

Physics: Mechanics / Applying (PA13001 - Pl\_01)  
Label: Comparing notes on oscilloscope  
Type: MC Key: A

COUNTRY	Year	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	1045	73.8	6.6	8.5	10.3	0.7	73.8	0.0	0.7	0.0	70.8	74.9
	2008	819	67.4	8.1	10.7	13.2	0.6	67.4	0.0	0.5	0.1	65.4	68.2
Russian Federation	1995	1229	84.5	10.1	4.4	0.7	0.4	84.5	0.0	0.4	0.0	84.5	84.4
	2008	1579	81.6	11.7	4.8	1.4	0.4	81.6	0.0	0.4	0.0	83.7	79.9
Slovenia	1995	747	77.6	7.7	11.5	1.4	1.8	77.6	0.0	1.8	0.0	66.3	81.6
	2008	562	76.6	8.7	12.4	2.2	0.2	76.6	0.0	0.0	0.2	74.7	77.3
Sweden	1995	1012	69.8	8.4	8.9	12.6	0.3	69.8	0.2	0.1	0.0	71.0	69.2
	2008	1150	59.7	9.3	13.1	17.3	0.6	59.7	0.0	0.5	0.1	62.5	58.2
International Avg.	1995	1008	76.4	8.2	8.3	6.2	0.8	76.4	0.1	0.8	0.0	73.1	77.5
	2008	1028	71.3	9.4	10.3	8.5	0.5	71.3	0.0	0.4	0.1	71.6	70.9

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Atomic and Nuclear Physics / Applying (PA13002 - P1\_02)  
Label: Half-life of thorium  
Type: MC Key: B

COUNTRY	Year	N	A	B	C	D	OTHER INCOR RECT	DIFF	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	1045	5.8	75.0	16.7	0.6	1.9	75.0	1.9	0.0	64.7	78.6
	2008	820	5.7	75.7	16.8	1.0	0.8	75.7	0.7	0.1	68.1	78.7
Russian Federation	1995	1229	5.5	64.5	19.7	5.6	4.8	64.5	4.8	0.0	58.4	69.5
	2008	1579	6.4	65.0	22.2	4.6	1.9	65.0	1.9	0.0	62.3	67.3
Slovenia	1995	747	3.7	52.6	29.6	3.6	10.5	52.6	10.5	0.0	44.0	55.7
	2008	562	8.6	64.1	20.6	3.4	3.2	64.1	3.0	0.2	59.1	66.0
Sweden	1995	1012	4.5	74.1	20.8	0.3	0.2	74.1	0.2	0.0	67.3	77.5
	2008	1150	6.8	76.5	15.1	1.2	0.3	76.5	0.3	0.1	69.7	80.3
International Avg.	1995	1008	4.8	66.6	21.7	2.5	4.4	66.6	4.4	0.0	58.6	70.3
	2008	1028	6.9	70.3	18.7	2.6	1.6	70.3	1.5	0.1	64.8	73.1

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Mechanics / Applying (PA13003 - P1\_03)  
Label: Tension in thread between two points  
Type: MC Key: C

COUNTRY	Year	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	1047	8.4	5.0	83.4	2.1	0.5	0.5	83.4	0.5	0.0	69.5	88.4
	2008	819	8.8	6.5	81.0	2.7	0.6	0.5	81.0	0.4	0.1	74.3	83.7
Russian Federation	1995	1233	6.6	11.6	75.3	3.6	0.8	2.1	75.3	2.1	0.0	62.5	86.0
	2008	1579	11.1	19.0	63.9	3.3	1.7	1.0	63.9	1.0	0.0	54.0	72.3
Slovenia	1995	747	8.1	5.1	84.4	1.5	0.6	0.3	84.4	0.3	0.0	68.2	90.7
	2008	562	8.8	4.3	83.5	2.4	0.7	0.4	83.5	0.2	0.2	70.1	88.6
Sweden	1995	1011	5.9	2.8	88.1	2.4	0.7	0.1	88.1	0.1	0.0	77.0	93.5
	2008	1150	10.0	10.3	74.6	3.2	1.5	0.4	74.6	0.3	0.2	62.8	81.1
International Avg.	1995	1010	7.2	6.1	82.8	2.4	0.7	0.8	82.8	0.8	0.0	69.3	89.6
	2008	1028	9.7	10.0	75.7	2.9	1.1	0.6	75.7	0.4	0.1	65.3	81.4

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Electricity and Magnetism / Applying (PA13004 - Pl\_04)  
Label: Circuit in box  
Type: MC Key: D

