

Physics: Mechanics / (PA13001 - E01)
Label: Comparing notes displayed on oscilloscope
ItemType: M Key: A

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	661	75.6	4.1	6.9	13.0	0.4	75.6	0.0	0.4	0.0	76.2	75.4
Austria	777	82.6	5.5	7.4	2.8	1.7	82.6	0.6	1.1	0.0	79.4	87.4
Canada	2367	69.5	7.4	7.8	15.2	0.1	69.5	0.0	0.0	0.0	71.3	68.1
Cyprus	366	66.5	12.0	8.8	12.7	0.0	66.5	0.0	0.0	0.0	64.9	67.3
Czech Republic	1087	74.6	4.2	13.3	7.2	0.6	74.6	0.3	0.3	0.0	72.9	77.4
Denmark	654	83.1	8.5	6.4	0.8	1.2	83.1	0.2	1.0	0.0	80.2	83.8
France	1110	62.6	10.7	13.3	12.3	1.1	62.6	0.4	0.7	0.0	64.4	61.5
Germany	723	84.5	4.2	9.0	1.2	1.1	84.5	0.5	0.6	0.0	81.3	85.7
Greece	459	65.8	14.0	12.5	6.7	0.9	65.8	0.0	0.9	0.0	70.1	63.8
Israel	853	65.7	11.4	7.7	13.1	2.1	65.7	0.2	1.5	0.4	59.1	67.7
Latvia	708	82.8	6.1	4.7	6.0	0.4	82.8	0.0	0.4	0.0	84.1	81.4
Norway	1045	73.8	6.6	8.5	10.3	0.7	73.8	0.0	0.7	0.0	70.8	74.9
Russian Federation	1229	84.5	10.1	4.4	0.7	0.4	84.5	0.0	0.4	0.0	84.5	84.4
Slovenia	747	77.6	7.7	11.5	1.4	1.8	77.6	0.0	1.8	0.0	66.3	81.6
Sweden	1012	69.8	8.4	8.9	12.6	0.3	69.8	0.2	0.1	0.0	71.0	69.2
Switzerland	1371	83.6	4.6	7.6	2.5	1.6	83.6	0.4	1.3	0.0	81.1	85.8
United States	3114	74.4	5.4	4.9	15.1	0.2	74.4	0.1	0.1	0.0	76.8	72.3

International Avg.	1075	75.1	7.7	8.5	7.9	0.9	75.1	0.2	0.7	0.0	73.8	75.8

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 Physic / (PA13002 - E02)
Label: Half-life of thorium
ItemType: M Key: B

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	661	5.3	70.4	20.0	2.7	1.6	70.4	0.0	1.6	0.0	59.7	75.8
Austria	777	11.0	59.7	20.0	7.6	1.8	59.7	0.1	1.7	0.0	55.6	66.1
Canada	2367	8.2	58.0	27.5	4.2	2.2	58.0	0.0	2.1	0.0	50.4	64.0
Cyprus	368	10.7	41.9	39.8	2.8	4.8	41.9	0.0	4.8	0.0	34.5	46.4
Czech Republic	1087	4.5	40.7	36.5	13.2	5.1	40.7	1.0	4.1	0.0	33.5	52.2
Denmark	654	4.2	84.9	7.9	0.9	2.1	84.9	0.0	2.1	0.0	79.2	86.1
France	1110	7.2	46.3	22.5	16.7	7.2	46.3	0.1	7.1	0.0	41.3	49.6
Germany	723	4.8	71.8	15.7	2.7	4.9	71.8	0.1	4.8	0.0	63.9	75.7
Greece	459	6.9	56.5	26.5	4.3	5.9	56.5	0.0	5.9	0.0	44.2	62.2
Israel	853	5.7	50.6	31.8	5.5	6.3	50.6	0.0	6.0	0.4	41.9	53.2
Latvia	708	5.1	53.0	29.1	7.6	5.2	53.0	0.0	5.2	0.0	54.1	51.8
Norway	1045	5.8	75.0	16.7	0.6	1.9	75.0	0.0	1.9	0.0	64.7	78.6
Russian Federation	1229	5.5	64.5	19.7	5.6	4.8	64.5	0.0	4.8	0.0	58.4	69.5
Slovenia	747	3.7	52.6	29.6	3.6	10.5	52.6	0.0	10.5	0.0	44.0	55.7
Sweden	1012	4.5	74.1	20.8	0.3	0.2	74.1	0.0	0.2	0.0	67.3	77.5
Switzerland	1371	6.0	60.3	25.5	4.1	4.1	60.3	0.0	4.1	0.0	52.5	68.4
United States	3114	9.5	51.7	31.6	4.8	2.4	51.7	0.0	2.3	0.0	49.2	54.0

International Avg.	1076	6.4	59.5	24.8	5.1	4.2	59.5	0.1	4.1	0.0	52.6	63.9

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

Physics: Mechanics / (PA13003 - E03)
Label: Tension in thread between two points
ItemType: M Key: C

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	661	8.8	13.1	70.3	4.4	2.4	0.9	70.3	0.0	0.9	0.0	53.9	78.7
Austria	777	10.0	23.3	56.0	5.8	3.3	1.7	56.0	0.0	1.7	0.0	45.3	74.4
Canada	2367	11.7	19.1	60.3	5.7	2.4	0.8	60.3	0.0	0.8	0.0	47.6	70.0
Cyprus	368	18.1	11.3	61.0	6.8	1.7	1.0	61.0	0.0	1.0	0.0	51.9	66.6
Czech Republic	1087	13.8	20.5	62.1	2.2	0.8	0.5	62.1	0.1	0.4	0.0	52.5	77.6
Denmark	654	8.1	7.2	81.3	2.8	0.4	0.2	81.3	0.0	0.2	0.0	65.2	85.0
France	1110	18.0	17.5	59.6	2.6	0.7	1.7	59.6	0.2	1.5	0.0	47.2	67.2
Germany	723	8.6	12.7	75.3	2.0	0.2	1.2	75.3	0.0	1.2	0.0	62.5	81.3
Greece	459	15.2	22.3	53.4	4.7	1.9	2.5	53.4	0.2	2.3	0.0	42.1	58.6
Israel	853	11.7	7.3	75.0	3.8	1.3	0.9	75.0	0.0	0.5	0.5	62.9	78.9
Latvia	707	4.5	13.1	77.8	1.9	1.3	1.4	77.8	0.0	1.4	0.0	67.2	88.2
Norway	1047	8.4	5.0	83.4	2.1	0.5	0.5	83.4	0.0	0.5	0.0	69.5	88.4
Russian Federation	1233	6.6	11.6	75.3	3.6	0.8	2.1	75.3	0.0	2.1	0.0	62.5	86.0
Slovenia	747	8.1	5.1	84.4	1.5	0.6	0.3	84.4	0.0	0.3	0.0	68.2	90.7
Sweden	1011	5.9	2.8	88.1	2.4	0.7	0.1	88.1	0.0	0.1	0.0	77.0	93.5
Switzerland	1371	11.1	10.1	72.8	2.4	1.0	2.6	72.8	0.0	2.6	0.0	61.5	83.6
United States	3114	10.4	33.2	46.3	5.1	3.8	1.2	46.3	0.0	1.2	0.0	31.9	59.8
International Avg.	1076	10.5	13.8	69.5	3.5	1.4	1.2	69.5	0.0	1.1	0.0	57.0	78.1

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 / (PA13004 - E04)
Label: Circuit in box
ItemType: M Key: D

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	661	1.6	0.8	4.2	89.4	3.3	0.8	89.4	0.0	0.8	0.0	88.5	89.9
Austria	777	1.9	2.6	5.3	76.6	8.8	4.8	76.6	1.3	3.5	0.0	72.6	82.5
Canada	2367	2.1	0.9	3.0	86.6	6.8	0.6	86.6	0.0	0.6	0.0	84.1	88.5
Cyprus	368	2.6	1.9	5.7	83.9	5.3	0.5	83.9	0.0	0.5	0.0	84.3	83.5
Czech Republic	1087	1.8	0.8	3.0	85.7	6.2	2.6	85.7	0.3	2.2	0.0	80.7	93.7
Denmark	654	1.2	1.0	0.6	90.9	3.7	2.6	90.9	0.4	2.3	0.0	88.3	91.5
France	1110	1.6	0.6	3.5	86.1	5.5	2.8	86.1	0.3	2.5	0.0	83.5	88.0
Germany	723	1.8	1.5	2.0	88.9	4.3	1.6	88.9	0.3	1.4	0.0	85.2	90.2
Greece	459	1.0	1.7	4.2	80.0	10.0	3.0	80.0	0.5	2.5	0.0	81.2	79.5
Israel	853	1.2	1.3	3.9	86.6	5.3	1.8	86.6	0.0	1.3	0.5	79.6	88.4
Latvia	708	2.0	2.9	4.9	82.4	5.0	2.8	82.4	0.0	2.8	0.0	81.0	83.7
Norway	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
Russian Federation	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
Slovenia	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
Sweden	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
Switzerland	1371	2.4	1.7	2.3	83.4	6.3	3.9	83.4	0.5	3.4	0.0	79.6	86.7
United States	3114	4.9	2.3	5.2	75.6	10.9	1.1	75.6	0.0	1.0	0.0	73.4	77.7
International Avg.	1076	1.8	1.3	3.3	85.9	5.6	2.0	85.9	0.2	1.8	0.0	82.7	88.1

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 / (PA13005 - E05)

Label: Depth of well

ItemType: M Key: C

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	661	3.9	4.2	87.1	3.1	0.6	1.1	87.1	0.0	1.1	0.0	84.0	88.6
Austria	777	13.1	7.8	58.9	16.5	1.5	2.2	58.9	0.1	2.1	0.0	56.2	64.1
Canada	2367	5.3	3.9	76.0	13.1	1.2	0.5	76.0	0.0	0.4	0.0	71.8	79.3
Cyprus	368	3.6	3.0	85.2	4.5	3.2	0.5	85.2	0.0	0.5	0.0	81.5	87.4
Czech Republic	1087	7.4	4.5	79.3	6.7	0.6	1.5	79.3	0.2	1.3	0.0	76.5	83.8
Denmark	654	3.4	4.6	82.0	8.9	0.6	0.5	82.0	0.0	0.5	0.0	76.8	83.7
France	1110	7.0	7.0	66.4	12.1	5.6	1.9	66.4	0.0	1.9	0.0	67.6	65.8
Germany	723	3.4	3.9	76.5	12.2	1.5	2.5	76.5	0.4	2.1	0.0	71.3	78.9
Greece	459	2.4	3.7	89.5	2.0	1.3	1.1	89.5	0.0	1.1	0.0	88.0	90.2
Israel	853	1.2	2.5	90.3	4.0	0.6	1.5	90.3	0.0	1.1	0.5	93.0	89.4
Latvia	708	4.9	3.7	82.3	7.8	0.9	0.5	82.3	0.0	0.5	0.0	82.2	82.4
Norway	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
Russian Federation	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
Slovenia	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
Sweden	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
Switzerland	1371	3.9	5.3	73.8	13.6	0.9	2.5	73.8	0.2	2.3	0.0	67.6	79.6
United States	3114	10.6	6.2	70.4	11.6	0.5	0.7	70.4	0.0	0.7	0.0	68.8	71.8
International Avg.	1076	4.6	4.2	79.9	8.7	1.4	1.1	79.9	0.1	1.0	0.0	77.3	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 / (PA13006 - E06)
Label: Placement of third charge
ItemType: M Key: D

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	661	19.2	20.0	11.5	32.4	14.6	2.2	32.4	0.0	2.2	0.0	30.5	33.4
Austria	777	23.6	13.8	13.5	26.2	18.1	4.8	26.2	0.0	4.8	0.0	24.7	28.1
Canada	2367	15.8	17.1	10.2	40.5	14.5	1.8	40.5	0.0	1.8	0.0	41.0	40.1
Cyprus	368	12.7	13.3	7.4	44.6	18.1	4.0	44.6	0.0	4.0	0.0	44.1	45.1
Czech Republic	1087	25.5	15.8	8.2	31.6	15.0	3.9	31.6	0.5	3.4	0.0	29.5	35.1
Denmark	654	25.8	16.0	12.0	27.1	11.1	7.9	27.1	0.2	7.8	0.0	18.6	29.4
France	1110	24.0	16.6	8.2	31.4	10.2	9.7	31.4	0.3	9.4	0.0	31.1	30.9
Germany	723	24.3	16.0	11.2	30.2	7.5	10.8	30.2	0.2	10.6	0.0	29.3	30.8
Greece	459	12.3	16.8	6.4	46.7	12.7	5.1	46.7	0.0	5.1	0.0	44.5	47.7
Israel	853	6.8	26.7	8.0	46.8	8.4	3.3	46.8	0.0	2.8	0.5	43.5	47.4
Latvia	708	15.4	16.2	9.1	39.4	14.6	5.3	39.4	0.0	5.3	0.0	40.3	38.6
Norway	1048	20.7	16.1	11.5	38.1	11.7	1.9	38.1	0.0	1.9	0.0	34.8	39.2
Russian Federation	1233	14.2	11.3	5.2	48.2	16.6	4.5	48.2	0.0	4.5	0.0	39.7	55.3
Slovenia	747	20.2	16.2	9.0	35.6	8.4	10.7	35.6	0.0	10.7	0.0	36.6	34.7
Sweden	1011	22.7	20.0	8.2	35.9	11.4	1.8	35.9	0.0	1.8	0.0	36.1	35.8
Switzerland	1371	19.5	19.8	10.5	30.8	11.3	8.1	30.8	0.2	7.9	0.0	28.3	33.4
United States	3114	25.7	13.0	11.9	28.3	19.2	2.0	28.3	0.0	2.0	0.0	30.1	26.6
International Avg.	1076	19.3	16.7	9.5	36.1	13.1	5.2	36.1	0.1	5.1	0.0	34.3	37.1

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 / (PA13009 - E09)
Label: Circuit readings when switch is closed
ItemType: M Key: A

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	661	39.4	20.3	16.6	23.2	0.6	39.4	0.0	0.6	0.0	32.1	43.0
Austria	777	26.1	30.9	27.4	13.4	2.2	26.1	0.3	1.8	0.1	19.1	37.6
Canada	2367	32.1	21.8	26.6	19.0	0.6	32.1	0.1	0.5	0.0	29.5	33.9
Cyprus	367	35.0	26.3	25.8	12.0	0.9	35.0	0.0	0.9	0.0	35.1	34.7
Czech Republic	1087	31.7	27.7	29.7	9.7	1.2	31.7	0.1	1.0	0.0	29.3	35.6
Denmark	654	45.3	23.1	16.2	14.1	1.4	45.3	0.0	1.2	0.2	41.6	45.7
France	1110	27.8	23.4	24.8	20.9	3.0	27.8	0.4	2.5	0.0	26.0	28.7
Germany	723	29.8	30.8	17.7	17.9	3.8	29.8	0.0	3.8	0.0	29.5	29.9
Greece	459	32.5	26.7	22.4	16.0	2.5	32.5	0.0	2.5	0.0	31.2	33.0
Israel	853	55.6	16.9	15.2	9.7	2.6	55.6	0.1	1.9	0.6	48.9	57.1
Latvia	702	40.8	17.7	30.6	8.1	2.7	40.8	0.0	2.6	0.1	35.1	46.4
Norway	1048	45.5	18.4	15.9	19.5	0.7	45.5	0.0	0.7	0.0	40.6	47.2
Russian Federation	1229	47.6	20.6	20.2	8.3	3.4	47.6	0.0	3.3	0.1	42.1	52.1
Slovenia	747	45.2	21.9	16.1	12.6	4.1	45.2	0.0	4.1	0.0	37.8	47.8
Sweden	1012	51.3	17.2	12.2	18.9	0.5	51.3	0.0	0.3	0.1	43.6	55.1
Switzerland	1371	31.8	24.4	22.2	16.2	5.5	31.8	0.1	5.4	0.0	24.1	39.1
United States	3114	23.8	26.9	33.7	14.4	1.2	23.8	0.0	1.2	0.0	21.4	26.1

International Avg.	1075	37.7	23.2	21.9	14.9	2.2	37.7	0.1	2.0	0.1	33.4	40.8

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 Physic / (PA13011 - F01)
Label: Fraunhofer lines
ItemType: M Key: B

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	201	26.3	47.1	7.3	8.8	9.7	0.8	47.1	0.1	0.8	0.0	54.9	44.1
Austria	201	13.6	51.7	11.5	8.9	11.4	3.1	51.7	0.0	3.1	0.0	49.3	55.1
Canada	653	27.5	37.9	11.8	7.9	14.1	0.8	37.9	0.0	0.8	0.0	35.6	39.3
Cyprus	115	15.0	48.3	16.9	3.3	10.7	5.8	48.3	0.0	5.8	0.0	48.9	47.1
Czech Republic	269	26.8	39.5	6.1	7.8	16.9	2.9	39.5	0.5	2.4	0.0	41.9	35.2
Denmark	188	11.9	41.7	18.1	5.0	15.3	7.9	41.7	1.0	6.9	0.0	34.5	43.7
France	276	13.9	55.4	9.8	6.3	10.9	3.7	55.4	0.4	3.3	0.0	58.5	53.2
Germany	221	14.9	50.0	14.0	3.5	4.3	13.3	50.0	2.3	11.0	0.0	59.1	47.2
Greece	116	5.9	58.7	9.8	1.7	18.8	5.1	58.7	0.0	5.1	0.0	65.6	55.6
Israel	183	21.9	37.2	12.0	6.0	15.3	7.7	37.2	0.0	7.7	0.0	41.5	35.7
Latvia	238	33.8	39.0	10.7	4.9	6.3	5.3	39.0	0.0	4.9	0.4	36.8	41.3
Norway	350	1.1	82.8	5.6	4.1	5.5	0.9	82.8	0.0	0.9	0.0	82.8	82.9
Russian Federation	325	20.0	48.7	11.2	5.9	8.1	6.2	48.7	0.0	6.2	0.0	51.1	46.2
Slovenia	178	21.8	47.4	8.0	9.0	10.3	3.5	47.4	0.0	3.5	0.0	55.5	44.9
Sweden	266	7.9	50.3	13.3	8.0	16.0	4.5	50.3	2.8	1.7	0.0	53.5	48.5
Switzerland	339	15.0	42.2	9.6	5.6	13.6	14.0	42.2	0.6	13.5	0.0	49.8	37.0
United States	883	13.0	45.6	14.1	17.0	9.0	1.2	45.6	0.3	0.9	0.0	48.7	42.6

International Avg.	294	17.1	48.4	11.2	6.7	11.5	5.1	48.4	0.5	4.6	0.0	51.1	47.0

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 / (PA13012 - F02)
Label: Force on connected springs
ItemType: M Key: C

