plus two is not five, where is the inaccuracy there?
A The latter.
Q But you're telling them it's not five, so you're teaching them accurately that two plus two is not five?
A Yeah, that's what I'm saying, you might present the

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inaccurate to elucidate the accurate.
Q Would you teach two plus two is five, would that be good pedagogy?
A Going back to what I said before, you might present it in your teaching as a way to --
Q No, but you said you might present two plus two does not equal five. I said would you teach students that two plus two equals five, would that be good pedagogy?
A No, I think we would agree no.
Q Why?
A Because two plus two equals four.
Q And so why would it be bad to teach students that two plus two is five?
A I mean, I think we've already established that, it's not five.
Q So it's because it's not accurate?
A Because two plus two is four and not five.
Q So two plus two equals five would be inaccurate, so it fails the test of good pedagogy because it's not accurate?
A I don't know that it's an issue of pedagogy as much as it's accuracy versus inaccuracy.
Q So accuracy is an element of good pedagogy?
A It is an element.
Q So in your opinion that you have advanced in this case,

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you've made some assumptions, and for instance, one of the assumptions is that intelligent design is a scientific theory, is that correct?
A Correct.
Q If intelligent design was not in fact a scientific theory, just assume for the moment if intelligent design was not a valid scientific theory, then would your opinion be different?
A So now you have to go all the way back to the beginning of the question.
Q You've said that teaching this policy is good pedagogy, fair summary?
A I don't know if I'd say teaching as much as this policy. I mean, this statement, this policy.
Q So whether it's teaching or exposing students to the concept of intelligent design as an alternative scientific theory to evolution, you've made an assumption there that intelligent design is a scientific theory, correct?
A Correct.
But can we take a break? I'm sorry.
Q Take a break as in?
A Correct. Lunch did not agree with me.
Q Okay, sure.
A Thank you.

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(Short recess.)
BY MR. WALCZAK:
Q Let me try to recapture where we were.
Your opinion is that the Dover policy, whether it teaches or introduces students to intelligent design and says that it is a scientific alternative to evolution is good pedagogy rests on the assumption that intelligent design is a scientific alternative, correct?
A Are you asking me do I think intelligent design is science?
Q I'm asking you is that an assumption that you have made, that intelligent design is a scientific theory?
A I don't know if I'd say an assumption as much as it is looking at what others have presented who work in intelligent design, what they've presented about their work and so forth.
Q Well, if intelligent design were not a scientific theory, then your conclusion that this policy is good pedagogy would be different, wouldn't it?
MR. THOMPSON: Objection, calls for speculation, assuming facts not in evidence.
BY MR. WALCZAK:
Q Go ahead.
A The policy is raising awareness amongst students that there are other alternatives.

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Q But it mentions only one. I mean, it doesn't mention Raelism, does it?
A Obviously not.
Q Does it mention Lamarckism?
A Clearly not.
Q So what's the only alternative it mentions?
A Well, it's in writing. Obviously, the only one they mention is intelligent design. But they can't possibly list all alternatives. It is an alternative.
Q But for something to be good pedagogy, it's got to be accurate, correct? I mean, you don't want to teach something that's inaccurate?
A As we said before, you might present something else.
Q Right. But then you're going to say that this is inaccurate, right, so you're not teaching an inaccuracy?
A That assumes that you are teaching it.
Q Would you introduce to students the concept, for instance, that, you know, just the teacher would stand up at the front of the class and say, "Two plus two equals five. We're now going to resume our mathematics lesson"?
A I --
Q Is that teaching, would that be teaching?
A I wouldn't -- going back to what we talked about earlier, I don't know that I would call that teaching.

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Q So not everything that a teacher says in class during instructional period is teaching?
A That's what we said earlier.
Q But the example you gave about teaching an inaccuracy, you were not allowing students to come away from that believing that it was accurate, you were pointing out the inaccuracy, right? In the two plus two equals five model, you were saying you would teach two plus two equals four, two plus two does not equal five, so you're not teaching something that's inaccurate?
A It's included as part of your teaching.
Q Right. But the accuracy of the content is an element of good pedagogy?
A It is an element.
Q So if what you were teaching was inaccurate, that would not be good pedagogy?
A Again, you could include it in your teaching, but if you're trying to at the end of the day have students walk away understanding that two plus two is five, obviously, that would be a problem.
Q So it's got to be taught in a way that ultimately the student is told whether it's accurate or not accurate?
A Clearly indicating or thereabouts, yeah.
Q Yes. So I mean, if what is being taught or introduced to students is misleading, that too would not be good

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pedagogy?
A If what is being taught is represented as accurate, that would be a problem.
Q If it was in fact inaccurate?
A If it's inaccurate and being taught as accurate.
Q And if what is being taught is misleading, is that good pedagogy?
A I guess you'll have to -- what do you mean by misleading?
Q Well, let's say you taught students that man once walked with dinosaurs. Would that be good pedagogy?
A How is it being included?
Q In a biology class if you said to students reviewing a chapter on dinosaurs, "Man once walked with dinosaurs"?
A If you taught that as accurate or fact, is that what you're saying? That would be questionable.
Q So would that be good or bad pedagogy to tell students that man walked with dinosaurs?
A Again, if you're including it as a thesis/antithesis as one model or another model as representing something as fact, representing something as unquestioned, accurate, to use your word, that would be problematic.
Q So if you taught in science class that some people believe that man walked on the earth with dinosaurs, that would be good pedagogy, that would be appropriate?

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A So much of this is contextual. That particular one is very contextual.
Q We're talking about science class, we're having a discussion of dinosaurs, and there's -- they teach that dinosaurs walked the earth millions of years before man arrived. If you then also added to that "And some people believe that dinosaurs walked on this earth with man," would that be appropriate in a science class?
A Again, it's contextual. I mean, one would have to ask why are you including that, what's the objective, et cetera, et cetera. That's what I mean by contextual.
Q To promote -- encourage critical thinking.
A Potentially.
Q So that would be okay?
A Potentially.
Q And that wouldn't -- would that be -- would it be misleading to introduce in a science class the notion that man and dinosaurs walked on the earth at the same time?
A No, no, no, what you said was -- you've just presented two different things.
Q I know, I've changed it.
MR. THOMPSON: Objection. You asked -- the question the first time is if some people thought that, and the next time you used, instead of "some people,"

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you used "notion." There's two totally different hypothetical situations there.
MR. WALCZAK: Right. I've changed it.
BY MR. WALCZAK:
Q So instead of saying some people believe, now you say that there's another school of thought that dinosaurs walked on the earth at the same time as people.
A And your question would be?
Q Is that appropriate, is that --
A Potentially. Again, that's what I mean, it's contextual.
Q What does it depend on?
A Well, I think it depends on what are your objectives, what is your purpose for introducing that content, what points are you trying to make, what is it you want students to know, what pedagogy are you trying to use here, things like that.
Q I guess there must be some standards or judgments made about whether it's appropriate to teach something? Are there standards that exist to decide whether something should be taught?
A Yeah. Well, now all states teach to their own standards.
Q So would it be appropriate in a science class to teach the earth is flat, would that be good pedagogy?

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A I guess we're going over the same ground.
Q Right, let me give you some hypotheticals. Would that be good pedagogy?
A If you're teaching the earth is flat as an accurate statement, as a fact, probably not.
Q Probably not or definitely not?
A Again, as you said it, "Boys and girls, the earth is flat," one would say no.
Q And that's because? Why would that not be appropriate?
A There appears to be pretty wide consensus that that is not an accurate or true representation of the world.
Q How about if you -- the teacher taught that the universe revolves around the earth, would that be good pedagogy?
A Again, are they presenting this as fact or are they saying this is what some people think or --
Q No, as fact.
A It certainly wouldn't be consistent with state standards.
Q How about if a science teacher presented the theory of cold fusion and said there is this theory of cold fusion?
A Okay.
Q Would that be good science pedagogy?
A Well, I don't know that I could answer that.
Q Why?

