

Informal STEM Polar Research Exhibit - Tredinnick Supplemental Material: Survey instruments for the PVRE pilot study

This section includes the three survey instruments used for the PVRE pilot study. The surveys were programmed using Qualtrics and some logic (e.g. skip) text is also included below.

POLAR exhibit survey - VR

INVITE1 Help us with our research about how people learn from this exhibit by taking a short survey. It will take about three minutes and participation is voluntary.

- I am at least 18 years old and consent to taking this survey. (1)
- I am a parent and agree that my child, who is younger than 18, may take this survey. (2)

Skip To: End of Block If Help us with our research about how people learn from this exhibit by taking a short survey. It w... = I am at least 18 years old and consent to taking this survey.

Display This Question:

If Help us with our research about how people learn from this exhibit by taking a short survey. It w... = I am a parent and agree that my child, who is younger than 18, may take this survey.

INVITE2 Help us with our research about how people learn from this exhibit by taking a short survey.

- I understand taking the survey is voluntary and consent to participating. (1)

XIPAD Specify how many times you played each exhibit:

	Number of Times Played					
	0 (1)	1 (2)	2 (3)	3 (4)	4 (5)	5+ (6)
Virtual reality exhibit (VR)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interactive(big screen) exhibit (TT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Display This Question:

If Specify how many times you played each exhibit: : Number of Times Played != Virtual reality exhibit [0]

EASYVR I found the virtual reality exhibit easy to use.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very

Display This Question:

If Specify how many times you played each exhibit: : Number of Times Played != Virtual reality exhibit [0]

DIFFVR Help us by describing difficulties, if any, you had with the exhibit.

Display This Question:

If Specify how many times you played each exhibit: : Number of Times Played != Interactive(big screen) exhibit [0]

EASYTT I found the interactive(big screen) exhibit easy to use.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
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Display This Question:

If Specify how many times you played each exhibit: : Number of Times Played != Interactive(big screen) exhibit [0]

DIFFTT Help us by describing difficulties, if any, you had with the exhibit.

UNDBEFORE Rate your understanding of IceCube **before** using the exhibit(s).

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
None	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Expert

UNDAFT Rate your understanding of IceCube **after** using the exhibit(s).

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
None	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Expert

RATELRN Rate the statement:

After seeing this exhibit, I would **like to learn more** about IceCube.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Agree

RATEVAL Rate the statement:

The research work at IceCube is **important for society**.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Agree

MCIC Where is IceCube located?

- Mars (1)
- Antarctica (2)
- Asia (3)
- Under the Atlantic Ocean (4)

MCNEUT Where do Neutrinos form?

- Underwater (1)
- The Center of the Earth (2)
- Deep in Outer Space (3)
- Thunderstorms (4)

CMIC Touch and drag the 5 words that have to do with IceCube into the box.

IceCube
_____ Radiation (1)
_____ Telescope (2)
_____ Warm (3)
_____ Detector (4)
_____ Astrophysics (5)
_____ Sensors (6)
_____ Tray (7)
_____ Solar (8)
_____ Frozen (9)
_____ Gas (11)

CMNEUT Touch and drag the 5 words that have to do with Neutrinos into the box.

Neutrino

- Ozone (1)
- Particle (2)
- Invisible (3)
- Huge (4)
- Tiny (5)
- Black Hole (6)
- Cell (7)
- Massless (8)
- Visible (9)
- DNA (10)

Display This Question:

If Help us with our research about how people learn from this exhibit by taking a short survey. It w... = I am at least 18 years old and consent to taking this survey.

AGEADULT What is your age?

- 18-30 (2)
- 31-45 (3)
- 46-60 (4)
- 61+ (8)

Display This Question:

If Help us with our research about how people learn from this exhibit by taking a short survey. = I understand taking the survey is voluntary and consent to participating.

AGEYOUTH What is your age?

- 1-11 (1)
- 12-17 (2)

SEX Gender:

- Female (4)
- Male (5)
- I prefer to identify as: (6) _____

Q27 Thank you for taking the time to fill out the survey and contribute to the exhibit! Feel free to play either portion of the exhibit again!

POLAR exhibit survey - TT

INVITE1 Help us with our research about how people learn from this exhibit by taking a short survey. It will take about three minutes and participation is voluntary.

- I am at least 18 years old and consent to taking this survey. (1)
- I am a parent and agree that my child, who is younger than 18, may take this survey. (2)

Skip To: End of Block If Help us with our research about how people learn from this exhibit by taking a short survey. It w... = I am at least 18 years old and consent to taking this survey.

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INVITE2 Help us with our research about how people learn from this exhibit by taking a short survey.