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	201	43.9	1.5	14.9	39.6	0.2	14.9	0.0	0.2	0.0	9.2	17.0
Austria	201	39.4	3.3	13.6	42.5	1.1	13.6	0.0	1.1	0.0	13.0	15.3
Canada	653	58.6	0.4	8.3	32.2	0.5	8.3	0.0	0.5	0.0	5.8	10.2
Cyprus	115	41.7	2.6	18.6	36.3	0.8	18.6	0.0	0.8	0.0	12.5	22.5
Czech Republic	269	23.0	0.3	16.1	60.5	0.1	16.1	0.0	0.1	0.0	12.1	23.3
Denmark	188	31.2	0.3	29.6	37.8	1.1	29.6	0.7	0.4	0.0	11.2	34.0
France	276	44.1	1.4	11.6	42.7	0.2	11.6	0.0	0.2	0.0	4.8	16.6
Germany	221	29.9	1.2	18.2	50.2	0.5	18.2	0.2	0.2	0.0	4.9	25.1
Greece	116	31.2	4.3	21.9	39.2	3.4	21.9	0.0	3.4	0.0	14.7	25.2
Israel	183	43.7	0.5	19.1	33.9	2.7	19.1	0.0	2.7	0.0	14.6	19.3
Latvia	238	29.8	1.8	12.9	51.3	4.1	12.9	0.0	3.8	0.4	8.1	18.0
Norway	350	31.2	0.6	32.8	35.0	0.4	32.8	0.0	0.4	0.0	22.6	36.8
Russian Federation	325	31.9	0.5	25.1	41.7	0.9	25.1	0.0	0.9	0.0	16.4	33.7
Slovenia	178	31.5	0.0	30.8	37.3	0.4	30.8	0.0	0.4	0.0	26.0	31.5
Sweden	266	34.2	0.8	22.3	42.7	0.0	22.3	0.0	0.0	0.0	6.8	30.9
Switzerland	339	35.5	1.2	20.2	39.7	3.4	20.2	0.0	3.4	0.0	10.1	28.1
United States	883	63.2	1.6	9.1	25.7	0.4	9.1	0.0	0.4	0.0	7.6	10.5

International Avg.	294	37.9	1.3	19.1	40.5	1.2	19.1	0.1	1.1	0.0	11.8	23.4

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

Physics: Atomic and Nuclear Physic / (PA13013 - F03)
Label: Rutherford experiment
ItemType: M Key: C

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	201	9.2	7.9	58.2	24.8	0.0	58.2	0.0	0.0	0.0	58.3	58.1
Austria	201	12.7	15.6	28.0	40.5	3.1	28.0	0.0	3.1	0.0	28.2	26.6
Canada	653	4.3	6.8	43.2	42.9	2.8	43.2	0.0	2.8	0.0	38.5	46.8
Cyprus	115	16.7	17.1	44.2	16.3	5.7	44.2	0.0	5.7	0.0	39.7	47.5
Czech Republic	269	12.5	16.2	31.4	37.3	2.6	31.4	0.0	2.6	0.0	23.6	45.1
Denmark	188	2.7	8.3	43.6	42.6	2.8	43.6	0.4	2.4	0.0	23.7	48.0
France	276	2.1	19.9	23.9	48.8	5.3	23.9	0.0	5.3	0.0	20.2	25.4
Germany	221	8.9	6.7	50.7	22.9	10.7	50.7	1.4	9.3	0.0	34.5	58.4
Greece	116	7.6	26.6	23.5	33.0	9.2	23.5	0.0	9.2	0.0	19.5	25.3
Israel	183	7.7	23.5	30.6	30.6	7.7	30.6	0.0	7.7	0.0	26.8	31.4
Latvia	238	9.3	17.6	31.4	35.2	6.5	31.4	0.0	6.1	0.4	26.1	36.9
Norway	350	6.6	6.9	48.9	35.5	2.0	48.9	0.0	2.0	0.0	43.0	51.2
Russian Federation	325	3.4	10.7	53.2	29.0	3.8	53.2	0.0	3.8	0.0	41.8	64.5
Slovenia	178	9.4	27.9	28.7	24.0	10.1	28.7	0.0	10.1	0.0	27.7	29.9
Sweden	266	11.2	9.1	49.3	30.5	0.0	49.3	0.0	0.0	0.0	45.8	51.2
Switzerland	339	9.1	9.1	37.8	33.0	11.0	37.8	0.5	10.5	0.0	32.6	40.7
United States	883	12.6	19.1	29.6	38.0	0.7	29.6	0.0	0.6	0.0	31.4	27.9

International Avg.	294	8.6	14.6	38.6	33.2	4.9	38.6	0.1	4.8	0.0	33.0	42.1

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 / (PA13014 - F04)
Label: Speed of aircraft
ItemType: M Key: B

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	201	15.1	45.8	11.0	10.6	15.0	2.5	45.8	2.5	0.0	44.4	46.3
Austria	201	25.3	18.2	21.5	14.3	18.5	2.3	18.2	2.3	0.0	16.3	22.0
Canada	653	8.7	48.9	11.4	17.2	12.8	1.0	48.9	1.0	0.0	44.9	51.8
Cyprus	115	9.4	69.1	0.8	10.0	9.8	0.9	69.1	0.9	0.0	72.6	68.0
Czech Republic	269	21.6	37.8	9.1	13.7	16.1	1.7	37.8	1.7	0.0	31.0	50.0
Denmark	188	12.3	53.2	8.0	11.1	9.7	5.5	53.2	5.5	0.0	51.6	51.9
France	276	10.0	47.0	2.8	20.0	13.5	6.8	47.0	6.8	0.0	49.0	45.8
Germany	221	15.4	38.2	10.1	9.9	18.0	8.4	38.2	8.4	0.0	29.4	43.2
Greece	116	2.6	72.8	2.3	9.1	12.5	0.7	72.8	0.7	0.0	78.4	70.2
Israel	183	3.8	77.6	1.1	9.8	7.1	0.5	77.6	0.5	0.0	85.4	75.0
Latvia	234	18.3	43.4	10.7	11.3	12.8	3.4	43.4	3.0	0.4	34.3	52.7
Norway	350	3.1	72.2	4.2	9.9	8.3	2.3	72.2	2.3	0.0	74.9	71.2
Russian Federation	325	5.3	73.5	5.7	8.7	4.6	2.1	73.5	2.1	0.0	70.6	76.4
Slovenia	178	9.4	67.3	3.2	7.8	10.1	2.2	67.3	2.2	0.0	64.5	67.4
Sweden	266	6.4	62.7	4.9	10.3	14.3	1.5	62.7	1.5	0.0	66.0	60.8
Switzerland	339	13.8	39.1	12.8	12.2	11.0	11.0	39.1	11.0	0.0	33.4	44.0
United States	883	21.5	24.5	20.9	14.6	17.7	0.9	24.5	0.8	0.0	22.8	26.0

International Avg.	294	11.9	52.4	8.3	11.8	12.5	3.2	52.4	3.1	0.0	51.1	54.3

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 / (PA13015 - F05)

Label: Heat transfer

ItemType: M Key: C

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	201	0.9	5.8	61.8	31.6	0.0	61.8	0.0	0.0	0.0	58.0	63.2
Austria	201	1.8	2.6	61.6	32.6	1.4	61.6	0.0	1.4	0.0	50.4	78.3
Canada	653	2.4	1.6	50.2	45.7	0.1	50.2	0.0	0.1	0.0	31.7	62.7
Cyprus	115	2.5	5.1	52.6	39.0	0.8	52.6	0.0	0.8	0.0	39.0	60.1
Czech Republic	269	0.4	0.0	79.8	19.4	0.4	79.8	0.4	0.0	0.0	79.9	79.5
Denmark	188	0.0	0.3	77.6	20.6	1.4	77.6	0.0	1.4	0.0	57.6	82.8
France	276	1.0	0.2	64.8	31.7	2.3	64.8	0.0	2.3	0.0	61.7	67.0
Germany	221	2.0	0.4	56.3	40.7	0.6	56.3	0.0	0.6	0.0	33.4	65.8
Greece	116	0.0	0.7	69.1	29.1	1.0	69.1	0.0	1.0	0.0	56.4	74.9
Israel	183	1.1	2.7	49.7	43.2	3.3	49.7	0.0	3.3	0.0	51.2	48.6
Latvia	234	0.0	0.8	67.4	30.6	1.2	67.4	0.0	0.8	0.4	63.7	71.2
Norway	350	0.0	0.0	88.9	10.4	0.8	88.9	0.0	0.8	0.0	84.3	90.6
Russian Federation	325	0.0	1.7	72.8	24.8	0.7	72.8	0.0	0.7	0.0	61.0	84.5
Slovenia	178	0.8	2.9	48.7	46.4	1.1	48.7	0.0	1.1	0.0	28.3	53.6
Sweden	266	0.0	0.0	90.6	9.4	0.0	90.6	0.0	0.0	0.0	86.4	93.0
Switzerland	339	3.2	2.2	62.3	28.8	3.5	62.3	0.0	3.5	0.0	50.7	72.2
United States	883	2.9	5.0	33.5	58.1	0.5	33.5	0.0	0.4	0.0	31.5	35.5

International Avg.	294	1.1	1.9	64.0	31.9	1.1	64.0	0.0	1.1	0.0	54.4	69.6

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 / (PA13016 - F06)
Label: Direction of magnetic force on electric wire
ItemType: M Key: D

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	201	10.0	15.2	28.5	36.3	8.6	1.4	36.3	0.0	1.4	0.0	16.0	44.2
Austria	201	17.2	20.5	18.2	20.0	22.1	2.1	20.0	0.0	2.1	0.0	20.8	20.0
Canada	653	21.2	16.6	26.4	14.3	20.5	0.9	14.3	0.0	0.9	0.0	12.3	15.9
Cyprus	115	9.8	17.9	31.1	19.0	20.7	1.6	19.0	0.0	1.6	0.0	6.7	26.7
Czech Republic	.	.	.	.	.	.	.	.	.	.	.	.	.
Denmark	188	15.4	22.1	15.4	32.1	7.5	7.5	32.1	0.4	7.1	0.0	31.5	33.3
France	276	16.0	25.5	22.6	19.6	9.9	6.5	19.6	2.5	4.0	0.0	16.5	21.0
Germany	221	6.5	13.3	25.2	44.5	7.1	3.5	44.5	0.8	2.6	0.0	39.1	49.1
Greece	116	11.2	9.9	24.1	38.9	10.1	5.8	38.9	1.0	4.8	0.0	21.6	46.8
Israel	183	13.1	10.9	36.6	30.6	8.7	0.0	30.6	0.0	0.0	0.0	26.8	30.7
Latvia	238	17.4	14.2	16.9	27.7	21.2	2.6	27.7	0.0	2.3	0.4	25.9	29.5
Norway	350	10.7	14.0	29.3	40.0	5.7	0.3	40.0	0.0	0.3	0.0	35.4	41.8
Russian Federation	325	11.6	12.5	20.3	37.9	13.3	4.4	37.9	0.0	4.2	0.2	33.4	42.5
Slovenia	178	18.8	15.9	26.7	30.6	5.9	2.1	30.6	0.0	2.1	0.0	38.2	28.0
Sweden	266	6.1	14.9	24.1	52.5	1.9	0.5	52.5	0.0	0.5	0.0	48.1	54.9
Switzerland	339	20.7	11.7	24.5	22.5	13.5	7.1	22.5	0.6	6.5	0.0	20.2	24.6
United States	883	22.4	11.9	23.2	16.4	25.5	0.6	16.4	0.0	0.6	0.0	16.4	16.4
International Avg.	296	14.3	15.4	24.6	30.2	12.6	2.9	30.2	0.3	2.6	0.0	25.5	32.8

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 Physic / (PA13017 - F07)
Label: Photoelectric effect
ItemType: M Key: D

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	201	20.2	10.4	14.6	52.6	2.2	52.6	0.1	2.1	0.0	46.4	55.0
Austria	201	26.7	11.7	15.9	42.6	3.1	42.6	0.0	3.1	0.0	45.4	40.8
Canada	653	8.3	12.8	12.2	65.3	1.4	65.3	0.0	1.4	0.0	64.2	66.0
Cyprus	115	13.0	10.4	20.7	49.2	6.7	49.2	0.0	6.7	0.0	50.9	49.0
Czech Republic	269	10.3	8.2	8.8	71.8	0.9	71.8	0.2	0.6	0.0	68.6	77.6
Denmark	.	.	.	.	.	.	.	.	.	.	.	.
France	276	17.5	9.3	16.6	48.5	8.1	48.5	0.0	8.1	0.0	55.5	44.3
Germany	221	15.1	5.9	23.0	38.4	17.6	38.4	4.1	13.5	0.0	44.5	34.2
Greece	116	26.0	10.9	16.6	41.1	5.3	41.1	0.0	5.3	0.0	41.2	41.1
Israel	183	10.9	15.3	18.0	51.4	4.4	51.4	0.0	4.4	0.0	53.7	50.0
Latvia	238	17.9	7.5	13.6	56.1	5.0	56.1	0.0	4.6	0.4	52.7	59.6
Norway	350	11.3	9.1	9.7	69.7	0.3	69.7	0.0	0.3	0.0	81.0	65.3
Russian Federation	325	5.6	10.9	13.8	65.6	4.1	65.6	0.0	3.8	0.2	62.7	68.5
Slovenia	178	9.5	8.6	11.4	65.9	4.6	65.9	0.0	4.6	0.0	70.8	63.8
Sweden	266	4.3	7.0	8.3	80.2	0.2	80.2	0.0	0.2	0.0	84.5	77.8
Switzerland	339	18.9	10.0	25.9	32.1	13.0	32.1	0.3	12.7	0.0	40.3	26.6
United States	883	13.4	14.2	15.4	54.9	2.1	54.9	0.0	2.1	0.0	59.3	50.6

International Avg.	301	14.3	10.1	15.3	55.3	4.9	55.3	0.3	4.6	0.0	57.6	54.4

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 / (PA13018 - F08)
Label: Bulbs using least power
ItemType: M Key: C

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	201	24.4	8.3	47.2	18.7	1.3	47.2	0.0	1.3	0.0	37.3	51.0
Austria	201	26.3	15.0	46.7	11.0	1.0	46.7	0.0	1.0	0.0	42.8	51.5
Canada	653	29.0	6.5	44.8	19.3	0.3	44.8	0.2	0.1	0.0	39.3	48.3
Cyprus	115	28.4	8.7	41.2	21.7	0.0	41.2	0.0	0.0	0.0	50.4	36.2
Czech Republic	269	29.4	10.3	42.6	17.4	0.3	42.6	0.0	0.3	0.0	36.4	53.8
Denmark	188	22.6	8.7	46.1	18.8	3.7	46.1	2.7	1.0	0.0	45.7	45.5
France	276	30.0	8.0	48.4	12.5	1.0	48.4	0.2	0.9	0.0	56.9	44.3
Germany	221	13.5	22.4	49.4	7.8	6.8	49.4	5.9	0.8	0.2	41.2	51.8
Greece	116	20.5	10.3	48.3	19.0	2.0	48.3	0.0	2.0	0.0	48.0	48.5
Israel	183	18.0	16.4	61.2	4.4	0.0	61.2	0.0	0.0	0.0	56.1	62.9
Latvia	238	24.2	13.7	36.3	22.5	3.3	36.3	0.0	2.9	0.4	35.8	36.8
Norway	350	23.6	7.9	55.7	11.2	1.7	55.7	0.0	1.7	0.0	49.1	58.2
Russian Federation	325	27.0	11.4	38.0	21.1	2.5	38.0	0.0	2.3	0.2	31.4	44.5
Slovenia	178	27.1	11.4	50.1	10.7	0.6	50.1	0.0	0.6	0.0	53.5	49.2
Sweden	266	16.5	15.5	56.9	10.6	0.5	56.9	0.3	0.2	0.0	55.0	58.0
Switzerland	339	17.8	12.7	53.3	12.9	3.3	53.3	0.8	2.5	0.0	55.3	52.7
United States	883	30.4	13.8	26.2	29.4	0.2	26.2	0.0	0.1	0.0	26.2	26.2
International Avg.	294	24.1	11.8	46.6	15.8	1.7	46.6	0.6	1.0	0.0	44.7	48.2

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

Physics: Atomic and Nuclear Physic / (PA13019 - F09)

Label: Nuclear change in an atom

ItemType: M Key: B

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	201	13.3	29.7	7.7	21.1	27.6	0.7	29.7	0.0	0.7	0.0	24.0	31.8
Austria	201	14.0	18.2	12.5	26.1	26.3	2.9	18.2	0.0	2.9	0.0	16.4	20.0
Canada	653	10.7	23.0	9.9	23.1	28.8	4.5	23.0	0.0	4.5	0.0	27.0	20.5
Cyprus	115	8.0	31.7	10.5	16.9	22.6	10.3	31.7	0.0	10.3	0.0	34.5	30.5
Czech Republic	269	17.9	26.5	7.9	29.2	16.6	1.8	26.5	0.0	1.8	0.0	28.1	23.7
Denmark	188	5.0	46.4	6.3	18.3	16.3	7.7	46.4	1.0	6.6	0.0	41.7	46.3
France	276	10.5	43.6	5.4	15.0	16.5	9.0	43.6	0.4	8.6	0.0	40.7	46.0
Germany	221	10.4	25.9	6.5	23.0	14.4	19.8	25.9	0.2	19.4	0.2	27.2	25.1
Greece	116	8.2	10.2	11.0	28.4	33.8	8.4	10.2	0.0	8.4	0.0	13.5	8.7
Israel	183	12.6	18.6	10.4	34.4	16.4	7.7	18.6	0.0	7.7	0.0	22.0	17.9
Latvia	238	22.8	38.9	10.6	9.7	11.9	6.1	38.9	0.0	5.7	0.4	44.6	32.9
Norway	350	14.2	19.0	14.0	27.2	22.8	2.8	19.0	0.0	2.8	0.0	18.1	19.3
Russian Federation	325	5.3	56.7	6.9	12.7	11.7	6.7	56.7	0.0	6.5	0.2	63.1	50.4
Slovenia	178	10.6	30.1	12.3	22.9	15.0	9.1	30.1	0.0	9.1	0.0	18.3	31.5
Sweden	266	13.6	14.2	7.4	40.9	23.6	0.4	14.2	0.0	0.4	0.0	17.0	12.7
Switzerland	339	13.6	19.4	12.4	24.3	18.7	11.6	19.4	0.3	11.3	0.0	18.7	20.3
United States	883	15.1	18.2	13.9	19.0	32.6	1.3	18.2	0.3	0.9	0.1	17.3	19.0
International Avg.	294	12.1	27.7	9.7	23.1	20.9	6.5	27.7	0.1	6.3	0.0	27.8	26.9

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 / (PA13021 - F11)