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A Because I'm not a cold fusion -- that's not something I know much about.
Q There are scientists who believe in cold fusion.
A Okay. Well, again, I couldn't --
Q Would it be -- so would it be good pedagogy, for instance, to say there are scientists who believe in cold fusion who may --
MR. THOMPSON: He's answered he doesn't know much about it, so he couldn't answer the question, and you're asking the same question over again.
BY MR. WALCZAK:
Q If you said -- I mean, assume the truth of what I'm saying, that there are scientists out there who have said cold fusion is a valid theory. If it was taught, if a teacher said there are scientists out there who believe in cold fusion, here's a book you can read to learn more about it, would that be appropriate?
A Well, you've got a couple different things working there. You asked me before is it appropriate for teachers to teach cold fusion or even to tell students that some believe in cold fusion. That's one thing. If I'm a practicing school principal, I may go back and look at our state and district standards and ask is this something that we have to teach or should teach consistent with what the students need to know or be

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able to do.
Q So one of the places you'd look would be the state standards?
A Inevitably.
Q What about if a teacher said homosexuality is a matter of genetics and not life-style, would that be appropriate for a teacher to say that in class?
A Again, going back to what does the district and what does the state say students need to know and be able to do about this.
Q Let's say that it's silent, let's say the standards are silent on homosexuality and a teacher decides that I'm going to tell the students that homosexuality is an issue of orientation, it's biological, not a life-style choice, is that appropriate for -- is that good pedagogy for teachers to say that?
A I think good pedagogy is what do the students need to know and be able to do. The time span that students have in class and teachers have with students is remarkably limited given all the things that students have to know and be able to do and will be tested on, so very often I tell and used to tell teachers that they need to be parsimonious.
Q Okay. But would it be good pedagogy for a teacher to teach that?

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A Again, if it's something the students need to know and be able to do and it's consistent with content standards and they're going to be tested on it, then that would be something that a teacher would need to do. But if it's not, then --
Q But I'm saying if it's -- you know, intelligent design is not required to be -- is not tested.
A Nor is it taught.
Q But you're spending time, even if it's only a minute, they've made a decision to spend time in the classroom alerting students to intelligent design?
A Alerting them to its existence, but certainly not its definition.
Q But alerting them to the whole concept --
A No. What do you mean by "whole concept"?
Q Well, the concept of intelligent design. I mean, you have introduced the concept of intelligent design into students' lives there. They may pick it up somewhere else, but but for this policy, students would not be exposed to this in school?
A I don't know that I'd agree with either one of those.
Q Why?
A Number one, you've introduced the term. That doesn't necessarily mean you've introduced the concept.
Q You've introduced the term and you've introduced a book

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that you've told them is in the library.
A As are many books.
Q So how have you not introduced the concept?
A You haven't defined it for them, they haven't -- you've not told them what it is, just that there is this term.
Q So what's the purpose of doing that?
A That students understand that there are other alternatives.
Q So you're teaching -- you're telling students that there are alternatives to evolution and one of them is intelligent design, we're not going to tell you any more, you've got to go find out on your own, but you have introduced the concept that there is an alternative to evolution and it's called intelligent design?
A You've --
MR. THOMPSON: Objection. I think the confusion here is what do you mean by the term "concept." The concept can be defined in different ways. He's just saying it's the term, it's not the concept.
BY MR. WALCZAK:
Q Well, how would you define a concept?
A To me, concept denotes more than simply the term. Some level of understanding about what it is.
Q Behind the term is there a concept?
A Yeah, behind all terms there are concepts.

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Q Right. So by alerting -- I mean, how do you label any concept?
A How do you label the concept?
Q Yeah. How do you designate a concept, how do you refer to a concept? You use a term, right?
A Obviously.
Q Right.
A But in introducing a term, that doesn't necessarily mean you've introduced the concept. They're not synonymous. One is a metaphorical symbol or representation of something else. Just because you know the words doesn't necessarily mean you know the referent.
Q You've encouraged students to explore the concept?
A Okay.
Q Yes?
A Okay.
Q In the Dover policy, is that right?
A That's pretty clear, they encouraged them to -- they tell them their alternatives and to keep an open mind and so on and so forth. If you want more understanding, you can find out at the library.
Q Let me give you another hypothetical. Let's say we're in health class and what they teach is that abortions are medically safe, and if you need one but are afraid to tell your parents, you can probably still get one

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without telling your parents by going to a judge and here's a telephone number for a legal aid lawyer who can help you.

Is that pedagogically appropriate?

A I'm going to sound redundant, but if that's something that students need to know and be able to do according to district and state standards, then you decide from there.

Q It's about sexual -- it's about reproductive health. Say the standard says students should know about health and they're teaching and it's sort of vague and they're -- I mean, the standards are vague, right?

A The state standard -- well, it depends. Some state standards are far more detailed. But what you typically find is state standards can be general, district-adopted standards are far more specific.

Q Students should be familiar with reproductive health. Is it appropriate to teach what I just read?

A Again, what is the School Board adopted, what is the approved curriculum?

Q So there's no pedagogical standards outside what the school decides?

A That may be true. There are other schools, other districts, other states, other associations --

Q Does every school district necessarily teach well?

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A If only it were so.

Q Right. And how do you decide whether -- I mean, because a school district decides to teach something in a certain way doesn't make it right, is that correct?

A Well, again, teachers are employees of the school district. They teach what they are told to teach.

Q But is there some independent standards about whether a school district's pedagogy or curriculum is good, or is it just up to every school district to decide for themselves?

A Every school district is bound, at a minimum, to state standards.

Q But are there standards in the field of education as to what is the right way and the wrong way or a good way or a bad way to teach?

A There are opinions, yes.

Q But there's no hard and fast rules?

A Well, somebody might call their opinion a rule.

Q How do you decide what gets taught in science class?

A How does one decide how it gets taught in science class?

Q Yeah. Is there a right way and a wrong way? What's the process by which a school should decide what gets taught in science class?

A Again, schools are bound to state standards. That's what they have to include in their -- their district standards, their curricula and so forth.

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(Exhibit Number 3 was marked for identification.)

BY MR. WALCZAK:

Q I've shown you what's been marked as Exhibit 3. Do you recognize this?

A Yes.

Q What is it?

A It appears to be the Pennsylvania state standards.

Q And in fact, you opined that the Dover policy is good pedagogy because it's consistent with the Pennsylvania state standards?

A Correct.

Q Please show me in here where it mentions intelligent design?

A It does not.

Q It doesn't?

A Correct.

Q Oh. So if it's not in the standards, how is it good pedagogy for the school to teach it?

A It's not teaching it, it's teaching evolution.

Q How is it good pedagogy to spend a minute of time in the classroom introducing students to the concept?

A It's consistent with the standard that I referenced in my report.

Q Is that on page 10?

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A It's on page 10 of the standards?

Q Yeah.

A Thank you. To critically evaluate the status of existing theories. It includes several in that list.

Q Do you know if the Dover School District reads a statement similar to the one on evolution when it teaches germ theory?

A I do not know.

Q Do you know if they read it when they teach wave theory?

A I do not know.

Q Epidemiology?

A I don't know.

Q I hate that word. But nowhere in these standards does it mention intelligent design?

A Correct.

Q And so really, there's no reason to teach students intelligent design?

A And the students are -- and the school is not.

Q Why is the school not teaching intelligent design?

A Well, I think it kind of harkens back to what I was talking about earlier, time is limited and students are tested on certain things, and the school needs to spend its time on things that students will be tested on according to state standards.

Q But intelligent design is not one of those?

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A One of those being taught?
Q One of those being tested?
A Correct.
Q So this is not a justification for teaching intelligent design, "this" being the Pennsylvania state standards?
A No, it's a justification for critically evaluating the existence of certain theories.
Q So the state standards may support telling students about the need to think critically, but the standards do not support that part of the statement that introduces students to intelligent design?
A The standards are supporting the idea of telling students the present status of a theory, in this case, evolution.
Q But it doesn't suggest telling students about intelligent --
A It doesn't name intelligent design.
Q So the part of the statement that -- the third paragraph which talks about intelligent design is not supported by the Pennsylvania state standards?
A It's supported in the sense that they're alerting students to the fact that there are alternatives.
Q Where does it say alternatives -- to teach students about alternatives to evolution?
A It's implicit in the idea of the status of an existing

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theory.
Q It says "critically evaluate."
A Um-hmm.
Q It doesn't say anything in here -- does it say anything anywhere in the standards about introducing alternatives to evolution?
MR. THOMPSON: Objection, asked and answered.
BY MR. WALCZAK:
Q Just humor me one more time.
There's nothing in here about introducing students to, quote, all alternatives to evolution?
A There is not specific language.
Q Are you aware of any state standards that require students to learn about intelligent design?
A None that I know of.
Q Have you reviewed any?
A Have I reviewed any what?
Q Any state standards besides Pennsylvania's?
A Certainly.
Q Which ones?
A Ohio, Colorado, Michigan, California, Texas, Florida. Arizona.
Q In any of the ones that you've reviewed, none of them require that students learn about intelligent design?
A That I read, correct.

