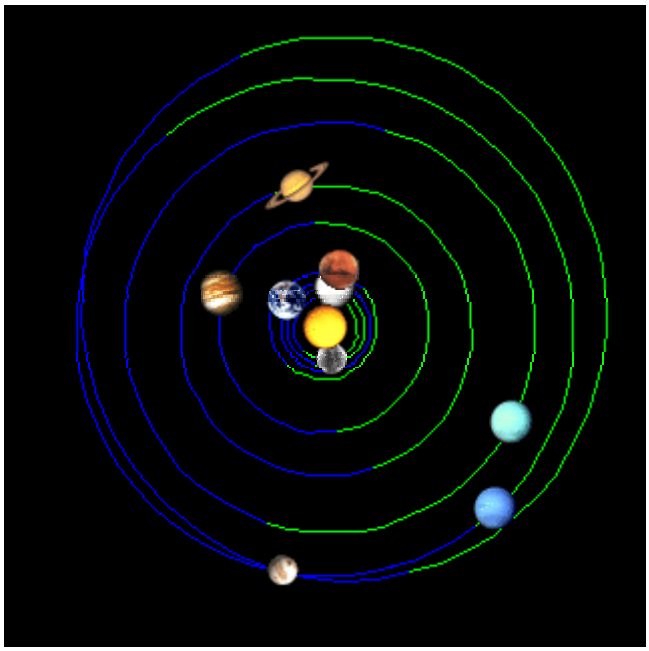
THE EXTINCTION OF THE DIORAMAS

Preparation for this Script

1. Make a simple diorama of the Solar System.
2. Visit this site **http://www.fourmilab.ch/cgi-bin/uncgi/Solar** to find out the position of the planets at the moment. Select the images radio button and press Update.



3. Make cut outs from cardboard or paper of the planets in these sizes ☺

The Sun = 40mm	Mercury = 0.1mm	Venus = 0.3mm
Earth = 0.3mm	Mars = 0.1mm	Jupiter = 4mm
Saturn = 3.3mm	Uranus = 1.3mm	Neptune = 1.3mm
Pluto = 0 (on this scale)		

NB on this scale Pluto is still 170m from the Sun. If you would like a different scale head to **http://www.exploratorium.edu/ronh/solar_system/**

4. Track down 3 trundle wheels and show the kids how to use them.
5. A globe of the Earth and a tennis ball.
6. You will need to perform this play in the centre of a sports field or park.

Characters:

Talk Show Host 1: pretentious & moody and nods a lot in inappropriate places.
Talk Show Host 2: suave & sophisticated and pauses a lot at inappropriate times.
Professor N.E.Body: a brilliant science lecturer with a nervous tic.
Miss Da Point : an old-fashioned teacher with a high-pitched, irritating voice

(Hosts seated on two chairs like in a talk show, two spare chairs next to presenters and a diorama of the Solar System on a table under a cloth)

HOST 1: Good morning (insert country name) and welcome to the The Sunrise Show.

Ned: (hands to face screaming loudly) Aggghhhh! (clicks his own fingers and stops screaming) Oh sorry about that. (clears throat loudly) The sun doesn't 'rise' people, the earth rotates and therefore the sun only appears to 'rise'. It would be much more appropriate to call your show 'The apparent movement of the sun across the morning sky'.

HOST 2: Security! Security!

HOST 1: Hang on a minute… he's our special guest.

HOST 2: Oh, sorry about that.

HOST 1: This morning we have the distinguished guest science lecturer Professor N.E.Body.

Ned: Call me Ned (points finger in a cool way at the Host)

HOST 2: The professor will be discussing his exciting research into a brand new disease that he alone is the only sufferer of.

HOST 1: Professor, can you tell us a little bit about your condition?

Ned: Gladly, the name I have chosen to give this disease is Phobobadis

Sienceo Non Contagious and the only known cure is to click your fingers.

HOST 2: Well, that's incredible Ned, but what does it all mean?

Ned: Actually, when it all comes down to it, it means that I don't handle 'bad science' very well.

HOST 1: Very interesting Ned. Can you tell us a little about what the condition involves?

Ned: Sure. (clears throat loudly) People in our world carry on many myths and misconceptions that were made up long before Science as we know it was around. In fact in our language there are many phrases that are simply 'bad science' .

Host 1: Interesting, can you give us an example of this Ned?

Ned: Certainly, a classic example is because of the term 'shooting star' many people think that a meteor or meteorite is a star falling to earth.

Host 2: You mean it's not a star?

Ned: (hands to face screaming loudly) Agggghhhhh!