COUNTRY	Year	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	1048	0.9	0.4	2.6	92.8	2.7	0.6	92.8	0.0	0.6	0.0	89.8	93.8
	2008	820	1.2	0.8	2.7	89.3	4.4	1.6	89.3	0.0	1.4	0.2	85.5	90.8
Russian Federation	1995	1233	1.5	0.1	2.2	91.6	2.4	2.1	91.6	0.0	2.1	0.0	87.1	95.4
	2008	1579	2.4	2.2	4.6	83.9	5.9	1.1	83.9	0.0	1.1	0.0	80.0	87.3
Slovenia	1995	747	1.4	1.0	1.4	87.4	5.6	3.1	87.4	0.0	3.1	0.0	78.0	90.9
	2008	562	1.1	1.6	3.5	89.3	3.7	0.8	89.3	0.0	0.6	0.2	85.8	90.7
Sweden	1995	1012	0.7	1.1	2.1	92.3	3.6	0.0	92.3	0.0	0.0	0.0	88.9	94.0
	2008	1150	2.3	1.9	4.8	86.3	3.2	1.5	86.3	0.0	1.3	0.2	82.0	88.7
International Avg.	1995	1010	1.1	0.7	2.1	91.0	3.6	1.5	91.0	0.0	1.5	0.0	85.9	93.5
	2008	1028	1.7	1.6	3.9	87.2	4.3	1.2	87.2	0.0	1.1	0.1	83.3	89.4

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Mechanics / Applying (PA13005 - P1\_05)  
 Label: Depth of well  
 Type: MC Key: C

COUNTRY	Year	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	1048	1.3	2.7	87.3	7.5	1.2	0.1	87.3	0.0	0.1	0.0	85.4	87.9
	2008	820	1.8	3.5	87.9	5.6	0.7	0.5	87.9	0.0	0.3	0.2	84.2	89.4
Russian Federation	1995	1233	1.8	2.4	90.8	3.6	0.7	0.7	90.8	0.0	0.7	0.0	88.7	92.6
	2008	1579	6.7	3.1	83.8	5.4	0.6	0.5	83.8	0.0	0.5	0.0	81.6	85.7
Slovenia	1995	747	2.2	4.0	78.2	12.5	1.5	1.5	78.2	0.2	1.3	0.0	71.3	80.4
	2008	562	4.1	5.6	72.7	15.1	1.7	0.8	72.7	0.0	0.6	0.2	75.1	71.8
Sweden	1995	1012	2.9	2.6	84.7	8.4	1.4	0.0	84.7	0.0	0.0	0.0	83.6	85.2
	2008	1150	5.1	6.3	78.4	8.4	1.1	0.7	78.4	0.0	0.5	0.3	75.1	80.2
International Avg.	1995	1010	2.0	2.9	85.2	8.0	1.2	0.6	85.2	0.0	0.6	0.0	82.3	86.5
	2008	1028	4.4	4.6	80.7	8.6	1.0	0.6	80.7	0.0	0.5	0.2	79.0	81.8

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
 Because of missing gender information, some totals may appear inconsistent.

Physics: Electricity and Magnetism / Applying (PA13006 - Pl\_06)  
Label: Placement of third charge  
Type: MC Key: D

COUNTRY	Year	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	1048	20.7	16.1	11.5	38.1	11.7	1.9	38.1	1.9	0.0	34.8	39.2
	2008	819	16.5	21.6	11.3	36.8	11.4	2.5	36.8	2.3	0.2	34.1	37.9
Russian Federation	1995	1233	14.2	11.3	5.2	48.2	16.6	4.5	48.2	4.5	0.0	39.7	55.3
	2008	1579	17.4	12.6	8.0	44.3	15.8	1.9	44.3	1.9	0.0	40.4	47.6
Slovenia	1995	747	20.2	16.2	9.0	35.6	8.4	10.7	35.6	10.7	0.0	36.6	34.7
	2008	562	15.2	19.3	10.2	39.2	13.4	2.7	39.2	2.5	0.2	41.3	38.3
Sweden	1995	1011	22.7	20.0	8.2	35.9	11.4	1.8	35.9	1.8	0.0	36.1	35.8
	2008	1150	22.0	23.6	11.1	30.0	10.9	2.5	30.0	2.1	0.4	30.2	29.8
International Avg.	1995	1010	19.5	15.9	8.5	39.4	12.0	4.7	39.4	4.7	0.0	36.8	41.3
	2008	1028	17.8	19.3	10.1	37.6	12.9	2.4	37.6	2.2	0.2	36.5	38.4

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Electricity and Magnetism / Reasoning (PA13009 - P1\_09)  
Label: Circuit readings of closed switch  
Type: MC Key: A