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Q Are you aware whether the achievement test in biology questions students about intelligent design?
A You mean the state assessment, is that what you're talking about?
Q Are there state and national tests?
A Well, that depends. There is absolutely a state test.
Q For like when you get advanced placement, correct?
A The AP is the national, and then a school may participate in the NAEP, so that's a national.
Q What's NAEP?
A National Assessment of Educational Progress. So they may participate in that. Depending on -- and I don't know if Dover has different programs, but there are other programs that have state tests -- or national tests, as well, but for sure they will do state tests.
Q Are you aware of any national or state tests that test students on intelligent design?
A Not that I know of.
Q So I want to come back and make sure I understand -- I'm coming back to the question of who and how do you decide what is appropriate to teach in science class. So you've mentioned the standards, state standards, and we've just established that Pennsylvania does not introduce the concept of intelligent design.
MR. THOMPSON: Explicitly.

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MR. WALCZAK: Explicitly.
MR. THOMPSON: But implicitly, he said it does.
BY MR. WALCZAK:
Q So are you saying that these standards support the reference to intelligent design?
A Through the idea of critically evaluating theories, it supports the idea of -- in evaluating the theory talking about where the theory stands, alternatives, et cetera, et cetera.
Q Now, is it good pedagogy to throw out an idea and then not discuss it?
A I think we talked about this earlier, as well. There will be times that you will introduce a topic that you may not discuss or discuss at length.
Q Or discuss at all?
A Potentially.
Q So give me an example?
A So when I'm teaching statistics and I talk about analysis of variants and I teach that at length, I also tell students about other related procedures like MANOVA, MANCOVA, ANCOVA, and in the process, I introduce them to the fact that there are these things, but I don't necessarily teach them.
Q And what grades do you teach?
A Graduate students.

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Q You teach at the university level?
A Correct.
Q You said you hadn't read Of Pandas and People?
A Correct.
Q Do you know whether it is an accurate depiction of intelligent design?
MR. THOMPSON: Objection. He just said he didn't read it, so how would he be able to answer that question?
MR. WALCZAK: Well, he can answer that he doesn't know.
A I don't know.
BY MR. WALCZAK:
Q So if Of Pandas and People were an inaccurate or a misleading explanation of intelligent design, would that change your opinion?
MR. THOMPSON: Objection, speculation, assuming facts not in evidence.
BY MR. WALCZAK:
Q Go ahead and answer.
A I would hesitate to answer because I don't know.
Q Well, I mean, the policy says the reference book Of Pandas and People is available for any student to see if you would like to explore this view in an effort to gain an understanding of what intelligent design

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actually involves.
Let's say that Of Pandas and People was, for instance, outdated and had errors in it. Would sending students to that book be good pedagogy?
MR. THOMPSON: Objection, again, assuming facts not in evidence, speculation.
MR. WALCZAK: You can have a standing objection.
A Pedagogy connotes teaching, deliberate instruction. That isn't going on here.
BY MR. WALCZAK:
Q So why are you telling -- okay.
So there's no problem telling students that homosexuality has a biological basis?
MR. THOMPSON: Objection. It's irrelevant to the issues at hand.
BY MR. WALCZAK:
Q I mean, just getting up at the beginning of health class and saying homosexuality has a biological basis and abortions can be performed safely in medically safe procedures and you can get them even when you're 14 and 15 years old by going to a judge --
MR. THOMPSON: Objection, irrelevant, ambiguous questions, vague.
BY MR. WALCZAK:
Q So would that be teaching if a teacher just stood up and

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said that?
A In the classic definition that we talked about earlier, it's not teaching.
Q Should a teacher do that, make those two statements? Would you object if you learned that a teacher made those statements?
MR. THOMPSON: Objection. Again, it's vague, speculative, ambiguous, irrelevant to the issues at hand.
BY MR. WALCZAK:
Q Would you be upset if you knew that a teacher said those things in class?
A Again, I go back to what I talked about earlier, is this part of our district-approved curriculum, are these according to standards, et cetera, et cetera.
Q The curriculum says to teach about reproductive health and to teach about people in our society, it doesn't say anything specifically, but the teacher is not really teaching this, she's just saying these things at the start of class. Is that objectionable?
MR. THOMPSON: Again --
MR. WALCZAK: I'm giving him a hypothetical. I understand, but I'm giving him --
MR. THOMPSON: But it's not -- it's irrelevant to anything we're talking about.

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MR. WALCZAK: Okay, fine.
BY MR. WALCZAK:
Q Answer the question.
A Again, is it relevant to district standards, state --
Q Yes.
A -- standards and the approved curriculum?
Q Yes, it's relevant, but it's not expressly required.
A If it's not required and it's not part of the approved curriculum, then it's not something that teachers ought to spend time on. They have limited time.
Q But you're applying a different standard now for intelligent design because it's not mentioned in these standards.
A And they don't teach it in class.
Q But my teacher is not teaching it either, she's simply making the statement that homosexuality has biological origins, that's it. She's not teaching -- maybe she'll say there's a book in the library that you might want to check out that will explain all that, but we're not going to discuss that anymore here.
Is that objectionable?
A It may be to some, but to others it will not be.
Q Is that good pedagogy?
A That is a matter of a district's and a school's opinion and practice. Some districts would clearly subscribe to

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it, while others would not.
Q Can you tell me how Darwinian evolution is different from evolution?
A Darwinian evolution as opposed to all evolution or what evolution?
Q I mean, I use the term "evolution," but I repeatedly see in writings by the experts that you've cited who have done reports in this case and they talk about Darwinian evolution.
How is Darwinian evolution different from evolution, do you know?
A Well, from the general understanding of evolution being change over time, is that what you mean?
Q I don't know, I'm asking you, I'm looking for help.
A I bet you are. It fits within kind of this umbrella of change over time.
Q Darwinian evolution?
A Yes.
Q But how is it different, what -- I mean, if it fits within, then it's smaller than.
What distinguishes Darwinian evolution from evolution?
A My understanding is that Darwinian evolution is more specific or is specific to issues around natural selection, for example, which the greater umbrella term

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of "evolution" doesn't necessarily or specifically connote.
Q And what is Darwinism, how does that differ?
A I think that would be the same.
Q So Darwinism and Darwinian evolution are the same?
A That's my guess. I don't know for a fact.
Q And explain for me what is intelligent design?
MR. THOMPSON: Objection. I think you asked that question early on.
MR. WALCZAK: I don't think I did, actually.
A Intelligent design proposes that certain aspects of living things indicate or were as a result of intelligent design or design principles rather than self-organization.
BY MR. WALCZAK:
Q In the book Pandas, it says -- I'll show it to you so you don't have to believe me.
(Exhibit Number 4 was marked for identification.)
BY MR. WALCZAK:
Q This is from Of Pandas and People. On the bottom of the first page, the last paragraph there.
A Are you asking me to read it?
Q Let me read that first sentence and I'll ask you if I read it correctly. "Evolutionists object to the view of intelligent design because it does not give a natural

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cause explanation of how the various forms of life started in the first place."
Is that your understanding of intelligent design?
A What I gave you is my understanding of intelligent design. I couldn't speak at great length about all of the intricacies about what Evolutionists believe about intelligent design, for example.
Q Well, let's look at that next sentence. "Intelligent design means that various forms of life began abruptly through an intelligent agency, with their distinctive features all ready intact, fish with fins and scales, birds with feathers, beaks and wings, et cetera."
Is that your understanding of intelligent design?
A I will take the book at face value that that's how it's being defined by those in the field.
Q So you don't independently know whether that's right or wrong?
A Correct.
Q Is that consistent with your understanding of intelligent design?
A Again, I'll have to take that at face value that that's how they define it.
Q Are there better descriptions of intelligent design than what is presented in Pandas?
A I don't know.