Host 1: Snap out of it Ned (click fingers)

Ned: Oh, sorry about that. (clears throat loudly) Most stars are actually giant balls of gas that give off heat and light. They are in effect other suns that are a long, long way from earth. A meteor on the other hand is an object from space (usually a rock) that becomes glowing hot as it passes through the Earth's atmosphere which is not to be confused with a meteorite which is a piece of rock or metal that comes from space and hits the Earth's surface.

HOST 1: Thanks for clearing that up for us Ned.

HOST 2: So you're saying that each time you see or hear of 'bad science' you are reduced to a sniveling wreck.

Ned: Yes. Sad but true.

HOST 2: So if you're watching a cartoon and the moon is made of say… green cheese…

Ned: (Screaming and hiding under chair)

HOST 2: (Clicks fingers and then to the professor) You know, my dad told me that there is no gravity on the moon, is this…

Ned: Aggghhhhh!

All: (Click fingers)

Ned: Sorry about that. (clears throat loudly) There has to be gravity on the moon or people would just float off .The gravity there is a lot weaker than here on Earth and that's why the astronauts could leap so far and appeared to bounce.

HOST 2: So professor, I've also heard that there is no air on the moon.

Ned: Yes, that is perfectly correct but you'd be surprised how many people don't know that.

HOST 2: Thank you for filling us in on your condition Professor.

Ned: No problem, it's been a pleasure.

HOST 1: The next guest on the show will be no stranger to Ned. In fact she is a blast from Ned's past. She was Ned's 4th class teacher. Please put your hands together for… the wonderful… Miss da Point.

All: (Audience applaud)

Miss: (sinister) Ahhh, Ned, we meet again. Ha, Ha, Ha, Ha. (Wicked laugh)

Ned: (shivers) Oh no, my nemesis, back to haunt me.

Miss: Nice to see you Ned. How about we reminisce and sing one of your favourite songs from school.

Host 2: That would be just superb Miss da Point.

Miss: (Clears throat loudly and sings) Hey diddle diddle, the cat and the fiddle, the cow jumped over the moon…

Ned: (Hands to face and screaming loudly) Aggggghhhhhh!

All: Click fingers together.

Ned: Yeah right, as if a cow could jump 384 403km.

Miss: Oh Ned, I see that you are still being picky, oops a 'better word' word for all those young vocabulary builders would be pedantic.

Ned: Oh contraire. I mean on the contrary. It is rhymes and sayings like this that lead children to developing misconceptions about space that they often carry to adulthood.

Host 1: Oh that is very interesting Ned. Let's move on.

Ned: Bear with me for a second, dearest TV personality. I wish to make *da point*. If the world was as big as this globe that I *just happen to have behind my chair*, how high does the studio audience think the Space Shuttle flies?

(Take a few moments to get some predictions from the audience. Ask them to hold their fingers at the distance from the Earth's surface where they think the shuttle would fly)

Ned: Interesting predictions however, on an average mission, the Space Shuttle flies between 320km and 390km above the Earth's surface.

Miss: Mmmm, that is the distance from the Australian capital city of Canberra to to the city of the 2000 Olympics, Sydney.

Host 1: So, if we measure the distance between those two cities on the globe, then turn the ruler skyward, that's how high the Shuttle flies.

Ned: Precisely.

Host 2: So, let's do it!

Ned: (demonstrates how to work out the height with a globe and a ruler)

Ned: So now to continue with my point. The distance across the moon (its diameter) is 3 476km. The distance from Sydney to Perth is 4 025km, so they are pretty close to the same size in space terms. Which just happens to be about the size of the tennis ball that I *just happen to have in my pocket.* **(holds ball up)**

Ned: So people, let's take some ideas as to how far the moon is from the Earth.

(Select several people to come up and hold the tennis ball where they think the moon orbits)

Ned: They are very interesting predictions however, on this scale the tennis ball, which is our model of the moon would orbit about 8 metres away. (use a trundle wheel or a metre rule to demonstrate the distance).

Host 1: Mmm, no wonder a cow couldn't jump over it.

Ned: Precisely.

HOST 2: So let's move on. Miss da Point saw Ned's photo in the paper the other day and remembered that she had some of Ned's earlier work in her cupboard. Can you show us what you found Miss da Point?

Miss: Certainly (unveils the diorama)

Ned: (looking visibly distressed – foot bouncing clutching side of chair with both hands, and teeth chattering)

Miss: (clears throat loudly) Looking this way everybody, ahem. Today I have brought in a wonderful science project that was made by Professor Ned himself when he was in grade 4. This is a wonderful source of information.

Ned: (Absolutely loses control screams, runs around in circles, grabs the diorama throws to the ground and jumps on it all the time yelling) It's not science people! It's just not science! It's craft!!!