COUNTRY	Year	N	A	B	C	D	OTHER INCOR RECT	DIFF	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	1048	45.5	18.4	15.9	19.5	0.7	45.5	0.7	0.0	40.6	47.2
	2008	820	37.9	25.8	15.0	19.8	1.4	37.9	0.8	0.6	34.9	39.1
Russian Federation	1995	1229	47.6	20.6	20.2	8.3	3.4	47.6	3.3	0.1	42.1	52.1
	2008	1579	38.9	23.7	24.2	11.4	1.8	38.9	1.5	0.3	35.5	41.8
Slovenia	1995	747	45.2	21.9	16.1	12.6	4.1	45.2	4.1	0.0	37.8	47.8
	2008	562	39.2	22.8	17.9	19.3	0.8	39.2	0.6	0.2	34.4	41.1
Sweden	1995	1012	51.3	17.2	12.2	18.9	0.5	51.3	0.3	0.1	43.6	55.1
	2008	1150	30.0	25.2	18.4	23.9	2.5	30.0	1.9	0.6	30.8	29.5
International Avg.	1995	1009	47.4	19.5	16.1	14.8	2.2	47.4	2.1	0.0	41.0	50.6
	2008	1028	36.5	24.4	18.9	18.6	1.6	36.5	1.2	0.4	33.9	37.9

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Atomic and Nuclear Physics / Knowing (PA13011 - P2\_01)  
Label: Fraunhofer lines  
Type: MC Key: B

COUNTRY	Year	N	A	B	C	D	E	OTHER INCOR RECT	DIFF INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	350	1.1	82.8	5.6	4.1	5.5	0.9	82.8	0.0	0.9	0.0	82.8
	2008	819	4.2	74.4	11.0	2.8	6.6	1.0	74.4	0.0	1.0	0.0	79.1
Russian Federation	1995	325	20.0	48.7	11.2	5.9	8.1	6.2	48.7	0.0	6.2	0.0	51.1
	2008	1576	32.2	39.7	9.8	9.3	8.1	0.9	39.7	0.0	0.9	0.0	41.2
Slovenia	1995	178	21.8	47.4	8.0	9.0	10.3	3.5	47.4	0.0	3.5	0.0	55.5
	2008	544	11.4	53.2	12.2	11.4	10.3	1.4	53.2	0.0	1.4	0.0	60.4
Sweden	1995	266	7.9	50.3	13.3	8.0	16.0	4.5	50.3	2.8	1.7	0.0	53.5
	2008	1153	9.1	50.7	18.2	8.5	12.6	0.9	50.7	0.0	0.8	0.2	59.9
International Avg.	1995	280	12.7	57.3	9.6	6.7	10.0	3.8	57.3	0.7	3.1	0.0	60.7
	2008	1023	14.2	54.5	12.8	8.0	9.4	1.0	54.5	0.0	1.0	0.0	60.1

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.



Physics: Mechanics / Applying (PA13012 - P2\_02)  
Label: Force on connected springs  
Type: MC Key: C

COUNTRY	Year	N	A	B	C	D	OTHER INCOR RECT	DIFF	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	350	31.2	0.6	32.8	35.0	0.4	32.8	0.4	0.0	22.6	36.8
	2008	819	43.0	0.8	23.4	32.6	0.1	23.4	0.1	0.0	19.4	25.1
Russian Federation	1995	325	31.9	0.5	25.1	41.7	0.9	25.1	0.9	0.0	16.4	33.7
	2008	1576	33.8	1.3	30.3	34.4	0.2	30.3	0.2	0.0	24.4	34.9
Slovenia	1995	178	31.5	0.0	30.8	37.3	0.4	30.8	0.4	0.0	26.0	31.5
	2008	544	38.9	1.1	29.5	30.4	0.0	29.5	0.0	0.0	21.0	32.6
Sweden	1995	266	34.2	0.8	22.3	42.7	0.0	22.3	0.0	0.0	6.8	30.9
	2008	1153	34.7	1.2	23.6	40.2	0.3	23.6	0.2	0.2	15.8	27.9
International Avg.	1995	280	32.2	0.5	27.8	39.2	0.4	27.8	0.4	0.0	18.0	33.2
	2008	1023	37.6	1.1	26.7	34.4	0.2	26.7	0.1	0.0	20.2	30.1

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Atomic and Nuclear Physics / Applying (PA13013 - P2\_03)  
Label: Rutherford experiment  
Type: MC Key: C

COUNTRY	Year	N	A	B	C	D	OTHER INCOR RECT	DIFF	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	350	6.6	6.9	48.9	35.5	2.0	48.9	2.0	0.0	43.0	51.2
	2008	819	7.2	8.5	37.1	45.4	1.9	37.1	1.9	0.0	27.4	41.2
Russian Federation	1995	325	3.4	10.7	53.2	29.0	3.8	53.2	3.8	0.0	41.8	64.5
	2008	1576	6.6	15.2	48.0	29.3	0.8	48.0	0.8	0.0	42.3	52.6
Slovenia	1995	178	9.4	27.9	28.7	24.0	10.1	28.7	10.1	0.0	27.7	29.9
	2008	544	10.4	22.8	32.2	33.1	1.5	32.2	1.5	0.0	30.0	33.0
Sweden	1995	266	11.2	9.1	49.3	30.5	0.0	49.3	0.0	0.0	45.8	51.2
	2008	1153	8.1	13.3	40.6	36.1	1.9	40.6	1.7	0.2	39.3	41.3
International Avg.	1995	280	7.6	13.6	45.0	29.7	4.0	45.0	4.0	0.0	39.6	49.2
	2008	1023	8.1	14.9	39.5	36.0	1.5	39.5	1.5	0.0	34.8	42.0