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Q You don't know?
A No.
Q So you haven't read any other books about intelligent design, in fact, you --
MR. THOMPSON: He hasn't read Of Pandas and People, as well.
MR. WALCZAK: Right.
A Correct, I did not read that.
BY MR. WALCZAK:
Q So you haven't read any books about intelligent design?
A Only what we talked about earlier.
Q Which was Behe's report, I believe?
A Behe's report and --
Q And some news articles?
A Right, and other sources.
Q Do you know what version of the book the Dover School Board is using?
A No idea.
Q Do you know if there are newer versions of the book?
A I don't know.
Q Do you know if there have been changes in ID theory since the Pandas book was written?
A I suspect so, but I don't know that for a fact.
Q Who or what is the intelligent agent in intelligent design?

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A I have no idea.
Q You don't know?
A No.
Q Is it God?
MR. THOMPSON: He just said he didn't know. Asked and answered.
A I don't know.
BY MR. WALCZAK:
Q I think you mentioned there was research going on into intelligent design.
Are you aware of any research being done to test who the -- who or what the designer is?
A I don't know that.
Q Can you think of a way to test that?
A To test the existence of the source of intelligent design?
Q To test the identity of the designer?
A Are you asking me are they doing that or are you asking me --
Q Do you know if they're trying to --
A Oh, I don't know that.
Q And you wouldn't know how to construct a test for the identity of the designer?
A Given that it's not my field.
Q Do you know how old the earth is under intelligent

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design theory?
A No.
THE WITNESS: Do we need to take a break?
MR. THOMPSON: We should probably.
(Short recess.)
BY MR. WALCZAK:
Q Does intelligent design promote a supernatural cause agent or a natural cause agent?
A I don't know.
Q You don't know?
A Correct.
Q Is intelligent design religious?
A I don't think so.
Q But do you know?
A I mean, I've not read anything that would indicate it is.
Q Are you familiar with something called The Wedge?
A Can you be more specific?
Q Are you familiar with the name Phillip Johnson?
A Um-hmm. I'm sorry, yes.
Q What do you know about Phillip Johnson?
A I think he's a professor emeritus at -- I think he's in the UC system. He's an attorney.
Q Does he have something to do with intelligent design?
A My understanding is he speaks about it.

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Q Do you know if he's involved in research on it?
A I don't know that.
Q Do you know if he was involved in the formulation of the theory?
A I don't know that.
(Exhibit Number 5 was marked for identification.)
BY MR. WALCZAK:
Q I show you what's been marked as Exhibit 5. This is actually an article out of Touchstone Magazine in 1999 entitled The Wedge by Phillip Johnson.
MR. THOMPSON: Is there a question to that?
MR. WALCZAK: Yeah. The question I had asked is are you familiar with The Wedge, and Dr. Carpenter asked if I could give him --
A More specifics.
BY MR. WALCZAK:
Q Right.
A Correct. I'm familiar with it in the sense that I think one of the experts talked about it in this -- in relation to this.
Q And do you know what it is?
A From what the expert said, as she defined it, it was a way to introduce the topic of intelligent design, I think is what she said. If I'm misrepresenting her, I apologize.

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Q So you don't have any independent knowledge other than what you read in one or more of the expert reports?
A Correct.
Q Do you know what is irreducible complexity?
A My understanding is that it's the idea that an organism has to have a certain collection, configuration, group of component parts, and without those component parts, it doesn't operate or function.
Q And is that an element of intelligent design?
A That's my understanding from reading the reports.
Q Do you know how you get from irreducible complexity to intelligent design?
A Not in detail, no.
Q What do you know?
A There's a discussion about probabilities around self-organization creating those component parts as you see them as opposed to the likelihood of intelligent design.
Q Now, if, for instance, there was an example used for intelligent design that said here's an irreducibly complex object, and then science as they keep learning new things found in fact that this was not an irreducibly complex thing, would that refute intelligent design?
A Well, it's a refutation of some part of intelligent

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design.
Q Do you know anything about bacterial flagellum?
A Only that there is such a thing.
Q So are you familiar with Professor Behe's explanation of intelligent design using bacterial flagellum?
A Familiar?
Q Have you learned it? Has he taught it to you?
A He certainly didn't teach it to me personally.
Q Do you understand it?
A Insomuch as what I read in his report. And others, I think others referenced it, as well.
Q But you don't have any kind of background of cell biology?
A No.
Q In your report you talk about different ways of knowing, right?
A Correct.
Q You also said that you don't know whether intelligent design has a natural or a supernatural causation model?
A I don't know that for a fact. I assume it was natural, but I don't --
Q You assume that it's natural?
A From what I've read, that's my understanding.
Q Assume for a moment that intelligent design is supernatural causation. Is it appropriate to teach in

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science class?
MR. THOMPSON: I'll object as vague. When you say "appropriate," under what -- you know, what standard, appropriate constitutionally, appropriate pedagogically?
MR. WALCZAK: Pedagogically.
MR. THOMPSON: Okay.
A I think we're back to where we were before in the sense that what is the District's curriculum, what are their standards, what is the approved curriculum.
BY MR. WALCZAK:
Q So you're -- and I'm sorry because maybe I'm just hearing what I want to hear or I'm not understanding what I'm hearing.
So there are no standards outside of a school district's as to what is good or bad pedagogy for a science curriculum?
A If we define standards as a list of what students should know and be able to do, is that how we're defining standards?
Q How do you want to define standards? How are standards defined? I mean, I know there's the state standards. Is there -- I mean, I'm looking for a normative benchmark against which to judge something in the science curriculum. In prison litigation, the American Correctional Association has standards for a well-run

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prison.
Are there any standards to judge whether a science curriculum is good or bad?
A Yes, there are multiple standards. The districts have theirs, the state has theirs, each state has theirs, and then associations have theirs, one of them being the National Science Education Standards, and there may be others that I'm unaware of.
Q And do you know whether any of the national associations, societies, academies' standards talk about supernatural causation?
A I don't know that.
Q So you don't know whether they talk about them or you don't know what they say?
A I don't know whether they talk about them.
Q So you haven't consulted those?
A I consulted the ones that I listed or referenced.
Q Would you consider those national associations societies, academies, would you consider any standards they put out to be authoritative?
A Authoritative in what sense?
Q Would you consider them to be a good guide as to whether or not a particular curriculum is good pedagogically?
A They are a guide and probably a respected guide, but schools are bound only to their specific states and

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districts.
Q Now, are we distinguishing -- are you making a distinction between legal standards and pedagogical standards here? Clearly, a school is bound by -- legally bound by the standards that are passed by the district or are passed by the state. I'm talking about pedagogical, not legal standards here.
A I do understand what you mean. I was speaking specifically for sure of the legal, in print, published standards. But many districts -- not so much states, but many districts, maybe even most districts, will also have standards around pedagogy, as well.
Q And who is in a better position to decide standards on particular topics, is it each individual school district or might it be the national societies, academies, organizations?
A That's a value judgment you're asking me to make.
Q I am.
A In some ways, it's -- I think it's the locality informs us some way by the larger discussion.
Q What larger discussion?
A The larger community, if you will.
Q You mean the community where the schools are located?
A Well, most certainly that, but I was thinking beyond that, as well, that school districts take into account a

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discussion greater than just what's going on in their district. So within their community, within their state, et cetera.
Q Are you aware of national standards in other subject areas besides the sciences?
A Am I aware of them?
Q Yeah.
A Um-hmm. I'm sorry, yes.
Q What other topic areas have national standards?
A Practically every one of them. English, math, social studies, dance. I mean --
Q And I'm trying to educate myself.
A Sure.
Q Let's take social studies, who puts out the standards on social studies?
A The process looks very similar across disciplines in that there will be various national organizations that are dedicated to that discipline who either will work by themselves or in concert with other like organizations to produce standards, and then there are the states that produce their standards and the districts that produce their standards. I mean, the process is very similar across these disciplines.
Q And is the expertise relied on at each level the same?
A Do you mean --

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Q Well, is there a qualitative difference in kind of the standards and the process that goes into developing the standards, is there a state, national, local?
A Perhaps in some disciplines there might be some notable differences.
Q And so the differences would be what? I mean, the standards would be more sophisticated, more informed at the national level than the state level?
A Often it's a matter of who, who is involved or what type of person is involved at what level. Some states will align closely with professional organizations, others won't.
Q And do you look to national standards in other disciplines outside the natural sciences as a benchmark for good or bad pedagogy?
A Not necessarily. I mean, when I teach a class, I teach a class on program evaluation, and in the class I often -- not often, I do talk to students and we discuss aligning curricular activities with standards and how does one measure effectiveness and so on and so forth, and in that class we spend most of our time looking at alignment between curricular issues, lessons and so forth, with district standards and then with state standards.
Q So the ones that are legally binding?