- I understand taking the survey is voluntary and consent to participating. (1)

XTT Specify how many times you played each exhibit:

	Number of Times Played					
	0 (1)	1 (2)	2 (3)	3 (4)	4 (5)	5+ (6)
Virtual reality exhibit (VR)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interactive(big screen) exhibit (TT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Display This Question:
If Specify how many times you played each exhibit: : Number of Times Played != Virtual reality exhibit [0]

EASYVR I found the virtual reality exhibit easy to use.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	A lot

Display This Question:
If Specify how many times you played each exhibit: : Number of Times Played != Virtual reality exhibit [0]

DIFFVR Help us by describing difficulties, if any, you had with the exhibit.

Display This Question:
If Specify how many times you played each exhibit: : Number of Times Played != Interactive(big screen) exhibit [0]

EASYTT I found the interactive (big screen) exhibit easy to use.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very

Display This Question:
If Specify how many times you played each exhibit: : Number of Times Played != Interactive(big screen) exhibit [0]

DIFFTT Help us by describing difficulties, if any, you had with the exhibit.

UNDBEFORE Rate your understanding of IceCube **before** using the exhibit(s).

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
None	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Expert

UNDAFT Rate your understanding of IceCube **after** using the exhibit(s).

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
None	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Expert

RATELRN Rate the statement:

After seeing this exhibit, I would **like to learn more** about IceCube.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Agree

RATEVAL Rate the statement:

The research work at IceCube is **important for society**.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Agree

MCIC Where is IceCube located?

- Mars (1)
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- The Center of the Earth (2)
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IceCube

- Radiation (1)
- Telescope (2)
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- Detector (4)
- Astrophysics (5)
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- Ozone (1)
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AGEYOUTH What is your age?

1-11 (1)

12-17 (2)

SEX Gender:

Female (4)

Male (5)

I prefer to identify as: (6) _____

POLAR exhibit survey – PrePost

INVITE1 Help us with our research about how people learn from this exhibit by taking a short survey. It will take about three minutes and participation is voluntary.

I am at least 18 years old and consent to taking this survey. (1)

I am a parent and agree that my child, who is younger than 18, may take this survey. (2)

Skip To: End of Block If Help us with our research about how people learn from this exhibit by taking a short survey. It w... = I am at least 18 years old and consent to taking this survey.

Display This Question:

If Help us with our research about how people learn from this exhibit by taking a short survey. It w... = I am a parent and agree that my child, who is younger than 18, may take this survey.

INVITE2 Help us with our research about how people learn from this exhibit by taking a short survey.

I understand taking the survey is voluntary and consent to participating. (1)

UNDBEFORE Rate your understanding of IceCube **before** using the exhibit(s).

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
None	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Expert

MCICBEFORE Where is IceCube located?

- Mars (1)
- Antarctica (2)
- Asia (3)
- Under the Atlantic Ocean (4)

MCNEUTBEFORE Where do Neutrinos form?

- Underwater (1)
- The Center of the Earth (2)
- Deep in Outer Space (3)
- Thunderstorms (4)

CMICBEFORE Touch and drag the 5 words that have to do with IceCube into the box.

IceCube

- _____ Radiation (1)
- _____ Telescope (2)
- _____ Warm (3)
- _____ Detector (4)
- _____ Astrophysics (5)
- _____ Sensors (6)
- _____ Tray (7)
- _____ Solar (8)
- _____ Frozen (9)
- _____ Gas (11)

CMNEUTBEFORE Touch and drag the 5 words that have to do with Neutrinos into the box.

Neutrino

- _____ Ozone (1)
- _____ Particle (2)
- _____ Invisible (3)
- _____ Huge (4)
- _____ Tiny (5)
- _____ Black Hole (6)
- _____ Cell (7)
- _____ Massless (8)
- _____ Visible (9)
- _____ DNA (10)

Q39 STOP

Hand your ipad back and play the game.

XPREPOST Specify how many times you played each exhibit:

	Number of Times Played					
	0 (1)	1 (2)	2 (3)	3 (4)	4 (5)	5+ (6)
Virtual reality exhibit (VR)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interactive(big screen) exhibit (TT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

UNDAFT Rate your understanding of IceCube **after** using the exhibit(s).

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	
None	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Expert

MCICAFT Where is IceCube located?

- Mars (1)
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Display This Question:

If Help us with our research about how people learn from this exhibit by taking a short survey. It w... = I am at least 18 years old and consent to taking this survey.

AGE1 What is your age?

18-30 (2)

31-45 (3)

46-60 (4)

61+ (8)

Display This Question:

If Help us with our research about how people learn from this exhibit by taking a short survey. = I understand taking the survey is voluntary and consent to participating.

AGE2 What is your age?

1-11 (1)

12-17 (2)

SEX Gender:

Female (4)

Male (5)

I prefer to identify as: (6) _____

Q27 Thank you for taking the time to fill out the survey and contribute to the exhibit! Feel free to play either portion of the exhibit again!