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Mechanics / Reasoning (PA13014 - P2\_04)  
Label: Speed of aircraft  
Type: MC Key: B

COUNTRY	Year	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	350	3.1	72.2	4.2	9.9	8.3	2.3	72.2	2.3	0.0	74.9	71.2
	2008	818	4.8	71.1	3.4	9.0	10.2	1.4	71.1	1.4	0.0	69.8	71.7
Russian Federation	1995	325	5.3	73.5	5.7	8.7	4.6	2.1	73.5	2.1	0.0	70.6	76.4
	2008	1576	10.4	73.0	4.5	5.9	5.8	0.4	73.0	0.4	0.0	71.6	74.1
Slovenia	1995	178	9.4	67.3	3.2	7.8	10.1	2.2	67.3	2.2	0.0	64.5	67.4
	2008	544	7.9	63.7	4.9	11.6	10.0	1.8	63.7	1.8	0.0	65.2	63.2
Sweden	1995	266	6.4	62.7	4.9	10.3	14.3	1.5	62.7	1.5	0.0	66.0	60.8
	2008	1153	18.7	42.1	6.6	12.2	18.3	2.1	42.1	1.9	0.2	44.7	40.6
International Avg.	1995	280	6.1	68.9	4.5	9.2	9.3	2.0	68.9	2.0	0.0	69.0	69.0
	2008	1023	10.5	62.5	4.9	9.7	11.1	1.4	62.5	1.4	0.0	62.8	62.4

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Heat and Temperature / Knowing (PA13015 - P2\_05)  
Label: Heat transfer  
Type: MC Key: C

COUNTRY	Year	N	A	B	C	D	OTHER INCOR RECT	DIFF	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
-----												
Norway	1995	350	0.0	0.0	88.9	10.4	0.8	88.9	0.8	0.0	84.3	90.6
	2008	819	0.2	0.7	82.8	15.9	0.3	82.8	0.3	0.0	79.0	84.4
Russian Federation	1995	325	0.0	1.7	72.8	24.8	0.7	72.8	0.7	0.0	61.0	84.5
	2008	1576	1.3	1.5	75.7	21.5	0.1	75.7	0.1	0.0	70.1	80.1
Slovenia	1995	178	0.8	2.9	48.7	46.4	1.1	48.7	1.1	0.0	28.3	53.6
	2008	544	3.1	1.9	66.4	27.8	0.9	66.4	0.9	0.0	53.5	71.1
Sweden	1995	266	0.0	0.0	90.6	9.4	0.0	90.6	0.0	0.0	86.4	93.0
	2008	1153	0.1	0.3	89.6	9.6	0.4	89.6	0.3	0.2	85.5	91.8
-----												
International Avg.	1995	280	0.2	1.2	75.2	22.7	0.6	75.2	0.6	0.0	65.0	80.4
	2008	1023	1.2	1.1	78.6	18.7	0.4	78.6	0.4	0.0	72.0	81.9
-----												

DIFF = Percent correct      OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Electricity and Magnetism / Applying (PA13016 - P2\_06)  
Label: Direction of magnetic force on wire  
Type: MC Key: D

COUNTRY	Year	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	350	10.7	14.0	29.3	40.0	5.7	0.3	40.0	0.3	0.0	35.4	41.8
	2008	819	14.0	18.8	26.3	29.3	10.6	1.1	29.3	1.1	0.0	25.9	30.8
Russian Federation	1995	325	11.6	12.5	20.3	37.9	13.3	4.4	37.9	4.2	0.2	33.4	42.5
	2008	1576	10.2	17.3	21.4	41.3	8.7	1.0	41.3	1.0	0.0	39.3	43.0
Slovenia	1995	178	18.8	15.9	26.7	30.6	5.9	2.1	30.6	2.1	0.0	38.2	28.0
	2008	544	16.2	18.2	26.5	27.7	10.5	0.9	27.7	0.9	0.0	27.8	27.7
Sweden	1995	266	6.1	14.9	24.1	52.5	1.9	0.5	52.5	0.5	0.0	48.1	54.9
	2008	1153	15.2	19.0	25.4	26.9	12.3	1.1	26.9	0.9	0.2	27.0	26.9
International Avg.	1995	280	11.8	14.3	25.1	40.2	6.7	1.8	40.2	1.8	0.1	38.8	41.8
	2008	1023	13.9	18.4	24.9	31.3	10.5	1.0	31.3	1.0	0.0	30.0	32.1