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A Absolutely.
Q So you look at them from whether the curriculum is legal more so than whether it's pedagogically good?
A Boy, there's a lot in that. Certainly the short answer would be yes, we look at them from the legal perspective because that's what students have to know and that's what they want to know. They're not big on theory. But we also talk beyond legal, as well. I wouldn't want to leave the impression that it's just a legalistic view of program evaluation, it's not that.
Q And do the national standards inform what is a good programmatic model?
A In our discussion? Again, not as often. I would be surprised if you would find that -- in the type of class I teach, I would be surprised if you'd find that.
(Exhibit Number 6 was marked for identification.)
BY MR. WALCZAK:
Q I'll show you what's been marked as Exhibit 6.
Have you seen this document before?
A No.
Q It's a newspaper article from The Seattle Times from March 31st.
Do you know who Stephen Meyer is?
MR. WALCZAK: Is it Meyer, Mayor (ph), Dick?
MR. THOMPSON: I say Meyer, but I'm not -- I've

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never talked to him, so I don't know.
A It says here that he's the Director of the Center for Science and Culture.
BY MR. WALCZAK:
Q Had you ever heard his name before?
A I have heard of his name, yes.
Q Have you ever met him?
A Never.
Q You never talked to him?
A No.
Q Do you know anything about the Discovery Institute?
A Only just very briefly.
Q I want you to look on page 3 of 4. I want you to go to the ninth paragraph, full paragraph, it starts "Meyer, however."
A Okay.
Q The second sentence. "His goal, a big one, is to change the very definition of science so that it doesn't rule out the possibility that an intelligent designer is actively at work." And "Science should be open to whatever cause ... can best explain the data."
Does that accord with your understanding of intelligent design, that you really need to change the definition of science to be able to teach intelligent design?

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A Again, I don't know that firsthand.
Q You don't know?
A Correct. Because I don't know -- I --
Q If in fact intelligent design is predicated on supernatural causation, is it appropriate to teach or to even introduce the subject in a biology class?
MR. THOMPSON: Objection. That calls for a legal conclusion. In what context?
BY MR. WALCZAK:
Q Go ahead and answer.
A Why don't you repeat it for me.
Q Assuming here, as it seems Mr. Meyer is, that intelligent design is predicated on supernatural causation, would it be pedagogically appropriate, not legally, but pedagogically appropriate to introduce intelligent design into a biology course?
A It could be, yes.
Q And explain that?
A Well, it's -- if you're -- if you tell students that there are alternatives, intelligent design is one of those, you're not telling the students that it's good or bad.
Q But if, as Mr. Meyer says, you have to change the definition of science for intelligent design to be considered science, is it good pedagogy to tell students

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that this is a valid scientific alternative to intelligent -- to evolution?
A I hesitated to answer because we don't know that -- I don't know that is in fact what Meyer says. This is what Linda Shaw says Meyer believes.
Q Let's assume that intelligent design includes a supernatural causation, okay? Is it appropriate to introduce that in a biology class?
MR. THOMPSON: Objection, assuming facts not in evidence, calls for a speculative answer.
BY MR. WALCZAK:
Q Go ahead.
A Potentially.
Q And potentially under what circumstances?
A When you're introducing alternatives, intelligent design is one of those alternatives.
Q If, assuming again, if it is based on supernatural causation, is it appropriate to tell students that it is a scientific alternative to evolution?
A Potentially, yes. And continuing with the potentialities, there is a very -- there is a chance that as a result of reading what they read, students walk away with a better and perhaps a strong conviction about evolution.
Q Or maybe they walk away thinking that intelligent design

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is science?
A Correct.
Q And if intelligent design is predicated on supernatural causation, is that a good thing to leave students with, is that a good idea to leave students with?
MR. THOMPSON: I'll object to that. That's a pretty vague question, good idea to leave students with.
BY MR. WALCZAK:
Q Is that sound pedagogically, to leave students with the notion that a theory predicated on supernatural causation is a scientific alternative to evolution?
A I mean, that's -- we're asking students to examine the evidence and weigh alternatives one against the other, asking students to assume some measure of control over their learning. That strikes me as a good practice.
Q Are you aware of or can you identify any secular high school science textbooks that teach intelligent design?
A That's a tall order. I mean, there are a lot of --
Q You just have to give me one.
A There are a lot of science textbooks.
Q Are you familiar with a single science textbook, high school science -- secular high school since textbook that discusses intelligent design?
A No.
Q Are you familiar with any secular college or university

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biology textbook that discusses intelligent design?
A No.
Q Can you identify any evolutionary biologists who support intelligent design?
A No.
Q Can you identify any scientists as opposed to mathematicians, philosophers of science, or theologians who support intelligent design, that is, another way to say it, I think, are natural scientists?
A My understanding is there are some of the expert witnesses who are scientists or practicing natural scientists.
Q Do you know who they are?
A My understanding is Professor Behe is a professor of biology. Dr. Minnich is a cell biologist or molecular biologist.
Q Behe is a cell biologist. I don't know what Minnich is. Can you name any others?
A No, not off the top of my head.
Q Can you identify any secular high school science textbooks that discuss this controversy over evolution?
A No.
Q Can you identify any secular college or university biology textbooks that discuss this controversy over evolution?

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A No.
Q Can you identify any science academies or societies that embrace this controversy over evolution?
A "Embrace," what does that mean?
Q That recognize this controversy over evolution?
A I think they recognize it, they see it, they acknowledge it. Is that what you --?
Q Yeah. Who can -- can you tell me which --
A As we referenced earlier and now have forgotten twice to pull that page up, I had mentioned a moment ago that --
Q Okay. We'll need to do that. And do you recall what it is specifically they say about the controversy? They say there's one out there?
A Correct, it's a discussion of this is what's going on.
Q Do they say it's out there in the scientific community or it's out there in the political community?
A Not to be quoted, but I think it's the community at large.
Q So not -- that wouldn't be the scientific community?
A Correct.
Q Are you familiar with any other science academies or societies or organizations that believe that there is a controversy within the scientific community over evolution?
A I've not seen them firsthand in a published account, so

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no.
Q So you're not aware of any?
A Other than what I've read in expert reports.
Q Can you identify any science education academies, societies, organizations that recognize or acknowledge that there is a controversy over evolution within the scientific community?
A How is that different than --
Q Science education.
A Thank you. Again, the people that I'm referencing, it could be science education, but it could be just science.
Q Do you want to boot -- I don't know how long that takes to boot up your computer.
A It takes just a minute or two.
Q And then we can come back in a minute or two here.
Can you identify any science education conferences that have discussed this alleged controversy over evolution?
A In the literature review search that I did, I came across two presentations, two conference presentations that reference the debate or controversy or discussion. I'm not saying that the whole conference was devoted to it, but --
Q Do you know who sponsored those conferences?