Miss: (gives him a 'teacher look' and he slinks back into his chair)

Miss: (clears throat loudly) Ehem, I once used this model to teach children all about the planets.

Ned: No you didn't. This model only teaches the order and colour of the planets and maybe how to colour in and do a little cutting out. It's craft people!

Miss: (ignores Ned) and to help teach the order of the planets I use a lovely saying that goes… My Very Elderly Mother Just Sewed Up Ned's Pants.

Ned: No she didn't!

HOST 1: It's a MNEMONIC (nemm-on-ik) Ned.

Ned: Err, what's that?

HOST 2: It's a strategy that people use to assist memory.

HOST 1: You just take the first letters from each word and they remind you of something else.

Miss: To illustrate my example the 'm' in My stands for Mercury, Very is for

Venus, Elderly is for Earth, Mother is for Mars, Just is for Jupiter, Sewed is for Saturn, Up is for Uranus, Ned is for Neptune and Pants is for Pluto.

Ned: OK, I'll agree that the diorama helps children learn the order of the planets and maybe even the colours of the planets. But there is so much that it teaches incorrectly.

HOST 1: Whatever do you mean Ned?

Ned: Firstly, all the planets are not in a straight line which many people infer from a model like this. Dioramas also give people the wrong impression about the sizes and distance involved in our planetary system. The Solar System is very big.

Host 1: Really Ned. I have had the idea that the Solar System is like a little family.

Ned: Oh far from it. Let me demonstrate with this model of the Solar System that I *just happen to have in my pocket.*

(Now use the graphic of the planets positions, the trundle wheel and the small cutouts to demonstrate)

Ned: Now this is a model that is to scale. The sun is really 1 391 900 km across but for our purposes it is HUGE 40mm. (Place the sun on the floor)

I'm now going to pick some victims…opps… I mean volunteers from the audience to place the planets where they should go.

(ad lib a little here as you select people, give them their planet, tell them how big it is to scale, point them in the direction they need to go and tell them how far to go.)

Distances from the Sun

The Sun = in the centre	Mercury = 1.7m	Venus = 3.1m
Earth = 4.3m	Mars = 6.5m	Jupiter = 22.4m
Saturn = 41m	Uranus = 82.5m	Neptune = 129m
Pluto = 169m		

(Throughout this section the Talk Show Hosts are nodding and looking very interested and Miss da Point is looking more and more shocked with how far away each planet is)

Miss: Oh my goodness Ned. I didn't realise that the Solar System was so big.

Ned: Exactly! …and this is why you must promise me that if you are ever

tempted to have your students build a diorama it must be HUGE!

Miss: Oh I will Ned. I will.

Ned: …and there is just one more point I'd like to mention. Dioramas teach that the planets all hang straight up and down when in fact they spin tilted. Can I have another victim… oops… I mean, volunteer, from the studio audience?

(Victim… oops … volunteer comes up)

I want you to hold this globe for me, and keep it spinning, and I'll show you the angle of the equator (the imaginary line around a planet halfway between the poles) for that planet.

Mercury = 0 degrees – it does spin straight up and down
Venus = 177 degrees – from our point of view it is virtually upside down and spinning backwards.
Earth = 23 degrees – this is why we have the seasons
Mars = 25 degrees
Jupiter = 3 degrees
Saturn = 27 degrees
Uranus = 98 degrees
Neptune = 29 degrees
Pluto = 120 degrees (Victim returns to seat)

Miss: I just didn't realise that the planets spun differently to ours.

Ned: I know. I suspect that you made a diorama of the planets when you were in school?

Miss: (sadly**)** Yes, sadly I did. (Ned places his arm around his old teacher). My teacher set it as a homework assignment. But my Dad did most of it for me.

Ned: (proudly) Mine didn't help me. (now sadly) Only because he failed science. My Mum had to do it.

Host 2: Well. I'm getting the wind up signal from our director so I'd like to thank our special guest for coming in today.

Miss: (Clears throat loudly) I have a theory that I would like to quickly tell you about.

Host 1: Sorry Miss, we are out of …

Miss: (Clears throat loudly) The term 'clicking your fingers' is actually bad science as it is not the fingers that are making the sound, it is the index finger hitting the soft fleshy mound of skin below the thumb. Go on, try it.

Host 1: Mmmm, I see what you mean.

Host 2: So you're saying that the cure for Ned's bad science disease is actually bad science?

Miss: Exactly!

Ned (Loses it completely and runs around the set then off stage while Host 1 & 2 call loudly)

Host 1 & 2: Security! Security!

For more scripts like this one please visit

http://gvc03c32.virtualclassroom.org/

and if you have some comments for us please email them to

hey_ad@yahoo.com