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Atomic and Nuclear Physics / Applying (PA13017 - P2\_07)  
Label: Photoelectric effect  
Type: MC Key: D

COUNTRY	Year	N	A	B	C	D	OTHER INCOR RECT	DIFF	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	350	11.3	9.1	9.7	69.7	0.3	69.7	0.3	0.0	81.0	65.3
	2008	819	12.8	11.6	12.0	60.8	2.8	60.8	2.8	0.0	68.0	57.7
Russian Federation	1995	325	5.6	10.9	13.8	65.6	4.1	65.6	3.8	0.2	62.7	68.5
	2008	1576	8.7	14.5	7.9	68.1	0.8	68.1	0.8	0.0	67.9	68.2
Slovenia	1995	178	9.5	8.6	11.4	65.9	4.6	65.9	4.6	0.0	70.8	63.8
	2008	544	16.3	4.0	11.0	68.0	0.6	68.0	0.6	0.0	73.3	66.0
Sweden	1995	266	4.3	7.0	8.3	80.2	0.2	80.2	0.2	0.0	84.5	77.8
	2008	1153	8.8	7.4	12.4	70.4	1.1	70.4	0.9	0.2	78.3	66.0
International Avg.	1995	280	7.7	8.9	10.8	70.3	2.3	70.3	2.2	0.1	74.8	68.8
	2008	1023	11.6	9.4	10.8	66.8	1.4	66.8	1.3	0.0	71.9	64.5

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Electricity and Magnetism / Reasoning (PA13018 - P2\_08)  
Label: Bulbs using least power  
Type: MC Key: C

COUNTRY	Year	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	350	23.6	7.9	55.7	11.2	1.7	55.7	0.0	1.7	0.0	49.1	58.2
	2008	818	25.8	7.5	54.0	12.5	0.3	54.0	0.0	0.3	0.0	49.1	56.1
Russian Federation	1995	325	27.0	11.4	38.0	21.1	2.5	38.0	0.0	2.3	0.2	31.4	44.5
	2008	1576	26.2	14.0	35.6	23.9	0.2	35.6	0.0	0.2	0.0	28.4	41.5
Slovenia	1995	178	27.1	11.4	50.1	10.7	0.6	50.1	0.0	0.6	0.0	53.5	49.2
	2008	544	17.0	10.3	57.6	14.5	0.6	57.6	0.0	0.6	0.0	57.3	57.6
Sweden	1995	266	16.5	15.5	56.9	10.6	0.5	56.9	0.3	0.2	0.0	55.0	58.0
	2008	1153	17.7	17.5	58.4	5.7	0.7	58.4	0.0	0.6	0.2	55.3	60.1
International Avg.	1995	280	23.5	11.6	50.2	13.4	1.3	50.2	0.1	1.2	0.1	47.3	52.5
	2008	1023	21.7	12.3	51.4	14.1	0.5	51.4	0.0	0.4	0.0	47.5	53.8

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Atomic and Nuclear Physics / Applying (PA13019 - P2\_09)  
Label: Nuclear change in an atom  
Type: MC Key: B

COUNTRY	Year	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	350	14.2	19.0	14.0	27.2	22.8	2.8	19.0	2.8	0.0	18.1	19.3
	2008	819	19.2	15.0	10.0	28.4	24.2	3.3	15.0	3.3	0.0	9.4	17.3
Russian Federation	1995	325	5.3	56.7	6.9	12.7	11.7	6.7	56.7	6.5	0.2	63.1	50.4
	2008	1576	12.1	61.3	6.3	10.7	8.4	1.2	61.3	1.2	0.0	61.1	61.5
Slovenia	1995	178	10.6	30.1	12.3	22.9	15.0	9.1	30.1	9.1	0.0	18.3	31.5
	2008	544	13.2	46.9	7.7	12.7	18.0	1.5	46.9	1.5	0.0	51.6	45.2
Sweden	1995	266	13.6	14.2	7.4	40.9	23.6	0.4	14.2	0.4	0.0	17.0	12.7
	2008	1153	18.0	29.5	10.2	19.5	20.6	2.2	29.5	2.1	0.2	31.3	28.5
International Avg.	1995	280	10.9	30.0	10.2	25.9	18.3	4.7	30.0	4.7	0.1	29.1	28.5
	2008	1023	15.6	38.2	8.6	17.8	17.8	2.0	38.2	2.0	0.0	38.4	38.1

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.