Label: Wavelengths of radiation types

ItemType: M Key: A

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	201	37.4	12.7	21.6	27.3	1.0	37.4	0.0	1.0	0.0	48.4	33.1
Austria	201	28.9	15.6	13.7	40.7	1.1	28.9	0.0	1.1	0.0	27.8	32.1
Canada	653	26.6	22.4	16.6	32.8	1.6	26.6	0.5	1.2	0.0	19.7	31.5
Cyprus	115	38.3	16.4	23.5	17.0	4.9	38.3	0.0	4.9	0.0	41.0	37.2
Czech Republic	268	36.1	14.6	16.7	32.3	0.3	36.1	0.0	0.3	0.0	27.7	50.9
Denmark	188	53.6	8.6	7.3	27.2	3.2	53.6	0.0	3.2	0.0	37.0	57.2
France	276	34.2	16.2	23.1	21.3	5.3	34.2	0.0	5.3	0.0	27.9	37.8
Germany	221	40.0	12.6	11.7	32.0	3.6	40.0	0.2	3.2	0.2	30.9	45.0
Greece	116	14.8	23.7	28.5	24.2	8.8	14.8	1.0	7.9	0.0	13.1	15.6
Israel	183	26.2	19.7	22.4	27.3	4.4	26.2	0.5	3.8	0.0	26.8	26.4
Latvia	235	45.2	12.9	12.8	27.6	1.5	45.2	0.0	1.2	0.4	41.7	48.8
Norway	349	56.7	8.7	16.0	16.4	2.2	56.7	0.0	2.2	0.0	53.1	58.2
Russian Federation	324	55.9	8.3	15.2	15.7	4.9	55.9	0.0	4.7	0.2	54.1	57.8
Slovenia	178	58.5	9.3	10.2	14.1	7.9	58.5	0.0	7.9	0.0	54.3	60.1
Sweden	266	59.1	8.8	7.2	24.6	0.2	59.1	0.0	0.2	0.0	51.5	63.4
Switzerland	339	25.9	13.3	14.9	35.4	10.5	25.9	0.0	10.5	0.0	16.9	32.9
United States	883	21.6	15.8	28.7	32.2	1.7	21.6	0.0	1.7	0.1	20.7	22.6

International Avg.	294	38.8	14.1	17.1	26.4	3.7	38.8	0.1	3.5	0.0	34.9	41.8

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

Physics: Heat and Temperature / (PA13022 - F12)

Label: Temperature of a system

ItemType: S Key: X

COUNTRY	N	20	29	10	11	19	70	71	79	99	INVAL ID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	201	9.5	0.0	0.0	5.3	1.5	16.7	0.0	38.3	28.8	6.4	22.4	0.0	16.2	9.5	6.1	10.8
Austria	201	6.5	0.0	0.0	1.0	0.0	0.0	0.0	38.7	53.8	16.7	37.1	0.0	7.5	6.5	7.4	5.6
Canada	653	11.6	0.0	0.0	5.2	2.8	19.4	0.0	31.9	29.1	9.8	19.2	0.2	19.5	11.6	4.9	16.2
Cyprus	115	16.8	0.0	0.9	12.4	2.0	15.8	0.0	9.5	42.6	10.3	32.2	0.0	32.2	16.8	11.7	20.2
Czech Republic	268	13.5	0.0	0.0	4.2	0.4	15.7	0.8	31.6	33.8	21.5	12.3	0.0	18.0	13.5	6.0	26.6
Denmark	188	22.0	0.0	0.0	8.3	2.0	21.3	0.6	15.9	29.8	2.1	27.3	0.5	32.3	22.0	9.6	26.4
France	276	1.1	0.0	0.0	0.2	2.4	2.9	0.0	14.6	78.9	4.3	74.6	0.0	3.6	1.1	0.7	1.4
Germany	220	10.9	0.0	0.3	0.4	2.2	3.8	0.0	28.8	53.6	22.5	30.6	0.5	13.8	10.9	4.6	14.3
Greece	116	3.6	0.0	0.5	6.7	0.9	10.3	0.0	15.5	62.5	7.4	55.1	0.0	11.7	3.6	3.8	3.6
Israel	183	9.3	0.0	2.2	1.6	7.1	5.5	0.0	19.7	54.6	2.7	51.4	0.5	20.2	9.3	14.6	7.9
Latvia	233	18.2	0.0	0.0	7.9	0.4	1.2	1.1	20.6	50.6	11.7	38.1	0.8	26.5	18.2	14.1	22.5
Norway	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
Russian Federation	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
Slovenia	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
Sweden	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
Switzerland	339	15.5	0.0	0.0	3.5	3.1	15.3	0.1	32.0	30.6	13.3	16.6	0.7	22.0	15.5	7.3	22.0
United States	883	4.4	0.0	0.1	3.1	3.8	11.7	0.4	49.7	26.7	6.2	20.3	0.2	11.5	4.4	6.0	2.8
International Avg.	294	12.2	0.4	0.2	5.8	2.6	10.5	0.3	25.9	42.1	10.3	31.5	0.2	21.2	12.5	9.0	15.5

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 / (PA13023 - F13)
Label: Wavelength in shallow water
ItemType: S Key: X

COUNTRY	N	10	70	71	72	79	99	INVAL ID	OMIT	NOT REACH ED	V1	1.GIRL % Right	2.BOY % Right

Australia	201	75.6	7.7	1.5	5.7	4.9	4.7	0.0	4.5	0.2	75.6	83.4	72.6
Austria	201	39.9	1.9	4.2	13.0	9.1	31.8	9.2	11.4	11.1	39.9	34.4	47.8
Canada	653	68.9	6.0	7.1	3.7	7.9	6.4	1.2	3.9	1.4	68.9	70.0	68.1
Cyprus	115	61.9	2.7	2.9	11.9	2.9	17.7	2.7	7.4	7.7	61.9	68.0	59.1
Czech Republic	267	40.6	4.2	12.1	6.2	13.5	23.2	7.1	12.9	3.3	40.6	36.7	47.6
Denmark	188	50.3	3.4	1.7	15.5	14.9	14.3	0.0	13.0	1.2	50.3	55.6	48.1
France	276	48.1	4.3	15.8	5.8	9.0	17.0	2.5	14.5	0.0	48.1	55.9	43.6
Germany	221	51.4	3.8	4.9	11.3	11.5	17.1	3.8	8.4	4.9	51.4	49.7	52.8
Greece	116	48.1	5.4	0.9	4.4	4.4	36.8	2.8	24.3	9.7	48.1	53.2	45.8
Israel	183	44.3	3.8	7.1	9.8	7.7	27.3	0.0	22.4	4.9	44.3	46.3	42.9
Latvia	233	35.0	0.7	6.0	15.7	12.1	30.4	3.3	16.6	10.4	35.0	35.0	35.1
Norway	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
Russian Federation	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
Slovenia	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
Sweden	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
Switzerland	339	45.8	4.6	6.2	10.2	8.3	25.0	8.7	14.2	2.0	45.8	45.7	46.5
United States	883	45.5	4.9	2.7	8.5	26.3	12.1	3.5	5.6	2.9	45.5	48.8	42.3

International Avg.	294	53.8	3.9	6.5	8.5	9.0	18.2	2.9	11.1	4.1	53.8	55.9	53.7

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: Electricity and Magnetism / (PA13024 - F14)
Label: Magnitude of electric field's strength
ItemType: S Key: X

COUNTRY	N	20	10	19	70	71	72	79	99	INVAL ID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	201	9.0	13.0	6.2	11.4	0.9	0.0	27.0	32.4	4.4	27.8	0.2	28.2	9.0	6.6	9.9
Austria	201	3.1	4.0	0.0	7.6	1.1	0.0	20.1	64.0	17.2	34.1	12.7	7.2	3.1	1.1	6.4
Canada	653	15.0	8.4	5.9	7.0	2.3	0.0	28.3	33.3	10.0	21.2	2.1	29.2	15.0	8.6	19.3
Cyprus	115	14.0	14.3	4.4	4.4	1.2	0.0	4.9	56.9	7.1	41.3	8.5	32.7	14.0	9.1	17.1
Czech Republic	269	6.7	10.7	1.7	7.0	0.0	0.0	11.0	63.0	17.5	38.6	6.8	19.1	6.7	5.7	8.6
Denmark	188	32.9	9.0	2.1	3.5	1.7	0.0	11.4	39.5	1.1	34.5	3.8	44.0	32.9	19.3	36.3
France	276	6.9	10.0	2.0	5.0	0.1	0.2	9.1	66.7	7.6	59.1	0.0	18.9	6.9	7.5	6.8
Germany	221	28.8	9.3	1.3	7.5	0.0	0.1	14.2	38.7	14.4	18.3	6.0	39.4	28.8	31.3	28.9
Greece	116	8.3	9.2	6.3	8.4	2.9	0.0	9.2	55.6	15.2	27.8	12.6	23.9	8.3	9.2	7.9
Israel	183	14.2	23.5	1.1	8.2	4.9	0.0	9.3	38.8	1.1	32.8	4.9	38.8	14.2	14.6	14.3
Latvia	233	9.8	12.3	0.7	10.6	0.4	0.0	6.2	60.0	3.2	41.6	15.2	22.8	9.8	12.6	7.0
Norway	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
Russian Federation	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
Slovenia	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
Sweden	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
Switzerland	339	16.4	12.0	2.5	11.3	2.8	0.0	16.1	38.9	14.5	20.1	4.4	31.0	16.4	8.7	22.5
United States	883	0.4	5.8	0.5	4.4	0.0	0.8	50.3	37.8	7.2	26.3	4.2	6.7	0.4	0.3	0.5
International Avg.	294	17.2	11.7	2.4	7.0	1.4	0.1	14.8	45.3	8.4	31.1	5.8	31.4	17.2	14.8	18.9

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 Physic / (PA13025 - F15)
Label: Photoelectric effects and different metals
ItemType: E Key: X

COUNTRY	N	20	21	10	11	12	19	70	71	79	99	INVAL ID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	201	7.3	3.2	2.8	3.4	0.2	2.9	6.8	0.8	39.4	33.2	1.3	26.9	5.1	19.9	10.5	15.9	8.4
Austria	201	4.3	0.0	0.4	0.2	0.0	0.3	6.5	0.0	27.9	60.4	17.0	18.6	24.7	5.2	4.3	5.3	3.2
Canada	653	4.2	0.3	0.5	0.1	0.2	0.3	8.7	3.7	40.9	41.1	8.4	26.6	6.0	5.6	4.5	2.4	5.9
Cyprus	115	6.6	1.2	1.7	2.5	4.3	4.6	6.1	1.6	15.5	55.9	7.5	35.6	12.9	20.8	7.7	2.2	11.2
Czech Republic	268	6.8	0.2	0.7	2.5	0.8	1.3	4.4	3.4	18.3	61.6	13.0	32.1	16.6	12.3	7.0	1.3	17.1
Denmark	188	16.0	0.0	2.1	1.5	5.8	6.5	0.0	1.1	5.1	62.0	0.5	50.3	11.2	31.9	16.0	15.3	17.3
France	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Germany	221	22.5	0.0	1.7	2.5	0.0	2.7	6.1	0.2	16.1	48.2	18.7	21.3	8.2	29.5	22.5	19.4	24.5
Greece	116	2.0	0.0	0.0	0.0	0.0	0.8	7.3	0.0	19.9	69.9	3.6	50.2	16.1	2.8	2.0	1.8	2.1
Israel	183	5.5	0.0	1.1	1.6	0.5	0.0	3.3	0.5	18.6	68.9	1.1	59.0	8.7	8.7	5.5	9.8	4.3
Latvia	233	5.8	0.9	0.0	0.0	0.0	1.9	3.8	0.4	20.9	66.2	2.4	33.3	30.5	8.7	6.8	4.9	8.7
Norway	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
Russian Federation	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
Slovenia	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
Sweden	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
Switzerland	339	2.3	0.0	0.0	0.6	0.3	1.2	7.9	0.3	14.8	72.5	27.5	36.4	8.6	4.4	2.3	1.0	3.4
United States	883	0.4	0.0	0.0	0.1	0.5	0.1	7.3	1.9	54.0	35.8	8.2	18.8	8.8	1.1	0.4	0.3	0.6
International Avg.	295	12.2	0.6	1.2	2.9	1.2	2.2	5.1	1.0	22.1	51.5	8.1	31.2	12.3	20.3	12.8	10.1	14.8

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 / (PA13026 - F16)
Label: Period of a charged particle moving in a magnetic field
ItemType: E Key: X

COUNTRY	N	20	29	10	19	70	71	79	99	INVAL ID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	201	7.5	1.9	4.8	2.3	0.0	7.3	30.1	46.2	10.2	27.9	8.1	16.5	9.3	5.1	11.0
Austria	201	0.7	0.0	0.0	0.0	0.0	2.3	17.6	79.4	22.6	28.5	28.2	0.7	0.7	.	1.9
Canada	653	2.7	0.0	0.0	0.3	0.0	0.8	45.4	50.8	15.1	28.8	6.9	3.0	2.8	0.6	4.3
Cyprus	115	13.4	1.2	0.9	1.7	0.0	1.6	12.8	68.4	5.2	46.8	16.4	17.2	14.6	11.5	16.7
Czech Republic	269	2.4	0.0	0.2	0.5	0.3	0.6	16.5	79.4	17.6	40.7	21.1	3.1	2.4	0.6	5.5
Denmark	188	2.6	0.0	3.2	1.4	0.0	3.5	24.6	64.7	1.7	46.3	16.7	7.2	2.6	.	3.5
France	276	11.5	2.4	1.3	2.3	0.6	4.6	17.3	60.0	8.3	35.2	16.5	17.5	13.9	16.1	12.5
Germany	221	7.6	0.6	2.9	1.9	0.0	4.2	22.8	60.0	22.7	27.1	10.2	12.9	8.2	3.8	10.6
Greece	116	43.4	0.0	2.3	0.7	0.0	0.0	17.9	35.7	4.9	12.2	18.6	46.4	43.4	47.6	41.5
Israel	183	21.3	2.2	4.9	1.1	0.5	7.7	22.4	39.9	2.7	27.9	9.3	29.5	23.5	29.3	21.4
Latvia	232	7.9	0.0	0.0	0.4	0.4	0.7	3.1	87.6	3.4	41.2	43.0	8.2	7.9	6.5	9.2
Norway	350	18.1	0.3	2.6	4.4	0.0	20.6	23.8	30.3	4.5	18.2	7.6	25.3	18.4	18.7	18.2
Russian Federation	322	18.2	1.0	0.4	0.9	0.1	3.0	14.5	61.8	2.3	27.0	32.5	20.6	19.2	17.7	20.7
Slovenia	178	7.4	0.0	0.6	5.2	0.0	0.0	11.4	75.4	14.1	50.7	10.5	13.2	7.4	7.9	7.5
Sweden	266	7.9	0.4	1.2	0.2	0.3	5.5	41.8	42.7	8.7	28.7	5.2	9.7	8.3	4.5	10.4
Switzerland	339	6.1	0.3	1.7	1.3	0.9	2.5	30.4	56.9	20.3	24.1	12.5	9.4	6.3	3.0	9.0
United States	883	0.1	0.0	0.0	0.0	0.0	0.4	49.7	49.7	11.7	26.2	11.8	0.1	0.1	0.3	.
International Avg.	294	10.5	0.6	1.6	1.4	0.2	3.8	23.7	58.2	10.4	31.6	16.2	14.2	11.1	11.6	12.7

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 / (PA13027A - F17A)
Label: Acceleration experiment value of gravity
ItemType: E Key: X

COUNTRY	N	10	11	19	70	71	72	79	99	OMIT	NOT REACH ED	V1	1.GIRL % Right	2.BOY % Right
Australia	201	10.7	22.8	6.7	11.8	10.9	2.0	20.0	15.2	3.6	11.6	40.2	20.1	48.0
Austria	201	0.0	8.7	0.0	0.0	9.8	2.1	22.0	57.3	19.1	38.2	8.7	7.2	11.4
Canada	653	3.4	8.7	4.6	14.5	25.5	0.9	26.0	16.3	7.0	9.3	16.8	10.8	20.9
Cyprus	115	32.9	20.9	3.4	1.6	2.4	1.6	4.3	32.9	6.7	26.2	57.1	49.9	62.3
Czech Republic	269	0.8	26.8	3.4	0.0	5.2	0.4	10.1	53.4	23.4	30.1	30.9	18.2	53.5
Denmark	188	20.0	4.5	2.2	27.2	8.3	5.3	10.4	22.1	3.9	18.3	26.7	9.6	29.8
France	276	9.5	10.8	0.9	7.6	11.5	6.8	20.7	32.3	11.8	20.5	21.2	20.1	22.4
Germany	221	17.0	14.1	3.3	4.0	9.4	1.1	15.9	35.2	22.5	12.7	34.5	34.1	34.1
Greece	116	17.8	5.8	23.4	0.0	2.2	0.0	9.7	41.0	19.6	21.4	47.0	49.1	46.1
Israel	183	12.0	36.6	11.5	3.8	3.3	1.1	18.0	13.7	3.3	10.4	60.1	65.9	57.9
Latvia	232	5.9	10.6	3.2	0.0	3.6	0.4	8.9	67.3	9.4	57.9	19.7	13.3	26.4
Norway	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
Russian Federation	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
Slovenia	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
Sweden	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
Switzerland	339	6.1	18.3	2.6	4.0	10.2	3.7	18.0	37.0	20.2	16.9	27.1	17.5	34.8
United States	883	0.4	6.6	0.9	1.6	15.7	2.7	41.0	31.1	13.4	17.7	7.9	4.5	11.2
International Avg.	294	12.3	15.2	4.3	6.8	8.9	3.0	15.4	34.0	11.9	22.1	31.9	27.6	35.5

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: Electricity and Magnetism / (PA13049 - G01)
Label: Path of electrons traveling through a magnetic field
ItemType: M Key: C

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	188	18.1	18.3	46.4	17.1	0.1	46.4	0.0	0.1	0.0	45.5	46.9
Austria	191	26.1	30.4	24.0	19.1	0.4	24.0	0.4	0.0	0.0	23.3	25.7
Canada	666	16.6	35.3	26.5	21.1	0.4	26.5	0.0	0.4	0.0	27.2	26.0
Cyprus	92	3.1	49.6	30.5	16.8	0.0	30.5	0.0	0.0	0.0	31.7	29.7
Czech Republic	276	23.9	18.8	27.3	28.0	2.0	27.3	0.3	1.7	0.0	21.4	34.8
Denmark	178	22.7	18.6	40.5	15.2	3.1	40.5	0.0	3.1	0.0	49.9	38.2
France	279	19.1	20.1	46.4	13.5	0.9	46.4	0.0	0.9	0.0	38.9	49.7
Germany	209	23.3	22.7	39.0	13.7	1.3	39.0	0.0	1.3	0.0	32.7	41.3
Greece	120	7.4	25.4	60.1	5.4	1.6	60.1	0.0	1.6	0.0	55.7	62.4
Israel	171	12.9	19.3	48.5	17.0	2.3	48.5	0.0	1.8	0.6	50.0	49.2
Latvia	231	23.8	14.4	41.5	16.7	3.5	41.5	0.0	3.5	0.0	40.9	42.1
Norway	356	9.8	19.2	58.7	11.7	0.6	58.7	0.0	0.6	0.0	50.8	61.2
Russian Federation	329	15.3	25.8	46.7	9.9	2.3	46.7	0.0	2.3	0.0	43.7	49.0
Slovenia	173	20.5	15.4	47.4	12.6	4.1	47.4	0.0	4.1	0.0	42.8	48.4
Sweden	256	21.4	18.8	44.8	15.0	0.0	44.8	0.0	0.0	0.0	44.7	44.9
Switzerland	349	19.0	19.4	37.6	21.2	2.8	37.6	0.0	2.8	0.0	40.0	35.9
United States	892	19.7	31.5	26.1	21.5	1.2	26.1	0.0	1.2	0.0	23.9	28.2