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A Not off the top of my head, I'd have to go back and look.
Q Could you provide me with that, provide your counsel with that information and then let me know?
A Okay.
Q Can you identify any peer-reviewed publications or journals that recognize this controversy over evolution?
A I think Scott Campbell -- Angus Campbell, is that one of the experts?
THE WITNESS: Which is it, Scott or Angus?
MR. THOMPSON: Angus.
A His report includes a paper, I believe, he published in a peer review journal talking about the controversy.
BY MR. WALCZAK:
Q You talk about gaps in the theory, in Darwin's theory. Or I'm sorry, the policy talks about gaps in Darwin's theory.
What gaps do you believe need to be taught to students?
A We talked about that a little bit earlier in the sense of macroevolution, how there appear to be gaps in the evolution from one species to another and so forth.
That was the National Science Teachers Association.
Q Can you tell me what the document is? Wait. We're now talk -- this is not the conference, this is the document

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that acknowledges the controversy?
A Yeah. There's a web page on the National Science Teachers Association.
Q Okay.
A The web page is under a tab, I think this is called education news, and they have a subcategory called curriculum.
Q Um-hmm.
A And they have various links talking about -- these appear to be talking about events in Kansas.
Q So this is a news account?
A Correct.
Q Is there any mention in there of the science community discussing the controversy, this alleged controversy, or is it just about the Kansas Board's debating whether to --
A Well, it's talking about the Kansas Board, and inevitably they're talking about inviting members of the science community to come in and be part of the hearings and so on and so forth. So insomuch as it talks about that, it references the science community.
Q But that's it, that's the only thing you can point to in everything you've looked at that the mainstream science community recognizes a controversy over evolution?
A This and those things that were referenced as we talked

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about earlier.
Q What's in the other experts' reports?
A Right.
Q So coming back, so the gap, you think the gaps and problems that need to be taught deal with macroevolution?
A That's my understanding.
Q And where do you get that understanding?
A Just from, again, what I've read in preparation for this.
Q And what is it that should be taught to fix those gaps and problems?
A I beg your pardon?
Q Do you know what it is -- how should the teaching be improved?
A Specific to those gaps?
Q Um-hmm.
A I think at issue is helping students understand that those gaps exist.
Q Should students suspect whether macroevolution actually takes place?
A "Suspect," what does that mean?
Q Do you disagree that macroevolution is a fact?
A Well, that seems to be the central feature of our -- or a central feature of this argument.

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Q What do you think?
A I think various people have weighed in, the National Science Education Standards, the course text, et cetera, et cetera.
Q Are you aware of any science foundation or academy that believes that macroevolution has not -- does not occur or has not occurred or that refutes the notion of macroevolution?
A "Refutes," that's a pretty strong word. Not firsthand.
Q There is a -- scientists continue to study the tempo and mechanisms of evolution.
The question is can you point me to any science organization, academy, society that has taken the position that macroevolution does not occur?
A No.
Q Can you point me to any science education organization, academy, society that encourages or that has set out standards that students should be taught that macroevolution has not occurred?
A Not specifically macroevolution. I mean, the National Science Education Standards -- the National Science Education Standards characterize evolution, details of human evolution as incomplete, but they don't necessarily identify macroevolution specifically.
Q But that's a far cry from saying macroevolution itself

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is suspect?
A "Suspect" is quite the word.
Q Or did not occur?
A I don't think anybody is saying that it did not occur in the classroom.
Q I want to come back to critical thinking here. I don't mean to beat a dead horse.
What are the elements of critical thinking? Is that the Petress elements?
A Those are some elements, um-hmm.
Q So some elements of critical thinking or some activities involved in critical thinking would include discussion?
A Can, yes.
Q Exchange of ideas?
A Yes.
Q And what are some things you would do to promote critical thinking in a classroom setting?
A Well, ask questions like you see listed here in the report, asking questions --
Q Asking questions of whom, asking questions of the students?
A Students asking -- well, yeah, that's pretty broad. Students asking questions of other students, of the teacher, the teacher asking of the students, the students asking questions to themselves. Teachers could

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ask students to pose and answer questions in assignments. So I don't know if that answers your --
Q So is that done alone or is that facilitated by the teacher?
A Both.
Q Can it be done just alone?
A Um-hmm. I'm sorry, yes.
Q Is it better done as a group?
A Yes and no. Probably more on the no side.
Q It's not better done as a group?
A I think it's modeled in the group, but ultimately --
Q What do you mean, modeled?
A Modeled. The teacher models how one might think critically about something and then asks students to act likewise on their own.
Q So is it -- I mean, is it good pedagogy to just throw out an idea and then not discuss it and say, "Here, go think about this critically"?
A Potentially.
Q It is?
A Potentially.
Q Give me an example?
A You've modeled critical thinking to your students and now you're asking them to apply it on their own. And you do that for two, if not more, reasons, two that come

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to mind specifically. One is you want to be able to assess their ability to do it, so it's a form of assessment. And then the second is you want them to be able to do in this case critical thinking, but you eventually want them to be able to habituate certain skills and behaviors, and if they never do it on their own, then they don't -- or they may not reach that level of habituation.

Q How do you know if they've done it, how do you know if they've done it at all?

A Well, that's what I mean, that's why you'd want them to do it on their own. To do it at all, they would have to complete some sort of analysis. Typically, in the classic sense, that's done through a written document, sometimes it's a presentation, sometimes it's an experiment, whatever, but --

Q This is the modeling, or this is the --

A No, no. This is the on their own so that you can assess it. So you can --

Q So they give you something back?

A Some product that indicates they can or have done it.

Q So it's a test or a paper or --

A Or a presentation or an experiment or something.

Q And how do you do that if you don't get anything in response from the students?

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A One way could potentially be a discussion. That's called -- that's -- we call that informal assessment. Teachers often will use informal assessment in the classroom as a way to know whether or not students can defend a position or analyze something critically and so forth.

Q So there has to be some follow-up by the teacher to assess, one, whether the student has done it, two, if they have done it and if they have employed appropriate methodology?

A Ideally, right.

Q So if you need an assessment aspect, how is the Dover policy good pedagogy? Because there's no assessment aspect to that.

A They're assessing what they're teaching in class, that's what they're assessing.

Q But here they've introduced this label for a concept and then there's no follow-up.

Now, how is that good pedagogy?

A To encourage students to think critically doesn't mean that you assess it in every single domain.

Q So they could go out and do all sorts of wacky things?

A All sorts of insidious critical thinking.

Q And there's nobody to correct them? Or the school is not correcting them?

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A Right, I was about to say, I wouldn't say nobody.

Q So it's you're sort of letting out this idea and not guiding the students in the learning process after that?

A That's no different than all -- or not all, but a multitude or a host of other things that kids are reading and analyzing and critiquing on their own and that they may have heard in the classroom or read in a curricular context that is not taught explicitly and tested, but they hear it or they read about it and they go out and find out more information about it on their own, and that may have originated at the school.

Q I think I asked you before if you were familiar with the Discovery Institute?

A Right, you did.

Q And they are one of the chief proponents of intelligent design theory, do you know that, or --

A If you say so, I understand that that's --

Q You don't know that or --

A I understand that that is a part of their -- what they do.

(Exhibit Number 7 was marked for identification.)

BY MR. WALCZAK:

Q I show you what's been marked as Exhibit 7. Have you seen this before?

A No.

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Q Do you want to take a moment and read it to yourself?

A Okay.

Okay.

Q How would you reconcile this with your opinion that this policy is good pedagogy?

MR. THOMPSON: That's a very vague question. Reconcile what?

BY MR. WALCZAK:

Q This seems to say that the Dover policy is the wrong way to go about it, it has a number of problems, lacks clarity. The policy is incoherent. Should be withdrawn and rewritten.

MR. THOMPSON: This is a press release.

MR. WALCZAK: Right. By the Discovery Institute. I don't have to tell you the Discovery Institute's relationship to intelligent design and what we're talking about in this case.

BY MR. WALCZAK:

Q So I'm just asking if you have any reaction to this criticism of the Dover policy and how you would rebut it?

A Well, I hesitate to rebut a press release. I would be much more interested in having some extended discussion with him about it.

Q Well, do the best you can.

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MR. THOMPSON: Again, I object to this because it is -- you're asking him to rebut something that's in a press release that's hearsay that's quoting a particular member of the Discovery Institute. We really don't know the context of how those statements were made and why they were made.

BY MR. WALCZAK:

Q Well, forget that this is in a document. The charge is that Dover's policy lacks clarity. At one point it appears to prohibit Dover Schools from teaching anything about the origins of life, and at another point it appears to both mandate as well as prohibit the teaching of the scientific theory of intelligent design.

What's your response to that criticism?

A Well, obviously, I would disagree with some of it.

Q Explain that?

A In the sense that I don't -- I don't know what they mean by mandate the teaching of intelligent design, I don't know what they mean by that. So that would be a criticism. Again, they say we don't think intelligent design should be required. It's not required.