Physics: Electricity and Magnetism / Knowing (PA13021 - P3\_01)  
Label: Wavelengths of radiation types  
Type: MC Key: A

COUNTRY	Year	N	A	B	C	D	OTHER INCOR RECT	DIFF	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Norway	1995	349	56.7	8.7	16.0	16.4	2.2	56.7	2.2	0.0	53.1	58.2
	2008	807	56.4	9.2	12.7	21.1	0.6	56.4	0.6	0.0	51.9	58.2
Russian Federation	1995	324	55.9	8.3	15.2	15.7	4.9	55.9	4.7	0.2	54.1	57.8
	2008	1593	57.6	10.5	12.9	17.2	1.8	57.6	1.7	0.1	54.2	60.1
Slovenia	1995	178	58.5	9.3	10.2	14.1	7.9	58.5	7.9	0.0	54.3	60.1
	2008	547	50.1	11.5	13.9	23.8	0.6	50.1	0.6	0.0	47.4	51.2
Sweden	1995	266	59.1	8.8	7.2	24.6	0.2	59.1	0.2	0.0	51.5	63.4
	2008	1144	46.6	11.3	15.4	25.1	1.6	46.6	1.4	0.2	45.8	47.1
International Avg.	1995	279	57.6	8.8	12.2	17.7	3.8	57.6	3.7	0.1	53.3	59.9
	2008	1023	52.7	10.7	13.7	21.8	1.2	52.7	1.1	0.1	49.8	54.2

DIFF = Percent correct OTHER INCORRECT = Sum of invalid, not reached and omitted responses  
Because of missing gender information, some totals may appear inconsistent.

Physics: Heat and Temperature / Applying (PA13022 - P3\_02)  
 Label: Temperature of a system  
 Type: CR Key: X

COUNTRY	Year	N	20	29	10	11	19	70	71	79	99	INVA LID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Norway	1995	349	14.1	0.0	0.0	6.1	4.0	17.8	0.3	16.0	41.6	8.2	33.4	0.0	24.2	14.1	10.4	15.5
	2008	809	7.5	0.0	4.8	1.1	0.1	24.1	0.2	23.0	39.1	0.0	39.0	0.1	13.6	7.5	5.3	8.4
Russian Federation	1995	324	24.0	0.0	0.0	12.0	5.2	18.1	0.0	6.2	34.4	9.3	24.4	0.7	41.3	24.0	15.2	32.9
	2008	1593	26.9	0.0	4.6	1.8	1.0	18.0	1.0	17.4	29.4	0.0	28.7	0.7	34.2	26.9	23.0	29.8
Slovenia	1995	178	20.9	0.0	0.0	19.8	3.4	2.4	1.3	22.5	29.8	13.7	16.1	0.0	44.0	20.9	26.5	19.3
	2008	547	18.9	0.0	9.8	2.3	0.4	4.2	0.3	57.3	6.7	0.0	6.7	0.0	31.4	18.9	23.2	17.1
Sweden	1995	266	5.4	6.1	0.0	0.3	3.9	1.3	0.4	48.7	34.0	8.7	25.1	0.2	15.6	11.4	5.0	15.0
	2008	1144	7.5	0.0	5.0	0.1	0.0	5.0	0.2	52.8	29.3	0.0	29.1	0.2	12.6	7.5	7.5	7.5
International Avg.	1995	279	16.1	1.5	0.0	9.5	4.1	9.9	0.5	23.3	35.0	10.0	24.8	0.2	31.3	17.6	14.3	20.7
	2008	1023	15.2	0.0	6.1	1.3	0.4	12.8	0.5	37.6	26.1	0.0	25.9	0.3	23.0	15.2	14.8	15.7

V1 = Percent scoring 1 or better      V2 = Percent scoring 2 or better  
 Percent right for boys and girls corresponds to the percent obtaining the maximum score on the item.  
 Because of missing gender information, some totals may appear inconsistent.

Physics: Mechanics / Applying (PA13023 - P3\_03)  
Label: Wavelength in shallow water  
Type: CR Key: X

COUNTRY	Year	N	10	70	71	72	79	99	INVA LID	OMIT	NOT REACH ED	V1	1.GIRL % Right	2.BOY % Right
Norway	1995	350	66.9	3.7	7.3	5.6	6.7	9.8	1.1	7.9	0.8	66.9	72.3	64.8
	2008	809	60.0	5.3	7.2	2.6	12.9	12.0	0.0	10.4	1.6	60.0	55.3	62.0
Russian Federation	1995	324	48.6	5.0	6.3	9.3	5.4	25.4	1.5	17.0	7.0	48.6	43.5	53.7
	2008	1593	49.6	2.7	7.3	6.9	11.7	21.8	0.0	17.8	4.0	49.6	49.7	49.5
Slovenia	1995	178	60.0	2.8	16.8	5.1	6.8	8.6	2.2	4.7	1.7	60.0	71.6	56.3
	2008	547	62.1	0.9	14.0	1.6	12.7	8.7	0.0	8.7	0.0	62.1	65.8	60.5
Sweden	1995	266	84.2	1.7	6.6	3.4	2.5	1.6	0.4	0.4	0.7	84.2	80.8	86.2
	2008	1144	56.7	4.1	6.4	5.5	14.0	13.4	0.0	11.1	2.3	56.7	63.2	53.1
International Avg.	1995	280	64.9	3.3	9.2	5.8	5.3	11.4	1.3	7.5	2.6	64.9	67.0	65.3
	2008	1023	57.1	3.3	8.7	4.1	12.8	14.0	0.0	12.0	2.0	57.1	58.5	56.3