International Avg.	292	17.8	23.7	40.7	16.2	1.6	40.7	0.0	1.5	0.0	39.0	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: Heat and Temperature / (PA13050 - G02)
Label: Volume of steam
ItemType: M Key: A

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	188	79.3	10.3	4.8	2.2	3.3	0.0	79.3	0.0	0.0	0.0	66.3	86.4
Austria	191	41.6	37.6	7.0	3.3	8.7	1.6	41.6	0.4	1.3	0.0	35.0	51.7
Canada	666	72.2	15.4	2.3	2.9	7.2	0.1	72.2	0.0	0.1	0.0	66.0	76.4
Cyprus	92	53.6	14.1	5.2	4.6	21.2	1.2	53.6	0.0	1.2	0.0	51.6	54.9
Czech Republic	276	38.8	15.4	13.4	12.2	19.0	1.2	38.8	1.2	0.0	0.0	30.9	48.8
Denmark	178	78.5	11.3	2.0	2.6	3.8	1.8	78.5	0.9	0.8	0.0	68.9	80.8
France	279	49.7	12.6	4.5	7.4	24.1	1.7	49.7	0.9	0.8	0.0	39.9	54.2
Germany	209	64.9	13.1	2.5	0.1	10.8	8.5	64.9	8.2	0.4	0.0	57.7	67.9
Greece	120	62.1	17.2	7.1	2.5	10.6	0.6	62.1	0.0	0.6	0.0	60.8	62.8
Israel	171	82.5	5.8	1.2	3.5	6.4	0.6	82.5	0.0	0.0	0.6	89.5	81.3
Latvia	231	43.1	19.1	8.7	4.5	23.0	1.6	43.1	0.0	1.6	0.0	31.4	54.0
Norway	356	80.6	7.9	0.9	1.8	8.9	0.0	80.6	0.0	0.0	0.0	73.2	82.9
Russian Federation	329	72.1	7.8	4.7	2.6	11.6	1.1	72.1	0.0	1.1	0.0	61.8	80.0
Slovenia	173	87.8	1.2	3.7	1.0	5.3	1.0	87.8	0.0	1.0	0.0	85.0	88.7
Sweden	256	82.7	6.0	1.3	2.7	6.9	0.3	82.7	0.0	0.3	0.0	78.2	84.8
Switzerland	349	65.5	12.7	1.8	2.4	15.7	1.8	65.5	1.8	0.0	0.0	54.1	77.8
United States	892	58.4	25.6	8.8	3.0	3.8	0.3	58.4	0.0	0.3	0.0	53.5	63.2
International Avg.	292	65.5	13.7	4.7	3.5	11.2	1.4	65.5	0.8	0.5	0.0	59.0	70.4

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 / (PA13051 - G03)
Label: Physical properties of two gases at the same temperature
ItemType: M Key: D

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	188	23.3	7.7	10.4	58.6	0.1	58.6	0.0	0.1	0.0	52.7	61.8
Austria	191	29.1	13.5	9.9	44.8	2.8	44.8	0.8	1.9	0.0	44.3	48.1
Canada	666	25.9	18.6	10.1	45.3	0.1	45.3	0.0	0.1	0.0	38.3	49.6
Cyprus	92	20.9	21.8	23.5	32.8	1.0	32.8	0.0	1.0	0.0	24.9	37.6
Czech Republic	276	25.3	11.8	32.5	29.5	1.0	29.5	0.5	0.5	0.0	26.9	32.7
Denmark	178	28.5	21.3	10.9	33.8	5.6	33.8	2.6	2.9	0.0	30.3	33.4
France	279	17.2	37.0	19.3	17.1	9.5	17.1	0.2	9.3	0.0	17.5	16.9
Germany	209	30.6	12.6	5.9	43.2	7.8	43.2	1.8	6.0	0.0	52.9	39.9
Greece	120	19.0	4.6	19.6	54.0	2.8	54.0	0.0	2.8	0.0	52.2	55.0
Israel	171	34.5	19.9	12.9	25.7	7.0	25.7	0.0	6.4	0.6	18.4	28.9
Latvia	231	32.3	16.9	8.8	39.3	2.8	39.3	0.0	2.8	0.0	34.8	43.6
Norway	356	26.6	14.5	13.2	44.4	1.3	44.4	0.0	1.3	0.0	47.6	43.4
Russian Federation	329	39.7	8.5	5.2	43.7	3.0	43.7	0.0	3.0	0.0	40.0	46.4
Slovenia	173	24.6	12.3	12.4	48.1	2.7	48.1	0.0	2.7	0.0	50.5	46.1
Sweden	256	22.5	34.0	11.4	31.4	0.6	31.4	0.0	0.6	0.0	34.1	30.2
Switzerland	349	34.3	12.7	7.1	42.6	3.2	42.6	0.1	3.1	0.0	34.8	49.2
United States	892	19.5	16.4	13.7	49.4	1.0	49.4	0.0	1.0	0.0	51.3	47.5

International Avg.	292	26.7	16.7	13.3	40.2	3.1	40.2	0.4	2.7	0.0	38.3	41.8

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

Physics: Mechanics / (PA13053 - G05)
Label: Direction refracted ray of light
ItemType: M Key: A

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	188	42.6	13.0	30.4	4.8	9.3	0.0	42.6	0.0	0.0	0.0	45.6	41.0
Austria	191	29.1	11.6	20.4	21.1	15.9	2.0	29.1	1.0	1.0	0.0	35.6	15.9
Canada	666	40.5	11.2	20.4	11.7	16.1	0.1	40.5	0.0	0.1	0.0	42.9	39.1
Cyprus	91	47.5	5.2	31.7	6.8	7.7	1.2	47.5	0.0	1.2	0.0	44.2	49.5
Czech Republic	276	34.4	18.1	14.5	11.4	19.1	2.5	34.4	1.8	0.7	0.0	27.8	42.8
Denmark	178	32.1	8.0	29.7	15.3	11.0	3.9	32.1	1.8	2.1	0.0	27.3	33.7
France	279	23.9	21.1	31.0	13.2	10.2	0.5	23.9	0.0	0.5	0.0	29.1	22.0
Germany	209	40.4	6.6	21.3	13.6	12.8	5.3	40.4	3.2	2.0	0.0	41.3	39.3
Greece	120	18.3	21.0	16.5	23.7	17.5	3.0	18.3	0.0	3.0	0.0	10.5	22.5
Israel	171	39.8	12.3	15.8	15.2	16.4	0.6	39.8	0.0	0.0	0.6	39.5	40.6
Latvia	229	41.3	14.0	22.3	12.5	8.7	1.3	41.3	0.0	1.3	0.0	41.4	41.2
Norway	356	52.5	4.4	30.2	6.0	6.1	0.7	52.5	0.0	0.7	0.0	37.6	57.1
Russian Federation	329	51.7	9.8	23.8	7.3	5.7	1.6	51.7	0.1	1.5	0.0	41.3	59.7
Slovenia	173	31.2	22.4	24.3	8.1	13.6	0.4	31.2	0.4	0.0	0.0	40.2	28.1
Sweden	256	53.5	2.9	29.3	6.3	8.0	0.0	53.5	0.0	0.0	0.0	59.9	50.5
Switzerland	349	33.5	10.0	15.9	24.0	15.3	1.3	33.5	0.7	0.6	0.0	34.9	32.8
United States	892	26.4	14.0	19.3	20.3	19.6	0.5	26.4	0.1	0.4	0.0	20.1	32.6
International Avg.	291	37.6	12.1	23.3	13.0	12.5	1.5	37.6	0.5	0.9	0.0	36.4	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: Atomic and Nuclear Physic / (PA13054 - G06)
Label: Process by which stars release energy
ItemType: M Key: D

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	188	14.0	5.4	6.0	61.7	11.4	1.4	61.7	1.3	0.1	0.0	50.6	67.7
Austria	191	11.9	9.2	1.7	66.3	10.4	0.4	66.3	0.4	0.0	0.0	63.2	72.8
Canada	666	14.5	5.9	14.5	56.2	8.7	0.4	56.2	0.0	0.4	0.0	43.6	64.1
Cyprus	92	24.1	13.8	3.4	28.7	27.7	2.3	28.7	0.0	2.3	0.0	17.3	35.4
Czech Republic	276	7.9	1.3	27.5	38.6	23.1	1.6	38.6	1.6	0.0	0.0	34.5	43.9
Denmark	178	1.2	1.0	4.8	82.7	5.2	5.1	82.7	0.6	4.5	0.0	77.6	85.1
France	279	4.5	0.9	6.8	72.3	14.1	1.5	72.3	0.8	0.7	0.0	64.1	75.6
Germany	209	4.8	9.6	4.5	63.7	6.4	10.9	63.7	6.0	4.9	0.0	40.9	72.3
Greece	120	15.7	10.2	9.6	33.6	26.4	4.5	33.6	0.0	4.5	0.0	32.1	34.4
Israel	171	17.0	18.1	7.6	40.9	11.7	4.7	40.9	0.0	4.1	0.6	28.9	45.3
Latvia	229	12.5	8.3	27.5	27.6	19.7	4.4	27.6	0.0	4.4	0.0	25.2	29.7
Norway	356	1.6	2.3	2.6	90.3	3.3	0.0	90.3	0.0	0.0	0.0	83.2	92.5
Russian Federation	329	3.8	7.3	11.3	64.9	11.0	1.7	64.9	0.3	1.5	0.0	58.7	69.6
Slovenia	173	7.3	5.1	5.7	65.2	15.1	1.5	65.2	0.0	1.5	0.0	64.2	64.3
Sweden	256	4.0	5.7	2.9	74.8	12.6	0.0	74.8	0.0	0.0	0.0	64.7	79.6
Switzerland	349	10.5	8.2	1.6	63.3	14.0	2.4	63.3	0.1	2.3	0.0	56.4	71.0
United States	892	15.6	4.6	12.9	52.5	13.7	0.6	52.5	0.0	0.6	0.0	43.8	61.2
International Avg.	291	10.0	6.9	8.9	57.8	13.8	2.5	57.8	0.7	1.9	0.0	49.9	62.6

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 / (PA13055 - G07)
Label: Energy transformation and collision of cars
ItemType: M Key: B

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	188	28.7	28.3	30.0	13.0	0.0	28.3	0.0	0.0	0.0	34.9	24.7
Austria	191	36.1	16.4	20.2	24.3	3.0	16.4	2.7	0.3	0.0	13.3	20.9
Canada	666	47.8	19.6	21.4	11.0	0.1	19.6	0.1	0.0	0.0	17.3	21.1
Cyprus	92	24.0	25.8	25.2	23.9	1.2	25.8	0.0	1.2	0.0	14.8	32.4
Czech Republic	276	43.8	33.0	14.6	8.7	0.0	33.0	0.0	0.0	0.0	26.1	41.7
Denmark	178	40.4	40.7	8.1	8.9	1.9	40.7	0.4	1.5	0.0	34.4	41.7
France	279	43.6	18.0	14.1	22.1	2.1	18.0	0.0	2.1	0.0	18.1	18.4
Germany	209	39.0	38.0	13.3	8.6	1.1	38.0	0.8	0.2	0.0	22.4	44.3
Greece	120	30.1	14.0	29.5	25.7	0.7	14.0	0.0	0.7	0.0	2.1	20.5
Israel	171	35.7	38.6	17.5	7.0	1.2	38.6	0.0	0.6	0.6	42.1	37.5
Latvia	231	40.4	24.0	13.4	21.7	0.4	24.0	0.0	0.4	0.0	23.5	24.5
Norway	356	41.0	40.1	11.4	6.9	0.7	40.1	0.0	0.7	0.0	26.9	44.3
Russian Federation	329	37.5	28.0	17.7	15.0	1.8	28.0	0.0	1.8	0.0	20.3	33.9
Slovenia	173	35.8	54.2	9.2	0.2	0.6	54.2	0.0	0.6	0.0	38.1	58.6
Sweden	256	28.8	50.5	12.9	7.2	0.6	50.5	0.0	0.6	0.0	50.0	50.8
Switzerland	349	43.9	27.4	18.9	8.6	1.2	27.4	0.0	1.2	0.0	19.7	35.4
United States	892	35.2	22.7	26.6	14.6	0.9	22.7	0.0	0.9	0.0	18.7	26.6

International Avg.	292	37.2	30.5	17.9	13.4	1.0	30.5	0.2	0.7	0.0	24.9	34.0

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 / (PA13056 - G08)
Label: Mechanical energy of block and spring system
ItemType: M Key: E

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	188	2.8	40.4	12.0	30.5	13.7	0.5	13.7	0.0	0.5	0.0	8.3	16.7
Austria	191	5.5	37.1	9.8	25.8	18.8	3.1	18.8	0.4	2.7	0.0	18.3	21.3
Canada	666	7.3	33.4	4.0	27.6	27.1	0.6	27.1	0.0	0.6	0.0	33.3	23.0
Cyprus	92	3.1	18.0	7.3	23.3	48.4	0.0	48.4	0.0	0.0	0.0	45.0	50.4
Czech Republic	276	4.0	24.0	4.7	31.9	34.5	0.9	34.5	0.0	0.9	0.0	34.3	34.6
Denmark	178	4.7	31.3	1.9	14.4	47.6	0.0	47.6	0.0	0.0	0.0	28.6	53.2
France	279	2.4	26.0	3.9	18.7	47.0	2.0	47.0	0.0	2.0	0.0	40.0	50.3
Germany	209	6.1	29.1	1.7	18.4	44.0	0.7	44.0	0.0	0.7	0.0	30.3	49.0
Greece	120	5.6	18.7	6.4	9.9	57.6	1.7	57.6	0.0	1.7	0.0	52.8	60.2
Israel	171	7.6	24.6	5.3	21.6	40.4	0.6	40.4	0.0	0.0	0.6	42.1	40.6
Latvia	231	3.2	32.2	8.5	20.2	33.1	2.8	33.1	0.0	2.8	0.0	34.3	31.9
Norway	356	3.0	26.5	2.2	13.1	54.7	0.6	54.7	0.0	0.6	0.0	47.2	57.0
Russian Federation	328	5.3	31.1	2.5	12.2	47.6	1.3	47.6	0.0	1.3	0.0	42.1	51.7
Slovenia	173	3.5	24.6	1.3	21.5	48.7	0.3	48.7	0.0	0.3	0.0	42.9	50.7
Sweden	256	4.9	40.1	6.0	24.2	24.8	0.0	24.8	0.0	0.0	0.0	19.5	27.3
Switzerland	349	4.9	34.5	4.7	32.2	20.0	3.7	20.0	0.0	3.7	0.0	13.6	24.9
United States	892	5.6	33.8	7.7	38.3	11.7	2.8	11.7	0.0	2.8	0.0	10.8	12.7
International Avg.	291	4.7	29.7	5.3	22.6	36.4	1.3	36.4	0.0	1.2	0.0	32.0	38.6

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 / (PA13057 - G09)
Label: Direction of forces in amusement park ride
ItemType: M Key: A

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	188	26.5	33.7	24.4	15.3	0.0	26.5	0.0	0.0	0.0	27.1	26.2
Austria	191	5.6	86.2	6.0	1.8	0.4	5.6	0.4	0.0	0.0	7.4	2.2
Canada	666	20.6	52.9	18.5	8.0	0.0	20.6	0.0	0.0	0.0	23.6	18.9
Cyprus	91	51.0	18.2	20.8	9.0	1.0	51.0	0.0	1.0	0.0	40.9	57.1
Czech Republic	276	8.3	71.7	18.2	1.8	0.0	8.3	0.0	0.0	0.0	8.7	7.8
Denmark	178	23.2	40.0	17.5	19.3	0.0	23.2	0.0	0.0	0.0	30.8	22.5
France	279	13.8	45.7	32.6	6.4	1.6	13.8	0.3	1.3	0.0	14.3	13.4
Germany	209	9.2	69.6	16.9	4.0	0.2	9.2	0.0	0.2	0.0	5.5	10.9
Greece	120	19.4	22.5	37.6	18.9	1.5	19.4	0.9	0.0	0.6	16.9	20.8
Israel	171	26.9	31.6	22.8	17.5	1.2	26.9	0.0	0.6	0.6	34.2	23.4
Latvia	231	18.0	58.9	17.9	4.5	0.8	18.0	0.0	0.8	0.0	17.7	18.2
Norway	356	29.1	31.1	11.9	27.7	0.2	29.1	0.0	0.2	0.0	18.9	32.3
Russian Federation	329	13.9	54.0	26.0	5.2	1.0	13.9	0.0	1.0	0.0	14.5	13.5
Slovenia	173	23.4	45.1	22.4	9.0	0.1	23.4	0.0	0.1	0.0	31.2	21.8
Sweden	256	28.5	40.3	15.5	15.7	0.0	28.5	0.0	0.0	0.0	24.3	30.4
Switzerland	349	14.8	56.7	17.8	9.9	0.9	14.8	0.0	0.9	0.0	12.9	17.0
United States	892	15.7	61.2	14.1	8.6	0.4	15.7	0.0	0.4	0.0	18.2	13.2

International Avg.	291	20.5	48.2	20.0	10.7	0.5	20.5	0.1	0.4	0.1	20.4	20.6

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 Physic / (PA13058 - G10)
Label: Minimum voltage needed to produce x-rays
ItemType: M Key: B

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	188	31.2	32.2	18.3	15.1	3.3	32.2	0.0	3.3	0.0	33.7	31.3
Austria	191	33.8	19.9	25.9	15.8	4.6	19.9	0.4	4.3	0.0	21.3	15.3
Canada	666	39.9	20.9	16.0	20.4	2.8	20.9	0.0	2.8	0.0	19.5	21.8
Cyprus	92	28.2	40.1	21.1	8.4	2.2	40.1	0.0	2.2	0.0	35.3	43.0
Czech Republic	276	46.8	25.9	9.4	13.4	4.5	25.9	0.2	4.2	0.0	18.7	35.0
Denmark	178	34.0	23.0	10.7	16.7	15.7	23.0	0.0	15.7	0.0	33.9	21.0
France	279	11.0	31.1	18.0	12.1	27.7	31.1	0.0	27.7	0.0	33.7	30.2
Germany	209	30.0	32.3	5.7	17.0	14.9	32.3	0.1	14.8	0.0	29.8	33.7
Greece	120	30.8	18.7	19.6	14.7	16.1	18.7	0.0	15.5	0.6	14.8	20.8
Israel	171	21.1	38.0	21.6	9.4	9.9	38.0	0.0	9.4	0.6	42.1	35.9
Latvia	231	12.3	33.6	26.0	18.0	10.0	33.6	0.0	10.0	0.0	31.2	35.8
Norway	356	33.2	45.0	8.0	9.2	4.6	45.0	0.0	4.6	0.0	48.4	43.9
Russian Federation	329	7.8	42.4	20.3	18.7	10.8	42.4	0.0	10.8	0.0	35.8	47.5
Slovenia	173	13.5	54.1	8.4	12.2	11.7	54.1	0.0	11.7	0.0	45.1	54.5
Sweden	256	25.6	40.8	13.8	17.0	2.8	40.8	0.0	2.8	0.0	41.3	40.5
Switzerland	349	25.1	23.1	17.9	17.6	16.4	23.1	0.0	16.4	0.0	23.7	22.8
United States	892	32.7	22.2	18.8	20.0	6.2	22.2	0.0	6.2	0.0	19.8	24.6