Q The sources you cited in your report, in your first report, not the rebuttal report, and you cite what, six or seven sources there?

A Um-hmm.

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Q Those are all what I'll call general educational sources, kind of what is good education, standards for good education, is that a fair assessment?

A The Pennsylvania standards, I don't know if I'd classify -- the standards are the standards.

Q Right. Besides the Pennsylvania standards, the other citations are to folks who worked generally in the education field as opposed to science education?

A Assuming the science educators would be included under that general, yes.

Q But the folks you cited are not science educators?

A I don't know that for a fact. I don't know all of their backgrounds.

Q Do any of those sources specifically support introducing the concept of intelligent design to students?

A Not by name.

Q Do any of those sources encourage teaching the controversy around evolution?

A I don't think so.

Q One of your sub-opinions is that the policy is educationally sound because it is in accordance with the Santorum Amendment.

Do you know what the Santorum Amendment is?

A Yes.

Q What is it, legally speaking?

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A A sense of the Senate.

Q Was that adopted by the Senate, was there a vote on that?

A It was entered into the Congressional Record.

Q Was there a vote on it?

A I don't believe so.

Q So when you say in your report "as adopted by the United States Senate," is that correct?

MR. THOMPSON: I think the record will speak for itself. I don't want him to go astray and --

MR. WALCZAK: Well, I want him to answer that because he's saying something in his report that I'm not sure is accurate, and I'd like to --

MR. THOMPSON: I know what the accurate statement is, and he may be inaccurate about saying it was not voted on --

MR. WALCZAK: I'd like to give him an opportunity, since this is all under oath, to be able to make a correction there.

BY MR. WALCZAK:

Q So is that really accurate to say "as adopted by the United States Senate"?

A I don't know that to be accurate or inaccurate.

Q You worked as -- what was your position in Focus on the Family?

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A A policy analyst.

Q And you did a lot of work in Washington?

A That would be a stretch.

Q You did a lot of work on federal legislation?

A "A lot" would be a stretch, too.

Q You did some work on federal legislation?

A "Some" might be a better description.

Q And you have written about the No Child Left Behind law?

A A little bit.

Q And you have some familiarity with how Congress works?

A Correct.

Q And a sense of the Senate or an entry in the Congressional Record is not a law?

A It was --

Q Correct?

A Correct, it was not signed into law.

Q It's not a statute, correct?

A Correct.

Q It's not a federal regulation, correct?

A Correct.

Q It has absolutely no force and effect of law, correct?

A Um-hmm. I'm sorry, yes.

Q So it's a reflection of a view by one, sometimes more, members of Congress?

A A sense of the Senate.

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Q Is it a sense of the Senate or is it --
A That's my understanding.
Q And are you familiar with the No Child Left Behind Act?
A Am I familiar with its existence?
Q Yeah.
A Correct.
Q And you've written about No Child Left Behind?
A A little bit, as I said earlier.
Q Are you familiar with the contents of the legislation?
A Well, it's 1,400 pages, so I don't know every bit of it.
Q Do you know whether it mentions intelligent design?
A I do not believe it does.
Q Do you know whether it mentions evolution?
A I don't know that for a fact whether it does or does not.
Q Do you know whether it mentions biology?
A The word "biology"?
Q Yeah.
A It might. But --
Q You don't know that?
A I'd have to go back and look.
Q Are you aware of any federal statute that either requires or encourages the teaching of intelligent design?
A No.

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Q Are you aware of any federal regulation that requires or encourages the teaching of intelligent design?
A No.
Q Are you aware of any federal statute or regulation that encourages or requires teaching the, quote, unquote, controversy around evolution?
A No.
Q Is there anything else that you think needs to be done for you to -- between now and when you testify at trial?
A Well, I don't think my answer is substantively different than what we talked about before. Because I haven't done that, I don't know how to answer that. So inevitably, I'm sure that I will be doing some more reading and whatnot, but --.
Q Do you feel there's other things you need to do to support your opinion in this case?
A Again, it's similar to what I've already said. I assume you mean in preparation for trial.
Q Right.
A It's not -- again, it's not different than what I talked about earlier in the sense that --
Q Well, we've now had many hours and you've heard the questions that I've been asking.
Are there things that you feel it would be prudent for you to investigate in order to support your testimony?

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A Well, as I said earlier, I think it would be helpful to read other depositions.
Q Depositions or reports?
A Well, if there are more reports coming, that would be helpful, but depositions, as well.
Q The depositions of the experts?
A Yes.
Q Anything else?
A There probably will be, but I would be speculating at this point.
Q So as we sit here right now, you can't think of anything else that you really think should be done to support your opinion?
MR. THOMPSON: I'll object to that, that's a pretty vague, ambiguous question.
MR. WALCZAK: That was pretty clear.
MR. THOMPSON: Support his opinion where?
MR. WALCZAK: His opinion in this case. He has rendered an expert opinion.
BY MR. WALCZAK:
Q Is there anything else that you can think of as you sit here right now that you feel that you should or will do to buttress your opinion in this case?
A Well, I may re-read things that I've read, facts about the case, so forth.

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Q Anything that you haven't read that you're going to read?
A Potentially, but I have no way of knowing what it would be.
Q Can you advise your lawyer when you finish doing whatever additional work you're going to do and advise him what it is that you've done, and then I would ask him to advise us within the Rule 26(b)(4) framework so we can decide whether we need to resume this deposition to assess your additional work?
A Are you asking me can I?
Q Will you let him know what it is --
A If that's the procedure, certainly.
MR. WALCZAK: Is that okay?
MR. THOMPSON: Yes.
(Exhibit Number 8 was marked for identification.)
BY MR. WALCZAK:
Q I show you what's been marked as Exhibit 8.
Does this look familiar?
A Yes.
Q Did you have anything to do with this?
A The vita?
Q Yeah.
A Yes.

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Q What did you do with it? Is this your vita?
A Correct.
Q Let's start with your education. Can you identify for me anything in your education that relates to science education?
A It would include courses on curriculum and pedagogy, assessment --
Q Let's get a little more detail here.
A Sure. Courses around curriculum and pedagogy --
Q Where are we talking about here?
A Oh, I'm sorry. Well, all three of them. I mean, there were classes and courses related to curriculum and pedagogy in all three of those degree programs.
Q But specifically about science education?
A It would be about education generally.
Q Generally?
A Correct.
Q And is there a discussion of science education?
A Occasionally there will be.
Q Did you take courses in any of these places specifically on science education?
A On science, yes. Science education, no.
Q What science courses did you take and where? I didn't think there was a whole lot of them.
A Let's see. Certainly biology in the --

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Q Where was that?
A -- undergraduate program.
Q How many semesters of that did you take?
A Two semesters of that.
Q Was that an intro or an advanced course?
A I think it was the 100 series, you know, probably the intro and then the follow-up to it. I think that's it.
Q So two semesters of biology at University of Colorado?
A Correct.
Q What's BME there?
A Bachelor of Music Education.
Q So you were a music education major?
A Um-hmm, in my first degree.
Q I'm sorry?
A In the first degree.
Q Is that like homicide in the first degree?
A It seemed like it at times.
Q What does that mean, in the first degree?
A The first degree as opposed to the Master's and the Ph.D.
Q Did you have a minor?
A In which one of those?
Q Undergraduate?
A No.
Q Did you take any science classes at Colorado Springs in your Master's program?
A No.
Q Did you take any science education classes?
A No.
Q How about in the Ph.D. program?
A No.
Q No to both science and science education?
A Correct.
Q I want to work up from the -- under professional experience starting with the oldest.
Did you teach at Cheyenne Mountain High School any science classes?
A No.
Q Were you involved in any science clubs?
A No.
Q Did you have anything to do with science there?
A No.
Q How about as a school administrator at Cheyenne Mountain Charter Academy, anything to -- did you teach any science classes?
A No.
Q Were you involved with the science curriculum at all?
A I was involved with all the curriculum.
Q And what did you do?
A Well, it was a little bit of a lot of things. One was working with teachers to ensure that the curriculum was aligned with standards. Making sure that assessments were aligned with lessons, making sure that lessons were clear in objectives, evaluating teachers as they taught lessons.
Q What kind of school is Cheyenne Mountain Charter Academy?
A That's a charter -- public charter school.
Q It's not a parochial school?
A No.
Q Did they teach intelligent design there?
A No.
Q Why not?
A It's not in the Colorado standards.
Q When you were Assistant to the Vice Chancellor for Economic Affairs at University of Colorado, did you teach any science classes?
A No.
Q Did you have anything to do with the science curriculum?
A No.
Q How about as an adjunct professor at Colorado Christian University, did you teach any science classes?
A No.
Q What did you teach?
A As it says there, a little bit of technology, higher

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education, assessment, program evaluation.
Q So you didn't teach science.
Did you teach any science education classes?
A No.
Q As an education policy analyst at Focus on the Family, were you involved in any science-related issues?
A No.
Q Were you involved in any science education issues?
A No.
Q What kind of organization is Focus on the Family?
A Focus is a Christian ministry.
Q And your current job, I assume, is still at University of Colorado, Colorado Springs?
A Correct.
Q Have you ever taught any science education classes?
A No.
Q And I note on the course listing there are thirteen science education classes at Colorado Springs, and you don't teach any of those?
A Correct.
Q And you've never taught any of those?
A That's right.
Q Have you talked to any of the professors who teach those courses about intelligent design?
A No.