V1 = Percent scoring 1 or better      V2 = Percent scoring 2 or better  
Percent right for boys and girls corresponds to the percent obtaining the maximum score on the item.  
Because of missing gender information, some totals may appear inconsistent.

Physics: Electricity and Magnetism / Applying (PA13024 - P3\_04)  
 Label: Magnitude of electric field strength  
 Type: CR Key: X

COUNTRY	Year	N	20	10	19	70	71	72	79	99	INVA LID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Norway	1995	350	29.3	15.0	2.3	7.5	2.3	0.0	12.9	30.7	4.6	24.6	1.5	46.6	29.3	26.3	30.4
	2008	809	16.8	22.4	0.9	8.3	0.4	0.0	21.4	29.9	0.0	27.8	2.0	40.1	16.8	18.7	16.0
Russian Federation	1995	324	26.1	15.5	0.5	7.2	2.9	0.0	4.5	43.2	3.9	26.8	12.5	42.2	26.1	19.6	32.6
	2008	1592	29.9	15.4	0.1	3.3	1.6	0.1	13.8	35.9	0.0	31.0	4.9	45.4	29.9	26.0	32.9
Slovenia	1995	178	16.0	14.7	0.9	7.6	0.0	0.0	6.5	54.3	11.5	40.6	2.2	31.7	16.0	13.3	17.3
	2008	547	23.9	15.7	0.0	9.7	1.1	0.2	24.9	24.6	0.0	24.4	0.2	39.6	23.9	29.8	21.4
Sweden	1995	266	55.8	12.0	3.2	0.7	0.0	0.3	11.3	16.8	2.9	13.1	0.7	71.0	55.8	57.1	55.0
	2008	1144	12.7	15.0	0.1	1.6	1.0	0.0	32.9	36.7	0.0	33.3	3.5	27.8	12.7	17.7	10.0
International Avg.	1995	280	31.8	14.3	1.7	5.7	1.3	0.1	8.8	36.3	5.7	26.3	4.3	47.8	31.8	29.1	33.8
	2008	1023	20.8	17.1	0.3	5.7	1.0	0.1	23.2	31.8	0.0	29.1	2.6	38.2	20.8	23.1	20.1

V1 = Percent scoring 1 or better      V2 = Percent scoring 2 or better  
 Percent right for boys and girls corresponds to the percent obtaining the maximum score on the item.  
 Because of missing gender information, some totals may appear inconsistent.

Physics: Atomic and Nuclear Physics / Reasoning (PA13025 - P3\_05)  
Label: Photoelectric effect in 3 metals  
Type: CR Key: X

COUNTRY	Year	N	20	21	10	11	12	19	70	71	79	99	INVA LID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Norway	1995	349	38.1	2.8	1.0	11.5	2.5	1.1	3.5	0.4	12.2	26.8	1.0	20.0	5.9	57.1	40.9	31.7	44.5
	2008	809	10.9	0.5	0.5	4.3	1.1	0.5	1.7	2.8	29.9	48.0	0.0	42.9	5.1	17.6	11.3	9.1	12.3
Russian Federation	1995	324	18.5	0.3	1.9	7.8	0.8	5.0	2.5	0.0	15.0	48.1	4.3	21.1	22.7	34.4	18.8	10.7	27.0
	2008	1593	16.3	1.6	0.9	9.5	3.1	1.4	1.8	1.4	23.7	40.1	0.0	31.3	8.8	32.9	18.0	12.4	22.2
Slovenia	1995	178	23.8	0.0	0.9	1.0	1.2	3.3	6.5	0.1	19.5	43.8	9.2	26.6	8.1	30.1	23.8	4.9	27.6
	2008	547	18.3	0.7	0.2	12.1	0.5	0.2	4.7	0.0	37.7	25.7	0.0	24.6	1.1	32.0	19.0	18.5	19.2
Sweden	1995	266	30.8	1.4	3.8	10.7	1.7	3.3	0.7	1.8	15.6	30.1	5.7	22.0	2.5	51.7	32.3	35.7	30.4
	2008	1144	14.1	0.9	0.8	3.0	0.6	1.3	1.3	4.1	33.5	40.3	0.0	33.5	6.8	20.7	15.0	15.3	14.8
International Avg.	1995	279	27.8	1.1	1.9	7.8	1.6	3.2	3.3	0.6	15.6	37.2	5.0	22.4	9.8	43.3	28.9	20.7	32.4
	2008	1023	14.9	0.9	0.6	7.2	1.3	0.8	2.4	2.1	31.2	38.5	0.0	33.1	5.4	25.8	15.8	13.8	17.1

V1 = Percent scoring 1 or better      V2 = Percent scoring 2 or better  
Percent right for boys and girls corresponds to the percent obtaining the maximum score on the item.  
Because of missing gender information, some totals may appear inconsistent.