International Avg.	292	26.9	32.0	16.5	15.0	9.7	32.0	0.0	9.6	0.1	31.1	32.8

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

Physics: Heat and Temperature / (PA13059 - G11)
Label: Effect of ice melting on water level in aquarium
ItemType: S Key: X

COUNTRY	N	20	29	10	11	19	70	71	72	73	74	79	99	INVAL ID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	188	6.0	2.3	9.7	0.0	0.7	33.6	33.2	0.0	1.4	11.0	0.7	1.4	0.0	1.4	0.0	18.7	8.3	6.4	9.3
Austria	191	11.8	0.4	9.9	3.2	1.6	31.9	26.4	0.0	4.3	6.4	2.7	1.5	0.4	1.1	0.0	27.0	12.2	9.3	19.3
Canada	666	7.5	1.0	9.5	0.8	0.3	24.3	31.9	2.7	4.4	10.2	5.6	1.8	0.3	1.5	0.0	19.2	8.5	6.2	10.1
Cyprus	92	12.7	1.2	12.3	3.0	0.0	37.3	10.7	0.0	3.3	9.8	3.2	6.5	3.3	3.2	0.0	29.2	13.9	17.5	11.7
Czech Republic	276	3.1	0.6	12.4	1.7	0.4	24.9	33.7	0.5	2.2	9.7	8.3	2.4	0.0	2.4	0.0	18.3	3.7	2.8	5.0
Denmark	178	7.3	4.0	5.6	4.0	3.4	34.9	26.7	0.3	0.5	5.4	1.8	6.3	0.0	6.3	0.0	24.2	11.3	4.1	12.0
France	279	6.8	1.8	7.1	1.7	3.6	28.6	30.0	0.9	0.5	6.9	4.2	8.1	2.3	5.7	0.0	20.9	8.6	10.1	7.6
Germany	209	22.0	0.2	7.1	2.2	3.6	18.4	31.6	1.3	2.5	5.5	2.4	3.2	1.7	1.4	0.0	35.1	22.1	17.8	24.3
Greece	120	18.8	4.8	4.9	4.0	1.7	26.1	18.1	0.9	2.3	7.3	4.6	6.4	0.8	5.0	0.6	34.2	23.6	20.2	25.4
Israel	171	8.8	0.6	10.5	1.8	0.6	35.7	31.6	0.6	0.0	5.3	1.2	3.5	1.2	1.8	0.6	22.2	9.4	2.6	11.7
Latvia	231	10.9	3.5	2.4	2.0	0.0	36.6	26.2	0.0	0.0	11.1	5.0	2.4	1.1	1.3	0.0	18.8	14.4	11.8	16.9
Norway	356	22.1	0.0	13.3	0.2	0.2	19.6	37.2	1.6	0.9	3.2	0.8	1.0	0.0	1.0	0.0	35.8	22.1	11.4	25.5
Russian Federation	328	17.6	0.8	6.5	3.8	2.0	33.8	18.1	0.7	0.2	7.7	1.9	6.9	1.1	5.8	0.0	30.7	18.5	15.7	20.6
Slovenia	173	27.1	0.0	4.8	2.1	0.0	20.5	37.7	0.0	0.5	1.9	1.5	3.9	1.2	2.6	0.0	34.0	27.1	37.2	25.0
Sweden	256	10.5	1.1	6.3	0.0	5.7	22.1	33.9	5.5	0.3	12.7	1.2	0.6	0.0	0.6	0.0	23.6	11.6	7.5	13.5
Switzerland	348	17.9	1.7	9.1	1.0	0.8	23.0	32.1	0.4	0.7	6.9	5.7	0.7	0.5	0.2	0.0	30.4	19.6	9.7	29.5
United States	892	4.4	0.8	24.8	1.7	2.8	22.2	24.9	2.2	4.3	8.0	3.5	0.5	0.1	0.4	0.0	34.5	5.2	4.0	6.4
International Avg.	291	12.7	1.5	9.2	1.9	1.6	27.8	28.5	1.0	1.7	7.6	3.2	3.3	0.8	2.5	0.1	26.9	14.1	11.4	16.1

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: Mechanics / (PA13060 - G12)
Label: Calculation of mass using conservation of momentum
ItemType: E Key: X

COUNTRY	N	20	10	11	12	13	14	19	70	79	99	INVAL ID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	188	35.5	0.9	0.0	10.1	17.3	0.2	0.8	12.7	9.1	13.5	0.9	12.6	0.0	64.7	35.5	31.6	37.7
Austria	191	4.1	0.0	0.0	5.9	0.9	0.0	0.7	9.7	23.6	55.1	19.1	36.0	0.0	11.7	4.1	2.0	8.9
Canada	666	31.9	2.9	0.0	5.8	8.7	0.5	0.8	19.2	16.2	14.0	4.8	9.2	0.0	50.5	31.9	28.6	33.8
Cyprus	92	44.5	1.0	0.0	7.4	19.0	0.0	2.0	1.9	4.3	19.9	2.0	17.9	0.0	73.9	44.5	40.0	47.1
Czech Republic	276	13.5	0.8	0.3	1.8	1.6	0.0	4.5	21.6	26.8	29.0	3.9	25.1	0.0	22.6	13.5	7.8	20.6
Denmark	178	42.2	0.3	0.0	9.0	4.3	0.9	0.6	23.2	4.6	14.8	0.5	14.3	0.0	57.3	42.2	42.0	41.6
France	279	19.5	1.2	0.9	3.8	2.2	0.6	2.1	31.3	7.9	30.6	3.6	26.6	0.4	30.2	19.5	14.4	22.6
Germany	209	29.3	0.7	0.0	2.9	8.4	0.3	1.5	16.1	18.2	22.5	6.8	15.8	0.0	43.1	29.3	19.4	33.8
Greece	120	53.9	4.3	0.0	1.5	6.8	0.0	0.9	2.8	5.4	24.3	2.3	20.1	1.9	67.4	53.9	64.1	48.3
Israel	171	44.4	16.4	0.0	5.8	10.5	1.2	1.8	7.6	4.1	8.2	0.6	7.0	0.6	80.1	44.4	39.5	45.3
Latvia	231	20.8	0.4	0.8	4.4	0.8	0.8	1.7	5.5	20.0	44.7	4.9	39.8	0.0	29.8	20.8	16.8	24.6
Norway	355	64.4	0.8	0.0	5.7	6.5	0.0	1.6	7.4	8.5	5.1	1.0	4.1	0.0	78.9	64.4	59.0	66.0
Russian Federation	328	54.5	1.5	0.6	2.0	2.9	2.0	1.5	8.3	6.7	20.0	5.2	14.1	0.8	65.0	54.5	46.2	60.9
Slovenia	173	59.0	0.9	0.2	5.4	2.0	2.5	0.0	0.0	11.7	18.3	13.4	4.9	0.0	70.0	59.0	55.7	60.1
Sweden	256	63.8	2.0	0.0	2.9	9.0	0.0	2.6	9.8	5.9	3.9	0.0	3.9	0.0	80.4	63.8	54.2	68.3
Switzerland	349	18.9	2.6	1.9	4.2	4.2	0.6	1.2	27.5	20.1	18.8	3.8	15.0	0.0	33.6	18.9	17.6	20.3
United States	892	12.1	0.5	0.3	2.1	3.4	0.2	1.8	6.6	50.4	22.6	5.8	16.7	0.1	20.4	12.1	8.1	16.0
International Avg.	291	36.0	2.2	0.3	4.8	6.4	0.6	1.5	12.4	14.3	21.5	4.6	16.7	0.2	51.7	36.0	32.2	38.6

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 Physic / (PA13062 - G14)

Label: Paths of alpha, beta, and gamma rays through an electric field

ItemType: S Key: X

COUNTRY	N	10	11	70	71	72	73	79	99	INVAL ID	OMIT	NOT REACH ED	V1	1.GIRL % Right	2.BOY % Right
Australia	188	33.7	4.2	1.2	0.9	0.3	0.0	46.3	13.3	1.5	11.9	0.0	37.8	25.5	44.6
Austria	191	7.9	0.9	0.0	2.5	1.0	1.1	41.8	44.8	23.4	21.4	0.0	8.9	4.4	19.0
Canada	666	20.4	4.9	2.2	3.2	0.2	0.7	39.8	28.5	3.8	24.4	0.2	25.3	18.3	29.9
Cyprus	92	6.4	0.0	0.0	0.0	4.0	0.0	27.1	62.5	7.9	53.5	1.1	6.4	5.4	7.0
Czech Republic	276	8.7	2.7	0.6	1.0	0.0	0.6	37.7	48.6	6.1	42.3	0.3	11.4	7.2	16.7
Denmark	178	41.2	1.0	0.6	2.0	0.0	17.1	20.6	17.5	0.9	16.1	0.5	42.2	36.9	43.2
France	279	12.0	2.6	3.3	6.0	0.4	2.4	22.4	50.9	6.3	44.2	0.4	14.6	11.0	15.9
Germany	209	37.2	0.0	0.2	4.6	0.0	3.2	25.8	29.0	15.0	13.8	0.2	37.2	15.3	45.5
Greece	120	18.0	0.0	2.4	9.1	0.0	0.0	17.8	52.7	8.2	41.7	2.8	18.0	10.8	21.9
Israel	171	19.9	4.1	0.6	3.5	0.0	1.2	30.4	40.4	1.2	38.0	1.2	24.0	15.8	27.3
Latvia	231	24.3	6.9	0.7	0.8	0.0	1.7	5.9	59.6	7.7	49.9	2.0	31.3	24.4	37.7
Norway	356	54.6	2.4	1.4	3.6	0.6	3.5	24.4	9.5	0.5	8.7	0.2	57.0	49.8	59.2
Russian Federation	328	39.9	11.5	1.6	2.1	1.9	0.1	15.3	27.6	3.9	22.5	1.2	51.4	41.5	59.0
Slovenia	173	30.9	4.9	0.0	0.0	0.0	3.0	15.4	45.7	8.5	35.2	2.0	35.9	24.2	38.0
Sweden	256	31.2	3.1	0.3	0.8	0.0	16.2	25.5	22.8	0.2	22.6	0.0	34.4	18.4	41.8
Switzerland	349	14.6	0.8	0.6	2.6	0.5	2.0	39.3	39.6	16.9	22.7	0.0	15.5	6.7	24.1
United States	892	3.4	0.5	0.3	0.5	0.0	0.7	62.6	32.0	7.2	24.4	0.4	4.0	1.4	6.4
International Avg.	291	23.8	3.0	1.0	2.5	0.5	3.2	29.3	36.8	7.0	29.0	0.7	26.8	18.6	31.6

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 / (PA13063 - G15)
Label: Direction of acceleration of a bouncing ball
ItemType: S Key: X

COUNTRY	N	10	70	71	72	73	74	79	99	INVAL ID	OMIT	NOT REACH ED	V1	1.GIRL % Right	2.BOY % Right
Australia	188	30.0	14.6	10.0	22.7	5.1	2.1	14.1	1.4	0.0	1.4	0.0	30.0	22.7	34.0
Austria	191	4.3	1.8	1.0	56.4	3.9	0.0	21.4	11.2	1.4	9.8	0.0	4.3	4.7	3.8
Canada	666	15.0	8.6	7.3	35.3	3.2	2.0	27.9	0.8	0.1	0.5	0.2	15.0	11.7	17.2
Cyprus	92	9.8	1.0	4.5	35.0	6.4	7.7	25.0	10.5	1.0	8.4	1.1	9.8	.	15.7
Czech Republic	276	4.2	5.2	0.7	51.8	5.9	3.2	24.1	4.9	0.0	4.7	0.3	4.2	0.9	8.4
Denmark	178	22.6	14.3	4.8	33.0	5.8	3.7	11.2	4.6	1.0	2.6	1.0	22.6	15.6	24.9
France	279	17.1	2.6	1.8	29.5	2.7	22.9	21.0	2.3	0.5	1.4	0.4	17.1	13.8	19.3
Germany	209	7.9	6.9	8.9	31.6	4.0	1.2	32.6	6.9	2.9	3.7	0.2	7.9	7.6	7.7
Greece	120	14.5	4.2	1.0	48.9	6.1	1.5	10.4	13.5	1.6	9.1	2.8	14.5	13.3	15.1
Israel	171	28.1	6.4	1.8	26.3	5.8	3.5	19.3	8.8	0.6	7.0	1.2	28.1	15.8	32.0
Latvia	231	9.4	4.9	0.4	45.4	8.3	3.1	17.8	10.6	1.6	6.3	2.7	9.4	7.4	11.3
Norway	356	45.8	5.7	7.4	13.8	3.7	6.9	14.4	2.2	0.0	2.0	0.2	45.8	26.2	51.9
Russian Federation	328	22.4	2.6	2.3	28.3	5.7	16.9	14.4	7.3	1.3	4.1	2.0	22.4	19.3	24.7
Slovenia	173	15.6	12.8	1.5	28.6	8.5	7.6	16.9	8.6	0.4	6.2	2.0	15.6	7.9	16.9
Sweden	256	23.4	23.0	7.4	18.5	8.7	1.8	16.9	0.4	0.0	0.0	0.4	23.4	9.4	29.9
Switzerland	349	12.5	8.6	4.3	35.1	5.2	2.6	27.6	4.1	1.6	1.7	0.7	12.5	8.8	16.2
United States	892	5.5	8.4	3.2	56.7	2.2	0.2	21.6	2.2	0.1	1.6	0.4	5.5	2.1	8.9
International Avg.	291	16.9	7.8	4.0	35.1	5.4	5.1	19.8	5.9	0.8	4.1	0.9	16.9	11.7	19.9

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 / (PA13064 - G16)

Label: Effect of pressure on water leaking from a bottle

ItemType: E Key: X

COUNTRY	N	20	29	10	11	19	70	71	79	99	INVAL ID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	188	3.3	0.0	45.1	1.4	1.8	12.7	4.6	26.8	4.2	0.0	4.2	0.0	51.6	3.3	3.0	3.4
Austria	191	7.5	0.6	50.5	7.2	6.4	6.3	3.0	15.8	2.7	0.9	1.9	0.0	72.1	8.1	8.1	8.8
Canada	666	9.3	1.0	31.3	3.1	8.5	12.9	0.9	29.7	3.4	0.6	2.6	0.2	53.2	10.3	7.6	12.1
Cyprus	92	6.5	1.9	76.5	0.0	6.7	3.2	0.0	1.1	4.1	1.0	2.0	1.1	91.6	8.4	6.4	9.7
Czech Republic	276	3.0	0.0	37.8	10.1	19.6	2.6	4.0	21.3	1.6	0.9	0.4	0.3	70.5	3.0	1.5	4.9
Denmark	178	7.4	0.0	64.8	1.6	3.9	8.3	0.0	6.0	8.0	0.0	6.2	1.8	77.7	7.4	6.9	8.0
France	279	13.2	1.9	27.2	3.6	6.7	7.6	11.3	12.0	16.6	5.2	11.0	0.4	52.5	15.1	5.5	20.3
Germany	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Greece	120	15.9	2.8	51.7	3.5	9.5	2.6	0.0	7.3	6.8	0.8	3.1	2.8	83.4	18.7	20.1	17.9
Israel	171	0.6	0.0	46.8	4.7	18.1	9.9	2.3	9.9	7.6	0.6	5.8	1.2	70.2	0.6	2.6	.
Latvia	231	3.7	0.9	53.9	0.4	7.6	6.9	0.4	17.0	9.2	0.4	6.1	2.7	66.4	4.6	3.4	5.7
Norway	356	7.7	0.0	58.6	13.9	1.7	8.0	0.0	6.2	3.9	0.0	3.7	0.2	81.8	7.7	5.7	8.3
Russian Federation	328	4.3	0.0	57.0	7.2	3.6	4.7	0.6	11.8	10.8	1.1	7.7	2.0	72.2	4.3	1.9	6.2
Slovenia	173	5.7	0.0	59.6	12.4	5.1	0.2	1.0	13.3	2.8	0.0	0.8	2.0	82.8	5.7	.	6.9
Sweden	256	12.7	1.3	48.2	9.4	3.5	7.5	2.3	10.3	4.9	0.3	4.1	0.4	75.0	14.0	11.1	15.3
Switzerland	349	13.6	0.3	40.8	7.2	9.8	5.3	6.2	14.2	2.5	0.2	1.6	0.7	71.8	13.9	7.2	20.7
United States	892	3.3	0.3	25.6	8.2	2.6	9.9	4.5	40.5	5.1	0.5	4.1	0.4	40.1	3.7	2.9	4.4
International Avg.	297	7.3	0.7	48.5	5.9	7.2	6.8	2.6	15.2	5.9	0.8	4.1	1.0	69.6	8.0	6.3	10.2

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.