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Q Do you know whether any of those professors teach intelligent design as part of the science education curriculum?
A I don't know
Q Did any of your lawyers tell you not to speak to those folks?
A Not -- no, they did not.
Q Let's look at related experiences. Anything you can point to that relates to science?
A No.
Q Science education?
A No.
Q Rather than go through these publications one by one, can you point me to any that relate to science education?
A No.
Q Can you point me to any that discuss intelligent design?
A No.
Q Can you point me to any that discuss the teaching of evolution?
A No, I don't think so.
Q Let's look at presentations. Is it easier if I take all of the presentations together because the answer is going to be the same?
A That would be best.

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Q Okay. Is there anything in peer-reviewed, invited, or non-peer-reviewed that relates to science education?
A No.
Q Anything that relates to science?
A No.
Q Have you ever made a presentation at a science academy, society, organization?
A No.
Q Have you ever made a presentation at a science education organization, academy, society?
A No.
Q I note in some of the introductions of you, notably in this Love Won Out program, it refers to you as an award-winning teacher, principal, public policy analyst, and college professor.
A Um-hmm.
Q What awards did you win as a teacher?
A They're talking specifically about teacher. The award does not apply to the whole string of things.
Q What does the award apply to?
A Teaching.
Q Teaching?
A Correct. That's what I'm saying, it doesn't apply to all the things that come after it.
Q It doesn't?

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A Correct.
Q But it applies to teacher?
A Teacher.
Q And so what award did you win as a teacher?
A To be named amongst Who's Who of America's Teachers.
Q When was that?
A '99, '98, '97, '95, and '94.
Q Is that on your CV here?
A It is.
Q So you have not won awards for being a principal?
A Correct. Or any of the others, right.
Q Have you ever taught science teaching methods to pre-service teachers?
A No.
Q Have you ever taught science teaching methods to in-service teachers?
A No.
Q Have you ever done any research on science education?
A No.
Q What can you point to in your background that helps you to decide what should be taught in science classes?
A It would be training in and experience in educational leadership, curriculum, pedagogy, and so forth.
Q So the general educational background?
A Right. People who work in educational leadership,

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people who are principals, are by necessity generalists.
MR. WALCZAK: Let's take a five-minute break. I think I'm done.
(Short recess.)
BY MR. WALCZAK:
Q I want to go back. I don't think I covered this minor point. I asked the follow-up questions, but not the initial question.
Implicit in your report is that it is good to alert students to the fact that there is a controversy in the science community, is that correct?
A I'm sorry, ask it again.
Q Let me direct you to page 3 of your initial report, the fourth paragraph. "Fourth, drawing students' attention to weaknesses, gaps, and problems in evolutionary theory is a simple matter of accuracy, a basic premise of any instruction. The course text itself acknowledges the controversy surrounding evolution under a section entitled 'Strengths and Weaknesses of Evolutionary Theory.'"
When you say "course text," what do you mean by that?
A The book that's used in the course.
Q The one page that you read?
A The book, right.

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Q What is the controversy in the scientific community?
A The science standards called it incomplete, this -- the authors that I reference, Sober and Steel, this discussion of testing assumptions, that issue that they raise.
Q I don't think that it's controversial that evolution is incomplete. I mean, no theory is complete and may ever be complete, no scientific theory.
Is that the controversy that you're referring to?
A That's at the center of the controversy in addition to the fact that there are other alternatives, people proposing other alternatives, and should these have -- these alternatives have cache and so on and so forth.
Q And the alternatives involve -- how are they alternatives?
A Alternative explanations to natural organisms, the development therein.
Q So natural versus supernatural?
A No, I'm just using the terms that we've used all day. Natural versus sociological.
Q What's sociological?
A What is sociological?
Q Yeah, what does that mean?
A Sociologists, anthropologists, educational researchers,

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they do research on the interactions, the actions and interactions between people typically, and they're -- and sometimes the interactions as a result of environment and so on and so forth.
Q But that doesn't sound like a controversy in the scientific community.
A What?
Q What you just described.
A Sociology?
Q Well, what you just described did not sound like a -- what is it there that's controversial about evolution?
MR. THOMPSON: I think he was trying to describe what he meant by natural. Is that --
THE WITNESS: Yeah.
A Right, you had asked me what do you mean by natural, and I'm saying --
BY MR. WALCZAK:
Q Actually, I asked what you meant by sociological. It's been a long day and we're all tired.
I'm trying to understand the controversy that you allude to in the scientific community, what precisely is that controversy?
A At issue is, as I referenced several people, this idea of -- I think Sober and Steel talk about the idea of

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assumptions, there are these assumptions that are engrained within the scientific community and there are others who challenge those assumptions.
Q And the assumptions that are being challenged are what, that science has to be naturalistic or materialistic?
A No. They're challenging the assumptions, particularly assumptions about evolution that are kind of central.
Q And what are those assumptions?
A Well, Sober and Steel talk about common ancestry as the example.
Q So the controversy in the scientific community that you refer to is about common ancestry?
A The controversy is the idea of challenging assumptions implicit in evolution and the various subcategories within evolution.
Q And the one specific that you've identified is common ancestry?
A Correct, that's the one I referenced with Sober and Steel.
Q I'm sure I've missed things, but I'm too tired to go on. And I want to catch my flight. So we'll see you in September, although you're going to get me information about the conferences that recognize the controversy?
A Correct.
Q And you're going to let your counsel know, who will let

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me know, if you do a substantial amount of additional reading or work to prepare your testimony?
A Correct.
Q And to the extent your opinion changes, you'd have to modify it.
A A report? Okay.
Q I know you look forward to that.
MR. WALCZAK: Do you want to talk about signing? Do you want to sign or waive?
MR. THOMPSON: That's up to you. I'm not --
MR. WALCZAK: You know what? It's the witness's prerogative.
MR. THOMPSON: Do you want to waive the reading and signing of the deposition?
It would probably make it faster, right?
MR. WALCZAK: It does make it faster. You can't make substantive changes, but if there's something -- in the unlikely case that our court reporter made a mistake --
THE WITNESS: That if Beth is a slacker.
MR. THOMPSON: We can always -- it's not going to change what's put down on the paper.
MR. WALCZAK: Right. I mean, it's certainly your prerogative to waive that. Okay. We're done.
(Deposition concluded at 4:13 p.m.)

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State of Michigan)
County of Oakland)
Certificate of Notary Public - Court Reporter

I do hereby certify that the witness, whose attached testimony was taken in the above-entitled matter, was first duly sworn to tell the truth; the testimony contained herein was reduced to writing in the presence of the witness by means of stenography; afterwards transcribed; and is a true and complete transcript of the testimony given by the witness.

I further certify that I am not connected by blood or marriage with any of the parties; their attorneys or agents; and that I am not interested, directly or indirectly, in the matter of controversy.

In witness whereof, I have hereunto set my hand at Troy, Michigan, County of Oakland, State of Michigan.
Dated: May 21, 2005

Elizabeth G. LaBarge, CSR-4467
Certified Shorthand Reporter
Notary Public, Wayne County, Michigan

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