Physics: Electricity and Magnetism / Reasoning (PA13026 - P3\_06)  
Label: Period of charged particle in field  
Type: CR Key: X

COUNTRY	Year	N	10	19	70	71	72	79	99	INVA LID	OMIT	NOT REACH ED	V1	1.GIRL % Right	2.BOY % Right
Norway	1995	350	18.1	0.3	0.0	20.6	2.6	28.2	30.3	4.5	18.2	7.6	18.4	18.7	18.2
	2008	809	10.1	0.3	0.0	20.8	0.3	35.3	33.2	0.0	26.3	6.9	10.4	11.4	10.0
Russian Federation	1995	322	18.2	1.0	0.1	3.0	0.4	15.4	61.8	2.3	27.0	32.5	19.2	17.7	20.7
	2008	1593	21.1	0.4	1.6	2.0	2.1	22.1	50.7	0.0	37.1	13.5	21.5	18.4	23.9
Slovenia	1995	178	7.4	0.0	0.0	0.0	0.6	16.6	75.4	14.1	50.7	10.5	7.4	7.9	7.5
	2008	547	5.6	0.0	0.0	5.4	2.0	53.0	34.0	0.0	31.6	2.4	5.6	5.0	5.9
Sweden	1995	266	7.9	0.4	0.3	5.5	1.2	42.0	42.7	8.7	28.7	5.2	8.3	4.5	10.4
	2008	1144	1.9	0.1	0.3	3.5	0.8	45.1	48.2	0.0	39.0	9.2	2.0	2.0	2.1
International Avg.	1995	279	12.9	0.4	0.1	7.3	1.2	25.6	52.5	7.4	31.2	14.0	13.3	12.2	14.2
	2008	1023	9.7	0.2	0.5	7.9	1.3	38.9	41.5	0.0	33.5	8.0	9.9	9.2	10.5

V1 = Percent scoring 1 or better      V2 = Percent scoring 2 or better  
Percent right for boys and girls corresponds to the percent obtaining the maximum score on the item.  
Because of missing gender information, some totals may appear inconsistent.

Physics: Mechanics / Reasoning (PA13027A - P3\_07A)  
Label: Value of gravity g  
Type: CR Key: X

COUNTRY	Year	N	10	11	19	70	71	72	79	99	OMIT	NOT REACH ED	V1	1.GIRL % Right	2.BOY % Right
Norway	1995	350	22.4	14.0	0.8	15.9	10.1	9.8	8.8	18.3	7.1	11.2	37.1	38.2	36.7
	2008	809	3.3	16.3	1.3	3.6	21.7	2.5	22.4	28.8	19.8	9.0	20.9	18.0	22.2
Russian Federation	1995	321	2.0	24.3	1.9	0.4	4.3	1.7	6.0	59.3	12.0	47.3	28.3	26.0	30.5
	2008	1593	1.8	32.5	0.0	0.6	5.2	0.6	12.9	46.4	28.3	18.1	34.3	30.5	37.3
Slovenia	1995	178	23.2	14.0	4.8	10.8	4.6	0.0	13.6	29.0	13.6	15.5	41.9	48.3	39.1
	2008	547	1.2	34.7	0.0	0.9	31.4	0.2	21.3	10.3	6.9	3.4	35.9	36.8	35.5
Sweden	1995	266	26.0	11.1	0.1	12.1	15.0	11.0	7.9	16.8	6.6	10.2	37.2	36.1	37.8
	2008	1144	2.6	11.3	0.2	6.7	11.6	3.3	25.9	38.5	24.6	13.9	14.1	14.8	13.8
International Avg.	1995	279	18.4	15.8	1.9	9.8	8.5	5.6	9.1	30.9	9.8	21.0	36.1	37.1	36.0
	2008	1023	2.2	23.7	0.4	2.9	17.5	1.6	20.6	31.0	19.9	11.1	26.3	25.0	27.2

V1 = Percent scoring 1 or better      V2 = Percent scoring 2 or better  
Percent right for boys and girls corresponds to the percent obtaining the maximum score on the item.  
Because of missing gender information, some totals may appear inconsistent.