Physics: Electricity and Magnetism / (PA13065 - G17)

Label: Direction of force due current

ItemType: S Key: X

COUNTRY	N	10	70	71	72	79	99	INVAL ID	OMIT	NOT REACH ED	V1	1.GIRL % Right	2.BOY % Right
Australia	188	38.6	26.5	8.6	6.2	17.9	2.3	0.8	1.4	0.1	38.6	38.3	38.7
Austria	191	21.3	25.6	6.3	7.4	10.2	29.2	5.7	23.5	0.0	21.3	17.1	31.9
Canada	666	25.8	40.0	7.7	7.3	12.5	6.8	1.5	5.1	0.2	25.8	17.8	31.0
Cyprus	91	39.6	21.1	9.8	5.4	6.7	17.4	2.1	14.2	1.1	39.6	39.9	39.5
Czech Republic	276	23.5	35.3	5.3	2.8	8.5	24.6	0.9	23.0	0.7	23.5	23.6	23.3
Denmark	178	27.5	38.6	5.4	10.0	5.1	13.4	0.3	10.6	2.4	27.5	45.7	24.1
France	279	20.7	17.4	7.6	9.9	8.2	36.1	1.4	32.1	2.6	20.7	17.2	22.5
Germany	209	31.8	31.2	3.6	5.9	7.3	20.1	4.8	14.2	1.1	31.8	32.1	32.4
Greece	120	24.8	35.9	2.6	2.5	1.6	32.7	3.5	24.8	4.4	24.8	33.5	20.0
Israel	171	35.1	31.0	7.0	9.9	7.6	9.4	0.0	7.6	1.8	35.1	39.5	35.2
Latvia	231	26.0	14.7	2.6	0.8	18.2	37.7	0.0	31.7	6.0	26.0	23.7	28.1
Norway	356	29.1	41.3	8.7	5.9	4.6	10.5	0.6	9.7	0.2	29.1	24.7	30.4
Russian Federation	328	43.1	32.9	1.0	1.4	1.8	19.9	2.8	13.2	3.9	43.1	36.2	48.3
Slovenia	173	44.3	33.5	1.1	3.9	4.2	13.0	0.6	10.1	2.4	44.3	29.4	48.1
Sweden	256	41.8	26.2	5.1	15.0	5.0	7.0	0.0	5.7	1.3	41.8	34.3	45.4
Switzerland	349	28.0	29.4	2.2	8.0	7.8	24.6	4.4	19.4	0.8	28.0	25.6	30.9
United States	892	11.6	17.9	5.2	7.9	48.1	9.4	0.5	7.7	1.2	11.6	12.4	10.7
International Avg.	291	30.1	29.3	5.3	6.5	10.3	18.5	1.8	14.9	1.8	30.1	28.9	31.8

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 Physic / (PA13066 - G18)

Label: Alpha particles passing through gold

ItemType: E Key: X

COUNTRY	N	20	29	10	19	70	71	72	73	74	79	99	INVAL ID	NOT REACH ED	OMIT	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	188	5.1	2.3	19.9	6.7	6.9	10.1	0.0	0.9	0.0	30.2	17.9	0.0	17.5	0.4	34.0	7.4	9.5	6.2
Austria	191	5.4	0.0	16.5	1.9	8.5	0.7	0.0	4.5	1.7	25.2	35.6	15.8	19.2	0.6	23.8	5.4	2.3	11.1
Canada	666	9.4	1.5	15.1	3.3	1.9	21.8	0.3	0.5	0.6	19.8	25.8	3.2	20.2	2.3	29.3	10.9	7.5	13.1
Cyprus	92	6.4	1.0	14.3	3.4	0.0	5.3	0.0	0.0	0.0	28.1	41.5	4.1	30.6	6.8	25.0	7.4	5.6	8.4
Czech Republic	276	1.4	0.0	4.7	2.5	2.1	1.6	0.3	1.8	0.9	33.6	51.1	4.5	43.3	3.3	8.6	1.4	0.8	2.2
Denmark	178	7.4	0.0	5.7	2.9	3.0	10.6	0.0	0.6	0.0	33.0	36.8	0.5	32.3	3.9	16.0	7.4	16.6	5.3
France	279	4.7	0.4	4.7	5.9	3.0	4.9	0.0	0.2	0.2	17.2	58.8	4.1	48.9	5.8	15.6	5.1	7.9	3.7
Germany	209	22.2	2.3	2.9	8.8	2.6	4.2	0.0	1.5	0.7	12.7	42.0	19.0	20.7	2.2	36.2	24.5	12.2	29.0
Greece	120	1.6	0.0	2.0	1.3	4.0	1.6	0.0	0.0	0.0	20.4	69.0	8.9	50.2	9.9	5.0	1.6	.	2.5
Israel	171	4.1	1.2	8.8	4.1	2.3	4.1	1.8	1.8	0.0	22.8	49.1	0.0	46.2	2.9	18.1	5.3	5.3	5.5
Latvia	231	5.4	2.4	2.8	8.1	1.7	0.0	0.0	0.0	2.2	22.4	54.9	1.7	36.4	16.9	18.8	7.8	4.8	10.6
Norway	356	17.1	0.0	18.9	4.2	4.9	17.1	0.0	2.0	1.2	15.2	19.2	3.3	14.4	1.6	40.2	17.1	14.6	17.8
Russian Federation	327	7.1	9.8	3.1	5.6	5.5	7.4	0.0	0.1	0.8	18.1	42.5	2.6	32.2	7.7	25.6	16.9	16.2	17.4
Slovenia	173	21.5	0.0	3.1	0.7	1.9	3.3	0.0	0.8	0.0	32.0	36.7	1.7	29.7	5.3	25.2	21.5	6.2	25.4
Sweden	256	6.8	0.3	21.2	2.4	3.5	13.0	0.0	3.9	0.3	26.7	21.9	0.6	18.7	2.7	30.7	7.1	2.8	9.0
Switzerland	349	10.4	2.6	7.4	7.7	2.6	13.1	0.1	0.0	0.9	18.7	36.5	11.4	21.0	4.1	28.1	12.9	5.1	20.8
United States	892	1.4	0.2	7.3	3.2	2.7	11.0	0.0	0.3	0.2	55.1	18.5	4.0	13.0	1.5	12.1	1.6	1.1	2.1
International Avg.	291	8.1	1.4	9.3	4.3	3.4	7.6	0.1	1.1	0.6	25.4	38.7	5.0	29.1	4.6	23.1	9.5	7.4	11.2

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.

Physics: Electricity and Magnetism / (PA13067 - G19)
Label: Lenz's law and falling aluminum ring
ItemType: E Key: X

COUNTRY	N	20	21	29	10	19	70	79	99	INVALID ID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	188	10.0	7.1	0.0	3.9	3.4	68.0	5.0	2.6	0.5	0.7	1.4	24.4	17.2	8.2	22.1
Austria	191	7.4	2.5	0.0	1.5	1.9	66.0	11.1	9.5	4.6	3.7	1.2	13.4	9.9	5.3	19.1
Canada	666	3.1	0.4	0.0	2.2	2.6	70.8	14.9	5.9	0.3	1.5	4.1	8.4	3.5	3.3	3.6
Cyprus	92	19.4	5.6	4.3	3.2	13.1	34.7	6.6	13.1	1.0	4.2	7.9	45.6	29.3	14.4	38.2
Czech Republic	276	1.5	0.6	0.4	2.9	2.7	71.8	10.1	10.0	0.9	1.4	7.7	8.1	2.5	0.8	4.5
Denmark	178	2.3	0.9	0.0	1.8	1.8	50.3	25.3	17.7	0.5	5.1	12.1	6.8	3.2	.	4.2
France	279	2.1	0.0	0.8	0.5	3.7	61.0	13.9	18.1	3.5	5.5	9.0	7.1	2.9	2.6	3.1
Germany	208	30.1	5.5	1.8	2.9	4.3	30.0	10.4	15.0	5.8	2.6	6.7	44.6	37.3	19.4	43.9
Greece	120	8.4	3.7	0.0	4.3	6.8	34.6	5.7	36.6	4.4	5.8	26.5	23.2	12.1	8.5	14.0
Israel	171	5.8	3.5	0.6	4.1	0.6	71.3	5.3	8.8	0.0	1.8	7.0	14.6	9.9	5.3	11.7
Latvia	231	1.9	2.0	0.4	0.4	6.8	43.8	14.9	29.9	0.4	3.1	26.3	11.4	4.3	1.5	6.8
Norway	356	19.1	19.4	0.6	6.5	2.8	39.6	6.0	6.1	1.0	2.2	2.8	48.3	39.0	33.0	40.9
Russian Federation	328	11.5	4.7	0.9	11.0	2.7	38.6	11.3	19.4	1.6	3.4	14.4	30.7	17.0	10.2	22.2
Slovenia	173	10.3	6.4	0.8	0.8	0.5	16.4	50.5	14.2	0.9	6.7	6.6	18.9	17.6	12.6	17.7
Sweden	256	7.0	9.7	0.2	5.1	6.2	54.8	8.2	8.9	0.0	3.0	5.9	28.1	16.9	11.2	19.5
Switzerland	349	2.9	3.1	0.0	3.3	5.9	59.5	11.8	13.5	6.4	1.6	5.5	15.3	6.1	2.1	10.1
United States	892	0.5	0.1	0.0	0.7	0.6	75.5	17.2	5.5	1.5	1.2	2.8	1.9	0.5	0.2	0.8
International Avg.	291	8.4	4.4	0.6	3.2	3.9	52.1	13.4	13.8	2.0	3.1	8.7	20.6	13.5	8.7	16.6

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 / (PA13068 - H01)
Label: Boxes sliding down inclined planes
ItemType: M Key: C

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	175	19.7	24.1	26.1	30.1	0.0	26.1	0.0	0.0	0.0	24.4	27.0
Austria	202	14.3	20.9	32.3	20.8	11.8	32.3	5.4	6.4	0.0	35.8	27.6
Canada	648	12.8	23.4	40.4	23.1	0.3	40.4	0.0	0.3	0.0	30.9	49.3
Cyprus	99	15.4	23.9	43.3	17.4	0.0	43.3	0.0	0.0	0.0	26.8	52.9
Czech Republic	274	13.9	15.7	42.5	16.8	11.0	42.5	9.7	1.3	0.0	39.6	46.9
Denmark	178	6.7	16.8	32.8	27.4	16.3	32.8	14.9	0.8	0.5	35.9	32.7
France	280	8.6	28.1	42.7	17.1	3.4	42.7	1.7	1.7	0.0	50.6	37.2
Germany	186	15.5	20.9	22.8	15.1	25.6	22.8	25.0	0.6	0.0	23.8	22.6
Greece	113	11.5	35.8	36.0	14.3	2.3	36.0	1.7	0.6	0.0	23.1	42.5
Israel	187	19.8	23.0	34.8	20.9	1.6	34.8	0.5	1.1	0.0	39.4	34.9
Latvia	239	10.7	23.2	48.4	10.5	7.1	48.4	0.0	7.1	0.0	48.3	48.6
Norway	342	9.9	19.3	42.1	22.3	6.4	42.1	0.0	6.4	0.0	34.7	44.9
Russian Federation	331	9.7	20.2	49.8	15.5	4.9	49.8	1.3	3.5	0.0	52.7	47.7
Slovenia	161	8.3	21.8	51.0	12.1	6.8	51.0	6.7	0.1	0.0	53.0	49.7
Sweden	238	21.1	17.7	44.4	16.5	0.2	44.4	0.0	0.2	0.0	38.5	47.7
Switzerland	351	12.4	20.6	39.0	20.5	7.5	39.0	6.7	0.8	0.0	37.8	41.2
United States	903	18.0	15.5	38.9	27.2	0.5	38.9	0.0	0.5	0.0	41.5	36.5
International Avg.	289	13.4	21.8	39.3	19.3	6.2	39.3	4.3	1.8	0.0	37.5	40.6

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 / (PA13069 - H02)
Label: Liquid evaporation
ItemType: M Key: D

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	175	7.3	37.7	8.1	46.8	0.0	46.8	0.0	0.0	0.0	54.7	42.3
Austria	202	10.2	34.1	13.5	39.6	2.7	39.6	1.2	1.5	0.0	32.9	49.6
Canada	648	8.3	39.6	9.1	42.8	0.1	42.8	0.0	0.1	0.0	35.0	50.3
Cyprus	100	12.0	32.3	11.3	41.6	2.8	41.6	0.0	2.8	0.0	32.7	47.0
Czech Republic	274	6.1	23.6	6.4	61.2	2.7	61.2	2.3	0.4	0.0	60.2	62.5
Denmark	178	4.4	7.7	10.1	66.2	11.7	66.2	9.3	1.9	0.5	59.2	68.3
France	280	2.3	27.2	16.9	49.0	4.6	49.0	1.4	3.2	0.0	50.4	48.0
Germany	186	15.6	24.9	7.6	46.3	5.6	46.3	4.6	0.9	0.0	41.5	48.6
Greece	113	10.1	26.9	21.2	33.5	8.3	33.5	0.6	7.8	0.0	19.9	40.2
Israel	187	8.0	21.4	9.1	58.8	2.7	58.8	0.5	2.1	0.0	63.6	57.7
Latvia	239	3.5	11.2	12.5	72.8	0.0	72.8	0.0	0.0	0.0	72.0	73.6
Norway	342	2.8	14.6	18.9	61.4	2.3	61.4	0.0	2.3	0.0	60.4	61.7
Russian Federation	331	2.9	11.5	5.1	79.9	0.7	79.9	0.0	0.7	0.0	74.7	83.6
Slovenia	161	9.1	24.5	7.1	56.8	2.5	56.8	0.7	1.8	0.0	60.4	55.5
Sweden	238	12.9	10.2	11.4	65.5	0.0	65.5	0.0	0.0	0.0	65.6	65.4
Switzerland	351	12.6	17.8	8.8	57.2	3.7	57.2	2.7	0.9	0.0	57.7	55.8
United States	903	11.0	41.2	9.2	37.9	0.7	37.9	0.0	0.7	0.0	38.2	37.6
International Avg.	289	8.2	23.9	11.0	53.9	3.0	53.9	1.4	1.6	0.0	51.7	55.7

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 Physic / (PA13070 - H03)
Label: Photoelectric effect and kinetic energy of emitted electrons
ItemType: M Key: A

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	175	29.2	25.7	6.5	37.9	0.7	29.2	0.0	0.7	0.0	23.1	32.8
Austria	202	28.9	16.0	10.6	38.3	6.1	28.9	0.4	5.7	0.0	32.3	25.2
Canada	648	29.7	18.4	8.7	42.3	0.9	29.7	0.0	0.9	0.0	28.4	30.7
Cyprus	100	31.0	16.1	14.1	29.8	8.9	31.0	0.0	8.9	0.0	30.4	31.5
Czech Republic	274	40.7	11.5	6.7	37.4	3.6	40.7	0.9	2.7	0.0	37.2	45.9
Denmark	178	59.6	10.8	4.0	23.8	1.8	59.6	0.0	1.2	0.5	59.0	61.3
France	280	18.2	25.1	11.1	33.3	12.4	18.2	1.2	11.1	0.1	11.5	24.5
Germany	186	51.8	14.2	9.5	20.3	4.2	51.8	1.0	3.2	0.0	26.3	61.3
Greece	113	23.8	16.9	12.5	37.2	9.5	23.8	0.0	9.5	0.0	25.2	23.2
Israel	187	30.5	15.5	7.5	43.9	2.7	30.5	0.0	2.7	0.0	9.1	34.2
Latvia	239	37.1	14.0	14.7	27.1	7.2	37.1	0.0	7.2	0.0	30.8	43.1
Norway	342	63.8	7.8	7.6	19.0	1.8	63.8	0.0	1.8	0.0	60.3	65.1
Russian Federation	331	53.8	10.2	9.7	22.7	3.6	53.8	0.0	3.6	0.0	48.1	58.0
Slovenia	161	45.6	15.5	7.0	28.6	3.4	45.6	0.0	3.4	0.0	36.1	47.7
Sweden	238	61.5	9.8	8.2	20.0	0.5	61.5	0.0	0.5	0.0	58.0	63.5
Switzerland	351	28.8	12.3	7.7	39.8	11.3	28.8	0.1	11.2	0.0	25.0	32.8
United States	903	23.6	17.6	10.8	47.3	0.8	23.6	0.0	0.8	0.0	22.8	24.3
International Avg.	289	38.7	15.1	9.2	32.3	4.7	38.7	0.2	4.4	0.0	33.2	41.5

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

Physics: Mechanics / (PA13071 - H04)

Label: Tension of string between two falling objects

ItemType: M Key: A

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	175	38.1	28.5	16.4	16.1	0.9	38.1	0.0	0.9	0.0	37.0	38.7
Austria	201	23.9	31.0	31.1	13.2	0.9	23.9	0.4	0.5	0.0	19.0	30.9
Canada	648	28.8	39.4	19.6	11.9	0.3	28.8	0.0	0.3	0.0	20.0	37.6
Cyprus	100	41.5	33.5	6.2	18.9	0.0	41.5	0.0	0.0	0.0	31.1	47.7
Czech Republic	274	21.1	45.4	20.6	12.7	0.3	21.1	0.0	0.3	0.0	13.5	32.2
Denmark	178	39.2	40.3	16.0	2.7	1.8	39.2	0.0	1.2	0.5	22.3	43.0
France	280	16.7	38.0	21.4	21.3	2.7	16.7	0.6	1.9	0.1	14.0	19.5
Germany	186	35.4	33.5	21.1	9.6	0.3	35.4	0.0	0.3	0.0	13.5	44.4
Greece	113	27.8	29.1	13.5	25.2	4.4	27.8	0.0	4.4	0.0	18.0	32.7
Israel	187	51.9	29.4	13.4	5.3	0.0	51.9	0.0	0.0	0.0	57.6	51.0
Latvia	239	35.7	39.4	20.2	3.0	1.7	35.7	0.0	1.7	0.0	37.1	34.4
Norway	342	45.5	31.6	13.9	9.0	0.0	45.5	0.0	0.0	0.0	27.6	52.2
Russian Federation	331	45.3	35.0	16.2	2.9	0.5	45.3	0.0	0.5	0.0	40.5	48.9
Slovenia	161	46.0	39.0	9.5	5.5	0.0	46.0	0.0	0.0	0.0	38.3	47.6
Sweden	238	40.0	46.3	8.6	5.1	0.0	40.0	0.0	0.0	0.0	15.3	53.8
Switzerland	351	17.1	46.0	23.9	12.1	1.0	17.1	0.0	1.0	0.0	12.9	22.2
United States	903	33.1	23.2	24.7	18.8	0.2	33.1	0.0	0.2	0.0	22.9	42.5
International Avg.	289	34.5	35.8	17.4	11.4	0.9	34.5	0.1	0.8	0.0	25.9	40.0

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 / (PA13072 - H05)
Label: Length of spaceship in flight
ItemType: M Key: B

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	175	27.3	39.6	20.0	8.6	4.5	39.6	0.0	4.5	0.0	43.7	37.2
Austria	201	32.5	33.0	21.7	7.4	5.4	33.0	0.4	4.5	0.5	30.0	37.8
Canada	648	16.1	45.2	31.1	5.9	1.7	45.2	0.0	1.7	0.0	41.6	48.8
Cyprus	100	28.2	25.2	29.4	9.6	7.6	25.2	0.0	7.6	0.0	26.3	24.5
Czech Republic	274	13.7	53.7	23.5	3.5	5.5	53.7	3.0	2.5	0.0	48.0	62.2
Denmark	178	25.6	38.1	21.0	8.1	7.2	38.1	0.0	6.7	0.5	39.8	36.6
France	280	31.1	24.6	19.1	6.5	18.7	24.6	0.0	18.6	0.1	31.2	19.2
Germany	186	22.6	45.8	15.9	7.2	8.6	45.8	0.2	8.3	0.0	46.8	45.0
Greece	113	38.7	27.5	16.5	9.7	7.6	27.5	0.0	7.6	0.0	28.6	27.0
Israel	187	28.9	33.7	26.7	8.0	2.7	33.7	0.0	2.7	0.0	36.4	34.2
Latvia	239	22.4	55.4	14.3	2.1	5.7	55.4	0.0	5.7	0.0	55.7	55.2
Norway	342	9.0	67.4	17.7	4.3	1.6	67.4	0.0	1.6	0.0	66.6	67.7
Russian Federation	331	18.6	67.0	7.9	2.6	3.9	67.0	0.0	3.9	0.0	68.5	65.9
Slovenia	161	8.0	54.7	22.7	7.7	6.8	54.7	0.0	6.8	0.0	49.3	54.6
Sweden	238	10.9	72.8	13.7	2.2	0.5	72.8	0.0	0.5	0.0	74.8	71.6
Switzerland	351	25.1	35.6	24.0	7.4	7.9	35.6	0.0	7.9	0.0	27.9	45.5
United States	903	28.9	33.8	30.5	4.5	2.3	33.8	0.0	2.3	0.0	35.3	32.5

International Avg.	289	22.8	44.3	20.9	6.2	5.8	44.3	0.2	5.5	0.1	44.1	45.0

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

Physics: Electricity and Magnetism / (PA13073 - H06)
Label: Induced emf in rotating coil
ItemType: M Key: C

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	175	30.6	9.7	24.1	34.7	0.9	24.1	0.0	0.9	0.0	16.1	28.9
Austria	201	16.7	15.2	31.8	32.8	3.6	31.8	0.6	2.4	0.5	35.9	27.1
Canada	648	20.1	16.0	31.9	29.9	2.1	31.9	0.0	2.1	0.0	23.4	40.4
Cyprus	100	25.5	9.0	25.2	37.5	2.9	25.2	0.0	1.9	1.0	26.7	24.2
Czech Republic	274	20.6	5.1	29.8	37.5	7.0	29.8	3.6	3.3	0.0	25.6	36.1
Denmark	178	28.0	3.7	29.9	32.7	5.6	29.9	0.0	5.1	0.5	18.1	32.1
France	280	22.9	7.2	25.0	35.8	9.1	25.0	0.2	8.7	0.1	22.0	27.6
Germany	186	10.6	10.4	34.9	35.7	8.4	34.9	5.1	3.3	0.0	41.7	31.6
Greece	113	25.9	9.0	19.5	41.2	4.3	19.5	0.0	4.3	0.0	15.4	21.6
Israel	187	28.3	3.2	34.8	30.5	3.2	34.8	0.5	2.7	0.0	39.4	34.2
Latvia	239	11.1	7.3	39.8	36.3	5.5	39.8	0.0	5.5	0.0	39.5	40.1
Norway	342	18.9	8.9	32.5	38.8	0.8	32.5	0.0	0.8	0.0	33.1	32.3
Russian Federation	331	21.7	7.5	32.4	31.3	7.1	32.4	0.0	7.1	0.0	28.7	35.1
Slovenia	161	31.4	5.0	30.7	27.9	5.0	30.7	1.0	4.0	0.0	22.8	31.7
Sweden	238	20.2	5.1	39.9	33.8	1.0	39.9	0.0	1.0	0.0	32.0	44.3
Switzerland	351	17.7	12.2	25.8	31.3	13.0	25.8	0.8	12.2	0.0	23.5	29.1
United States	903	12.0	14.9	33.4	37.3	2.4	33.4	0.0	2.4	0.0	28.5	38.0

International Avg.	289	21.3	8.8	30.7	34.4	4.8	30.7	0.7	4.0	0.1	27.8	32.6

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 / (PA13074 - H07)
Label: Relationship between temperature and pressure with constant volume
ItemType: M Key: B

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right

Australia	175	19.1	39.7	34.8	6.4	0.0	39.7	0.0	0.0	0.0	36.7	41.5
Austria	201	22.4	18.5	52.2	5.9	1.0	18.5	0.4	0.1	0.5	10.7	29.4
Canada	648	22.8	34.8	30.4	11.7	0.3	34.8	0.0	0.3	0.0	30.9	38.9
Cyprus	100	9.1	54.6	16.4	15.1	4.8	54.6	0.0	3.9	1.0	52.5	55.8
Czech Republic	274	30.0	29.5	30.1	9.7	0.7	29.5	0.0	0.7	0.0	19.7	43.9
Denmark	178	24.7	52.9	19.5	1.5	1.4	52.9	0.4	0.5	0.5	40.9	55.7
France	280	16.2	46.0	26.5	8.4	3.0	46.0	0.0	2.8	0.1	41.1	50.8
Germany	186	23.7	36.2	30.4	8.6	1.1	36.2	0.0	1.1	0.0	14.6	44.2
Greece	113	44.5	40.6	10.5	3.0	1.4	40.6	0.0	0.8	0.6	27.7	47.0
Israel	187	12.8	40.6	31.6	10.7	4.3	40.6	0.0	4.3	0.0	33.3	43.6
Latvia	239	29.8	38.3	26.1	4.6	1.2	38.3	0.0	1.2	0.0	35.0	41.5
Norway	342	19.6	45.0	31.6	3.2	0.6	45.0	0.0	0.6	0.0	40.6	46.7
Russian Federation	331	35.9	46.3	9.7	6.5	1.6	46.3	0.0	1.6	0.0	41.1	50.1
Slovenia	161	14.5	64.4	14.7	6.2	0.2	64.4	0.0	0.2	0.0	58.9	64.8
Sweden	238	26.4	53.3	16.2	4.1	0.0	53.3	0.0	0.0	0.0	48.3	56.1
Switzerland	351	18.7	37.8	35.2	5.6	2.8	37.8	0.0	2.8	0.0	29.5	48.6
United States	903	41.3	13.9	32.3	11.3	1.2	13.9	0.0	1.2	0.0	9.7	17.7

International Avg.	289	24.2	40.7	26.4	7.2	1.5	40.7	0.0	1.3	0.2	33.6	45.7

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 / (PA13075 - H08)
Label: Path of electrons in electric field
ItemType: M Key: D

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	175	11.5	39.8	12.9	25.8	10.1	0.0	25.8	0.0	0.0	0.0	22.5	27.7
Austria	202	16.5	32.5	30.7	11.8	3.5	5.1	11.8	1.9	2.7	0.5	9.6	15.0
Canada	648	13.2	42.1	20.7	16.1	6.9	1.0	16.1	0.0	1.0	0.0	12.4	19.9
Cyprus	100	11.1	24.2	31.7	23.0	6.1	3.9	23.0	0.0	2.9	1.0	18.5	25.7
Czech Republic	274	10.9	44.0	24.8	11.6	5.6	3.0	11.6	2.3	0.7	0.0	8.6	16.1
Denmark	178	4.0	38.4	7.1	41.3	4.7	4.4	41.3	2.4	1.5	0.5	38.2	42.4
France	280	4.4	29.9	6.8	53.2	5.7	0.1	53.2	0.0	0.0	0.1	51.8	54.2
Germany	186	5.4	46.4	7.1	36.6	3.1	1.5	36.6	1.0	0.4	0.0	33.2	37.4
Greece	113	5.2	17.7	15.5	49.1	8.3	4.2	49.1	0.0	3.6	0.6	46.6	50.3
Israel	187	9.6	18.7	9.6	55.1	7.0	0.0	55.1	0.0	0.0	0.0	60.6	54.4
Latvia	239	11.1	34.5	17.7	23.5	7.2	6.0	23.5	0.0	6.0	0.0	19.7	27.1
Norway	342	7.3	21.9	9.5	50.0	11.2	0.2	50.0	0.0	0.2	0.0	43.5	52.4
Russian Federation	331	13.6	29.6	13.8	33.6	6.0	3.4	33.6	0.3	3.1	0.0	26.7	38.5
Slovenia	161	10.4	33.6	8.7	41.6	3.7	1.9	41.6	0.0	1.9	0.0	57.1	37.5
Sweden	238	3.3	29.9	5.9	52.0	8.5	0.3	52.0	0.0	0.3	0.0	50.0	53.2
Switzerland	351	9.3	37.1	11.3	30.1	7.4	4.7	30.1	2.6	2.2	0.0	25.4	36.3
United States	903	12.3	41.9	28.2	11.4	5.5	0.7	11.4	0.0	0.7	0.0	9.7	12.9
International Avg.	289	9.4	33.1	15.4	33.3	6.5	2.4	33.3	0.6	1.6	0.2	31.4	35.4

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 / (PA13076 - H09)
Label: Refraction and velocity of blue light
ItemType: M Key: B

COUNTRY	N	A	B	C	D	E	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	175	7.7	51.5	13.7	10.5	16.5	0.0	51.5	0.0	0.0	0.0	35.7	60.8
Austria	202	7.2	13.9	10.6	9.9	56.9	1.6	13.9	0.4	0.7	0.5	7.0	23.5
Canada	648	12.8	27.9	15.8	11.4	31.6	0.5	27.9	0.1	0.4	0.0	21.8	33.9
Cyprus	100	7.0	41.6	8.4	10.0	30.9	2.1	41.6	0.0	1.1	1.0	26.1	50.9
Czech Republic	274	6.8	19.3	15.7	6.3	51.2	0.6	19.3	0.6	0.0	0.0	7.8	36.2
Denmark	178	2.7	27.8	21.2	7.3	35.5	5.5	27.8	1.0	3.9	0.5	19.2	30.2
France	280	3.4	14.7	16.5	9.3	55.0	1.1	14.7	0.2	0.7	0.1	13.9	15.8
Germany	186	7.5	21.2	11.1	14.2	43.2	2.8	21.2	0.0	2.8	0.0	8.8	26.2
Greece	113	2.1	6.2	9.4	15.3	64.3	2.6	6.2	0.0	2.0	0.6	3.3	7.6
Israel	187	5.9	32.6	14.4	15.5	29.4	2.1	32.6	0.0	2.1	0.0	27.3	34.2
Latvia	239	5.5	35.4	19.8	6.8	28.1	4.4	35.4	0.0	4.4	0.0	28.0	42.5
Norway	342	5.3	21.7	8.4	43.2	21.4	0.0	21.7	0.0	0.0	0.0	7.6	27.0
Russian Federation	331	6.1	30.5	12.0	7.7	42.6	1.2	30.5	0.0	1.2	0.0	21.8	36.7
Slovenia	161	7.9	32.7	18.4	18.4	22.2	0.3	32.7	0.0	0.3	0.0	19.0	34.6
Sweden	238	2.7	40.5	18.1	9.7	29.0	0.0	40.5	0.0	0.0	0.0	28.0	47.4
Switzerland	350	5.4	16.1	20.5	12.5	43.1	2.3	16.1	1.1	1.3	0.0	9.2	24.7
United States	903	11.4	18.2	19.1	10.6	40.6	0.1	18.2	0.0	0.1	0.0	14.0	22.1
International Avg.	289	6.3	26.6	14.9	12.9	37.7	1.6	26.6	0.2	1.2	0.2	17.6	32.6

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 / (PA13077 - H10)
Label: Vector sum of electric forces
ItemType: M Key: C

COUNTRY	N	A	B	C	D	OTHER INCOR RECT	DIFF	INVALID	OMIT	NOT REACHED	1.GIRL % Right	2.BOY % Right
Australia	175	9.9	50.7	30.1	9.3	0.0	30.1	0.0	0.0	0.0	29.5	30.5
Austria	202	23.0	43.7	16.6	9.3	7.4	16.6	0.4	5.8	1.2	13.3	21.4
Canada	648	16.2	46.4	28.6	8.0	0.8	28.6	0.0	0.8	0.0	24.0	33.3
Cyprus	100	12.7	47.9	26.7	8.6	4.1	26.7	0.0	3.1	1.0	14.9	33.7
Czech Republic	274	44.1	33.7	16.6	3.9	1.6	16.6	0.3	1.3	0.0	8.2	29.0
Denmark	178	15.2	31.2	45.1	4.8	3.8	45.1	0.0	3.2	0.5	26.3	51.4
France	280	18.6	43.7	25.9	7.5	4.2	25.9	0.0	4.1	0.1	21.9	30.1
Germany	186	17.8	36.7	31.2	4.2	10.0	31.2	1.5	8.5	0.0	18.2	36.6
Greece	113	19.9	30.9	37.6	10.2	1.4	37.6	0.0	0.8	0.6	37.3	37.7
Israel	187	14.4	33.7	44.4	6.4	1.1	44.4	0.0	1.1	0.0	36.4	45.0
Latvia	239	24.0	27.9	34.6	7.1	6.5	34.6	0.0	6.2	0.4	23.1	45.5
Norway	342	15.7	27.4	52.2	4.5	0.2	52.2	0.0	0.2	0.0	42.5	55.9
Russian Federation	331	14.5	42.1	33.4	6.6	3.4	33.4	0.0	3.4	0.0	24.5	39.8
Slovenia	161	26.4	29.8	32.0	10.7	1.1	32.0	0.0	1.1	0.0	33.2	32.0
Sweden	238	8.8	24.0	51.7	15.0	0.6	51.7	0.0	0.6	0.0	41.8	57.2
Switzerland	351	24.6	31.5	29.7	9.1	5.1	29.7	0.0	5.1	0.0	23.0	38.1
United States	903	21.9	48.9	14.1	13.5	1.5	14.1	0.0	1.5	0.0	9.9	17.9
International Avg.	289	19.3	37.1	32.4	8.2	3.1	32.4	0.1	2.8	0.2	25.2	37.4

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 / (PA13079 - H12)
Label: Particle movement in a transverse wave
ItemType: S Key: X

COUNTRY	N	10	70	71	72	79	99	INVAL ID	OMIT	NOT REACH ED	V1	1.GIRL % Right	2.BOY % Right
Australia	175	42.8	19.0	4.9	16.8	11.3	5.2	1.8	3.4	0.0	42.8	32.7	48.7
Austria	202	5.0	9.1	3.7	52.2	19.5	10.6	2.2	7.1	1.2	5.0	1.8	9.3
Canada	648	22.4	26.3	4.3	34.6	11.0	1.4	0.0	1.4	0.0	22.4	21.1	23.9
Cyprus	100	45.5	28.4	3.0	14.0	7.2	1.9	0.9	0.0	1.0	45.5	32.5	53.4
Czech Republic	274	12.7	15.0	5.0	54.5	12.1	0.7	0.0	0.7	0.0	12.7	5.3	23.5
Denmark	178	38.1	2.5	4.8	38.8	6.1	9.8	0.0	9.2	0.5	38.1	11.8	46.2
France	280	15.8	6.6	6.3	51.7	11.2	8.4	1.1	7.1	0.1	15.8	10.2	21.1
Germany	185	33.1	19.0	2.0	35.7	7.9	2.4	0.6	1.8	0.0	33.1	10.8	40.8
Greece	113	12.1	30.9	1.7	34.9	6.0	14.3	1.4	12.3	0.6	12.1	10.1	13.1
Israel	187	14.4	15.0	3.2	52.9	10.7	3.7	0.0	3.2	0.5	14.4	9.1	15.4
Latvia	236	8.6	19.6	3.3	48.4	9.1	11.0	1.7	8.5	0.8	8.6	3.2	13.9
Norway	342	40.4	19.7	1.8	27.3	9.3	1.5	0.2	1.3	0.0	40.4	32.6	43.3
Russian Federation	329	22.1	22.1	4.2	37.8	8.7	5.1	0.3	4.8	0.0	22.1	9.3	31.5
Slovenia	161	28.0	22.5	2.2	33.7	10.5	3.1	0.0	3.1	0.0	28.0	7.6	31.9
Sweden	238	64.5	13.8	0.7	13.0	7.7	0.2	0.0	0.2	0.0	64.5	52.3	71.4
Switzerland	351	13.6	17.0	6.3	42.4	14.1	6.4	1.9	4.5	0.0	13.6	7.8	20.8
United States	903	10.1	12.8	11.0	45.8	17.8	2.4	0.1	2.3	0.0	10.1	5.4	14.5
International Avg.	288	25.3	17.6	4.0	37.3	10.6	5.2	0.7	4.2	0.3	25.3	15.5	30.7

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 / (PA13080 - H13)

Label: Interpretation of a force versus distance graph

ItemType: S Key: X

COUNTRY	N	10	11	19	70	71	72	79	99	INVAL ID	OMIT	NOT REACH ED	V1	1.GIRL % Right	2.BOY % Right
Australia	175	0.8	29.6	2.7	0.7	0.0	18.3	41.5	6.5	0.0	6.5	0.0	33.0	20.9	40.1
Austria	202	0.0	12.7	6.0	0.9	4.9	18.7	28.8	27.9	8.3	18.5	1.2	18.7	8.3	33.1
Canada	648	0.0	23.8	2.2	0.1	2.2	16.7	48.6	6.4	2.4	4.0	0.0	26.0	16.6	35.3
Cyprus	100	3.9	33.4	8.4	0.0	3.3	5.0	24.5	21.4	3.9	16.5	1.0	45.8	36.7	51.2
Czech Republic	274	0.9	13.4	3.3	1.0	3.9	15.2	41.1	21.3	4.7	16.6	0.0	17.5	9.1	29.8
Denmark	178	2.5	44.3	2.5	1.7	2.0	12.9	19.4	14.7	0.0	8.3	6.5	49.3	36.1	52.6
France	280	1.1	22.2	4.2	1.6	0.3	20.2	27.5	22.8	3.9	18.8	0.1	27.5	24.5	30.2
Germany	186	13.8	31.6	10.9	0.7	2.2	9.3	16.4	15.1	7.1	8.0	0.0	56.3	31.4	65.8
Greece	113	5.6	15.0	6.9	0.0	0.0	5.3	23.8	43.3	2.5	40.2	0.6	27.6	18.6	32.1
Israel	187	0.0	56.7	0.0	0.5	0.5	20.9	10.7	10.7	0.5	9.1	1.1	56.7	51.5	57.7
Latvia	236	0.0	17.1	0.8	0.4	0.0	6.8	34.0	41.0	0.0	37.0	4.0	17.9	17.9	17.9
Norway	342	0.7	56.4	0.0	0.9	0.3	16.7	16.9	8.2	2.4	5.8	0.0	57.1	41.1	63.1
Russian Federation	330	1.4	34.6	0.7	0.1	0.0	12.4	20.0	30.8	3.9	26.1	0.8	36.7	27.7	43.2
Slovenia	161	2.4	51.0	4.6	1.9	0.0	6.6	20.2	13.3	0.0	13.3	0.0	58.0	35.7	62.3
Sweden	238	0.0	53.2	0.5	0.0	2.7	16.3	21.6	5.7	0.0	5.7	0.0	53.7	28.4	67.8
Switzerland	351	1.7	24.2	6.1	1.0	2.4	17.2	34.4	13.0	2.6	9.9	0.6	32.0	21.0	45.8
United States	903	0.1	6.1	0.2	0.1	6.1	18.5	58.8	10.0	1.9	7.9	0.2	6.4	3.5	9.0
International Avg.	288	2.0	30.9	3.5	0.7	1.8	13.9	28.7	18.4	2.6	14.8	0.9	36.5	25.2	43.4

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: Heat and Temperature / (PA13081 - H14)
Label: Effect of density on the freezing of water
ItemType: S Key: X

COUNTRY	N	20	29	10	11	19	70	71	72	73	76	79	99	INVAL ID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	175	0.0	2.0	0.0	44.3	1.8	0.6	4.6	0.0	11.7	1.5	32.2	1.3	0.0	0.5	0.7	48.2	2.0	3.1	1.4
Austria	202	13.7	2.8	5.0	22.2	4.2	8.8	9.1	0.4	0.0	6.5	21.8	5.5	1.1	2.0	2.4	48.0	16.5	8.3	28.0
Canada	648	6.0	1.4	0.8	22.1	15.8	0.5	3.1	3.3	11.5	2.0	31.3	2.1	0.2	1.8	0.2	46.1	7.3	6.6	8.2
Cyprus	100	8.7	3.9	4.7	1.4	35.5	13.8	9.1	1.0	10.0	0.0	8.1	3.9	0.0	1.9	2.0	54.2	12.6	12.2	12.8
Czech Republic	274	8.0	0.3	6.0	27.7	11.7	9.8	7.9	0.0	3.4	4.3	20.6	0.3	0.0	0.3	0.0	53.7	8.3	3.9	14.8
Denmark	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
France	280	0.6	16.1	0.0	14.4	23.8	3.9	5.1	0.2	11.8	2.4	15.6	6.0	0.1	5.7	0.1	55.0	16.7	19.6	14.7
Germany	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Greece	113	1.3	1.3	2.8	7.3	13.8	13.0	5.8	1.6	6.2	4.7	19.9	22.3	4.4	14.6	3.2	26.4	2.6	.	3.8
Israel	187	1.1	0.5	0.0	50.8	1.6	11.2	4.8	0.0	11.2	0.5	12.3	5.9	1.1	3.7	1.1	54.0	1.6	6.1	0.7
Latvia	236	7.5	2.3	0.4	16.8	16.1	14.9	8.8	0.5	4.8	3.4	13.3	11.3	0.5	5.0	5.9	43.1	9.7	7.4	12.1
Norway	342	26.5	0.0	10.8	20.6	4.1	3.0	5.6	3.1	5.6	0.6	17.1	2.9	0.0	2.2	0.6	62.0	26.5	20.8	28.7
Russian Federation	330	5.0	0.0	1.0	12.4	4.7	13.8	4.9	0.5	7.8	0.4	36.7	12.6	1.3	9.1	2.2	23.2	5.0	3.5	6.1
Slovenia	161	16.7	0.0	0.0	4.2	8.4	9.0	10.7	2.9	0.6	7.2	35.9	4.3	1.2	1.2	2.0	29.3	16.7	5.8	18.8
Sweden	238	32.9	3.8	10.7	16.3	7.3	1.6	4.3	0.9	4.3	0.4	16.4	1.2	0.0	1.2	0.0	70.9	36.6	31.0	39.7
Switzerland	351	23.0	1.0	8.1	23.2	5.6	2.6	9.8	0.8	9.0	0.4	14.9	1.6	0.8	0.1	0.7	60.9	24.0	18.7	31.1
United States	903	1.3	0.7	0.9	36.0	2.1	0.7	6.9	0.3	24.5	3.9	21.6	1.2	0.1	0.7	0.3	41.0	2.0	1.2	2.7
International Avg.	303	10.1	2.4	3.4	21.3	10.5	7.2	6.7	1.0	8.2	2.6	21.2	5.5	0.7	3.3	1.4	47.7	12.5	10.6	14.9

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 / (PA13083 - H16)

Label: Speed of an electron traveling through perpendicular electric and magnetic field

ItemType: S Key: X

COUNTRY	N	20	21	10	11	12	13	19	70	79	99	INVAL ID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	175	26.0	1.1	1.7	3.2	1.0	0.5	1.7	0.9	27.1	36.8	2.1	34.1	0.7	35.1	27.0	24.3	28.6
Austria	202	3.2	0.2	0.0	0.9	0.9	0.0	0.0	0.3	8.9	85.6	26.0	45.9	13.7	5.2	3.4	3.2	3.8
Canada	648	9.7	0.0	0.7	1.0	0.7	0.5	1.2	0.3	31.0	55.0	11.0	41.3	2.7	13.7	9.7	8.0	11.4
Cyprus	100	20.4	0.0	0.0	0.0	1.4	0.0	2.8	0.0	17.1	58.4	1.8	44.7	11.9	24.5	20.4	23.6	18.4
Czech Republic	274	12.6	0.0	0.0	0.3	0.0	0.0	0.8	0.0	16.1	70.2	6.8	57.7	5.7	13.7	12.6	8.1	19.3
Denmark	178	26.9	0.0	0.0	0.3	1.0	2.1	1.5	0.0	16.4	51.9	0.9	41.0	10.0	31.7	26.9	32.1	24.8
France	279	19.1	4.1	4.0	0.4	1.9	0.6	11.3	0.2	18.8	39.6	3.8	31.3	4.5	41.4	23.2	22.8	22.4
Germany	186	20.1	0.4	4.0	0.2	1.8	0.5	3.3	0.0	16.1	53.6	17.6	33.8	2.2	30.3	20.5	12.8	23.7
Greece	113	18.0	0.0	8.0	1.1	0.0	0.0	0.6	1.0	15.0	56.2	2.1	34.8	19.3	27.8	18.0	17.1	18.5
Israel	187	44.4	0.0	0.5	1.6	1.1	3.7	2.1	0.0	11.8	34.8	1.6	26.7	6.4	53.5	44.4	45.5	45.0
Latvia	236	11.9	0.0	0.0	0.0	0.4	0.4	0.8	0.0	4.6	82.0	1.9	56.1	24.0	13.5	11.9	14.1	9.8
Norway	340	56.4	0.2	0.8	1.1	1.4	0.7	1.4	0.5	15.4	22.2	3.5	16.7	1.9	62.0	56.6	60.1	55.3
Russian Federation	330	38.3	0.3	1.4	0.9	0.3	0.9	2.8	0.1	4.0	50.8	2.0	38.3	10.5	45.0	38.6	36.7	40.0
Slovenia	161	17.1	0.0	0.2	1.5	0.6	0.9	0.3	0.0	13.6	65.8	2.6	60.4	2.9	20.6	17.1	4.9	19.6
Sweden	238	34.7	0.2	0.0	0.0	0.0	0.7	1.6	0.0	23.6	39.1	3.6	34.2	1.3	37.2	34.9	30.5	37.4
Switzerland	351	11.3	2.4	0.2	0.0	0.0	0.9	4.5	0.5	17.8	62.3	17.5	39.6	5.1	19.4	13.8	6.7	22.5
United States	903	1.3	0.0	0.0	2.8	0.6	0.2	0.1	0.1	39.4	55.5	10.3	41.6	3.6	4.9	1.3	1.6	1.0
International Avg.	288	21.8	0.5	1.3	0.9	0.8	0.7	2.2	0.2	17.5	54.1	6.8	39.9	7.4	28.2	22.4	20.7	23.6

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 / (PA13084 - H17)
Label: Resistance of a series circuit component
ItemType: S Key: X

COUNTRY	N	20	21	29	10	11	12	19	70	71	72	79	99	INVAL ID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	175	7.8	6.7	1.6	0.0	0.4	1.5	3.0	45.1	6.9	0.6	17.3	9.2	0.0	7.8	1.4	20.8	16.0	8.6	20.3
Austria	202	2.0	1.4	2.2	0.0	0.0	0.0	0.9	9.0	3.0	1.2	28.1	52.2	14.6	21.5	16.1	6.5	5.6	0.4	12.6
Canada	648	4.0	5.9	1.0	0.0	0.1	0.1	0.1	36.8	10.7	0.7	19.4	21.4	5.6	12.0	3.9	11.1	10.9	7.8	13.9
Cyprus	100	9.5	3.5	2.2	0.0	0.0	0.0	5.6	6.3	7.5	0.0	39.9	25.5	0.9	8.6	16.0	20.8	15.2	15.1	15.3
Czech Republic	274	2.3	3.1	0.4	0.0	0.9	0.0	2.1	33.1	11.9	1.3	16.7	28.3	5.2	9.1	14.0	8.8	5.8	3.0	9.9
Denmark	178	9.4	8.5	0.8	0.0	1.9	0.8	1.4	27.9	16.3	0.3	12.7	20.0	1.7	7.1	11.2	22.8	18.7	17.4	20.3
France	279	3.2	4.4	1.3	0.0	0.0	0.4	0.4	26.9	14.3	0.2	8.1	40.9	2.0	33.4	5.5	9.7	8.9	10.3	7.9
Germany	186	4.3	11.6	2.0	0.0	0.2	0.7	4.1	14.6	4.4	2.0	27.9	28.1	14.1	11.6	2.3	23.0	18.0	8.3	21.9
Greece	113	13.6	1.7	3.8	0.0	5.7	2.7	4.5	1.6	0.6	0.0	14.9	50.9	4.0	27.0	19.9	32.0	19.1	17.2	20.1
Israel	187	17.6	21.4	0.5	0.5	1.1	0.5	2.7	9.1	5.9	0.5	24.1	16.0	2.1	7.0	7.0	44.4	39.6	30.3	40.9
Latvia	236	4.2	5.5	0.8	0.4	0.0	0.0	2.1	18.1	4.5	0.7	13.2	50.5	2.8	20.8	26.9	13.0	10.5	7.2	13.8
Norway	342	5.7	10.1	0.2	0.0	0.0	0.0	0.6	50.5	12.2	2.2	8.7	9.6	1.1	6.1	2.4	16.6	16.0	12.1	17.5
Russian Federation	330	13.7	12.7	0.8	0.0	1.8	2.2	6.1	6.3	6.3	0.0	15.3	34.9	2.4	18.2	14.4	37.3	27.2	21.4	31.4
Slovenia	161	9.1	26.2	1.0	1.3	0.0	0.0	0.0	5.9	6.5	0.0	25.5	24.6	6.4	13.3	4.9	37.5	36.2	16.5	38.8
Sweden	238	7.3	31.7	4.6	0.7	0.0	3.2	2.4	15.9	15.1	0.0	12.8	6.3	0.0	3.6	2.7	49.9	43.6	34.2	48.8
Switzerland	351	3.9	6.0	0.3	0.0	0.1	0.6	6.3	22.0	1.6	1.1	22.9	35.1	12.9	14.7	7.5	17.3	10.2	6.9	14.5
United States	903	1.3	0.3	0.0	0.0	0.0	0.0	0.0	20.0	2.4	0.5	33.6	41.9	8.1	29.3	4.4	1.6	1.6	0.7	2.3
International Avg.	288	7.0	9.4	1.4	0.2	0.7	0.8	2.5	20.5	7.7	0.7	20.1	29.1	4.9	14.8	9.4	21.9	17.8	12.8	20.6

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 Physic / (PA13085 - H18)
Label: Television as particle accelerator
ItemType: E Key: X

COUNTRY	N	20	29	10	19	70	76	79	99	INVAL ID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	175	8.8	2.6	9.6	15.3	1.7	8.9	35.3	17.9	0.0	16.4	1.5	36.3	11.3	5.0	15.0
Austria	202	12.2	1.0	15.3	8.0	1.5	4.5	14.1	43.4	12.6	14.2	16.6	36.5	13.2	5.6	22.8
Canada	648	8.5	0.4	20.4	3.3	20.0	8.5	20.1	18.8	1.4	13.1	4.3	32.6	8.9	3.9	13.8
Cyprus	100	4.0	8.5	0.8	3.6	0.0	14.5	10.5	58.2	3.1	36.2	18.9	16.9	12.5	10.6	13.6
Czech Republic	274	10.9	3.3	14.8	3.2	2.0	7.4	12.9	45.5	2.7	28.0	14.7	32.2	14.2	7.7	23.9
Denmark	178	15.0	0.7	23.5	7.4	2.1	7.4	16.8	27.2	1.1	14.0	12.2	46.5	15.6	1.6	19.4
France	279	5.2	3.2	24.1	13.8	2.4	8.0	11.4	31.8	1.1	17.6	13.1	46.4	8.4	4.7	11.9
Germany	186	39.2	9.4	21.7	5.6	1.6	0.9	3.0	18.6	2.6	13.4	2.6	75.8	48.6	32.2	54.6
Greece	113	8.2	6.0	15.6	9.5	1.5	2.2	3.1	54.0	9.0	21.6	23.4	39.3	14.2	14.9	13.8
Israel	187	8.6	0.0	29.9	3.7	12.8	3.2	8.6	33.2	0.0	26.2	7.0	42.2	8.6	6.1	9.4
Latvia	236	9.7	1.9	3.2	17.3	0.4	0.8	21.0	45.7	0.0	18.0	27.7	32.1	11.6	9.1	14.1
Norway	342	14.4	0.0	28.8	1.2	1.6	7.7	26.9	19.5	0.9	15.8	2.8	44.3	14.4	8.8	16.4
Russian Federation	330	15.8	1.2	27.1	2.2	0.4	9.8	9.7	33.6	0.7	15.3	17.6	46.5	17.1	11.5	21.1
Slovenia	161	19.1	0.0	24.4	2.1	2.4	0.0	13.5	38.6	4.4	29.3	4.9	45.5	19.1	5.9	20.1
Sweden	238	12.5	0.0	37.8	2.9	3.6	15.3	8.1	19.7	0.4	15.9	3.4	53.3	12.5	5.9	16.2
Switzerland	351	8.4	2.0	21.7	11.0	4.7	6.3	18.1	27.7	5.4	14.7	7.6	43.1	10.4	5.3	17.0
United States	903	0.5	0.3	11.4	0.8	7.0	6.1	49.1	24.9	2.7	16.9	5.3	12.9	0.8	0.1	1.4
International Avg.	288	11.8	2.4	19.4	6.5	3.9	6.6	16.6	32.8	2.8	19.2	10.8	40.1	14.2	8.2	17.9

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 / (PA13086A - H19A)
Label: Speed of sound experiment outline
ItemType: E Key: X

COUNTRY	N	20	29	10	11	12	13	19	70	79	99	INVAL ID	OMIT	NOT REACH ED	V1	V2	1.GIRL % Right	2.BOY % Right
Australia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Austria	202	5.1	0.0	0.0	0.0	8.8	10.8	1.0	11.2	7.1	56.1	14.6	19.6	21.9	25.6	5.1	1.6	9.8
Canada	648	14.6	0.9	3.5	1.5	11.9	12.4	1.9	14.4	18.8	20.2	2.5	9.4	8.3	46.6	15.4	8.7	21.7
Cyprus	100	16.7	1.0	0.0	4.9	7.0	6.5	1.8	1.8	7.5	52.7	2.8	18.1	31.9	38.0	17.7	18.2	17.4
Czech Republic	274	7.6	0.0	1.0	0.7	2.4	3.0	8.1	12.3	16.1	48.8	4.4	15.8	28.6	22.8	7.6	1.6	16.3
Denmark	178	32.8	0.0	0.8	1.3	14.4	8.3	2.8	2.3	5.1	32.2	0.7	15.2	16.3	60.5	32.8	28.7	33.1
France	279	7.6	0.2	1.6	1.1	4.7	2.8	9.1	7.9	8.2	56.9	0.8	35.8	20.3	27.0	7.7	5.1	10.2
Germany	186	30.9	1.8	4.3	1.7	3.2	4.2	4.5	8.4	4.7	36.3	11.2	18.1	7.0	50.6	32.8	7.9	42.8
Greece	113	7.9	0.0	3.8	1.6	1.2	1.2	2.3	5.4	6.9	69.7	5.1	27.8	36.8	17.9	7.9	.	11.9
Israel	187	19.3	1.1	0.5	1.1	6.4	6.4	0.5	5.3	7.5	51.9	2.1	23.5	26.2	35.3	20.3	15.2	21.5
Latvia	236	9.5	0.5	1.5	0.0	0.7	7.3	12.3	6.6	5.1	56.5	0.0	19.9	36.6	31.9	10.0	5.9	14.0
Norway	342	37.6	2.0	3.1	1.4	6.8	3.4	1.0	7.0	9.1	28.6	1.8	18.7	8.0	55.3	39.5	28.0	43.9
Russian Federation	330	24.2	0.5	4.4	0.8	4.4	5.7	1.4	3.5	8.4	46.8	1.0	21.0	24.8	41.3	24.7	14.5	32.1
Slovenia	161	24.6	0.1	3.8	0.0	13.4	0.0	7.1	0.6	4.3	46.0	1.0	26.8	18.2	49.1	24.8	6.7	28.2
Sweden	238	35.1	0.5	1.1	0.3	6.4	10.7	2.0	8.9	11.8	23.1	0.4	12.9	9.8	56.1	35.6	21.6	43.4
Switzerland	351	16.4	0.2	4.0	0.7	11.0	7.0	2.0	12.6	11.9	34.0	6.0	16.5	11.4	41.5	16.7	8.2	27.3
United States	903	8.2	0.0	0.2	1.9	10.5	6.2	1.1	16.9	30.1	24.9	3.6	12.5	8.8	28.1	8.2	5.2	10.9
International Avg.	296	18.6	0.5	2.1	1.2	7.1	6.0	3.7	7.8	10.1	42.8	3.6	19.5	19.7	39.2	19.2	11.8	24.0

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 / (PA13086B - H19B)
Label: Speed of sound experiment reason
ItemType: E Key: X

COUNTRY	N	10	11	19	79	99	INVALID ID	OMIT	NOT REACH ED	V1	1.GIRL % Right	2.BOY % Right

Australia	175	10.1	38.4	12.2	26.3	13.0	0.0	0.8	12.2	60.7	58.6	61.9
Austria	202	17.7	6.1	13.2	17.8	45.1	8.5	5.6	31.0	37.1	24.2	55.4
Canada	648	5.9	35.0	6.4	34.9	17.8	1.5	2.6	13.7	47.3	43.0	51.2
Cyprus	100	17.5	20.1	9.4	2.1	51.0	1.9	7.8	41.3	46.9	36.8	53.0
Czech Republic	271	4.8	15.1	19.2	19.0	41.9	1.9	5.0	35.1	39.0	26.1	58.3
Denmark	178	12.3	9.6	27.8	12.4	37.8	0.5	8.3	29.0	49.8	37.0	52.7
France	279	7.4	8.3	9.6	17.8	56.9	0.5	5.1	51.3	25.3	20.1	30.5
Germany	186	21.2	18.0	19.9	19.9	21.0	5.2	3.9	12.0	59.1	36.0	68.7
Greece	113	7.2	7.6	2.5	13.7	69.0	4.0	6.8	58.1	17.3	12.0	19.9
Israel	187	6.4	26.7	4.8	19.3	42.8	1.1	1.1	40.6	38.0	33.3	39.6
Latvia	236	12.3	5.6	13.6	10.4	58.1	0.4	6.7	50.9	31.5	20.2	42.6
Norway	342	27.3	13.8	20.4	12.7	25.8	1.5	3.0	21.3	61.5	50.2	65.7
Russian Federation	330	23.4	5.0	6.1	19.6	46.0	2.4	4.1	39.5	34.4	24.1	42.0
Slovenia	161	28.2	15.1	11.5	7.6	37.6	0.9	1.0	35.7	54.8	30.4	61.2
Sweden	238	18.4	30.1	13.6	12.2	25.6	0.0	5.2	20.4	62.1	53.1	67.2
Switzerland	351	22.4	12.0	12.8	22.6	30.2	4.3	2.7	23.2	47.2	36.1	61.5
United States	903	5.0	26.6	4.3	46.2	17.9	1.2	2.2	14.5	35.8	33.0	38.5

International Avg.	288	14.6	17.2	12.2	18.5	37.5	2.1	4.2	31.2	44.0	33.8	51.2

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.