

PIAAC Numeracy – sample items

In the Survey of adult skills (PIAAC), numeracy is defined as the ability to use, apply, interpret, and communicate mathematical information and ideas. It is an essential skill in an age when individuals encounter an increasing amount and wide range of quantitative and mathematical information in their daily lives. Numeracy is a skill parallel to reading literacy, and it is important to assess how these competencies interact, since they are distributed differently across subgroups of the population.

The items are presented in the form delivered by the computer-based version of the assessment. To answer the questions, respondents need to click in the appropriate box, and/or type figures in the space provided.


Numeracy - Sample Items

Sample Item 1: Thermometer

This item (of low difficulty) focuses on the following aspects of the numeracy construct:

<i>Content</i>	Dimension and shape
<i>Process</i>	Act upon, use (measure)
<i>Context</i>	Every day or work


Respondents are asked to type in a numerical response based on the graphic provided.




Look at the thermometer. Using the number keys, type your answer to the question below.

If the temperature shown decreases by 30 degrees Celsius, what would the temperature be in degrees Celsius (°C)?

°C





Sample Item 2: Wind power stations

This sample item (of medium difficulty) focuses on the following aspects of the numeracy construct:

<i>Content</i>	Quantity and Number
<i>Process</i>	Act upon, use (compute)
<i>Context</i>	Community and society

OECD PIAAC Section 4

Unit 11 - Question 1/1

Read the article about wind power stations. Using the number keys, type your answer to the question below.

How many wind power stations would be needed to replace the power generated by the nuclear reactor?

Wind Power Stations

In 2005, the Swedish government closed the last nuclear reactor at the Barsebäck power plant. The reactor had been generating an average energy output of 3,572 GWh of electrical energy per year.



Work continues in Sweden on installing large offshore wind farms using wind power stations. Each wind power station produces about 6,000 MWh of electrical energy per year.

For your information:

Electrical energy is measured in Watt hours (Wh)


1 kWh	= 1 kilo Wh	=	1,000 Wh
1 MWh	= 1 Mega Wh	=	1,000,000 Wh
1 GWh	= 1 Giga Wh	=	1,000,000,000 Wh

Sample Item 3: Births in the United States

This item (of medium difficulty) focuses on the following aspects of the numeracy construct:

<i>Content</i>	Data and chance
<i>Process</i>	Interpret, evaluate
<i>Context</i>	Community and society


Respondents are asked to respond by clicking on one or more of the time periods provided in the left pane on the screen.




Look at the graph about the number of births. Click to answer the question below.

During which period(s) was there a decline in the number of births? Click all that apply.

- 1957 - 1967
- 1967 - 1977
- 1977 - 1987
- 1987 - 1997
- 1997 - 2007



The following graph shows the number of births in the United States from 1957 to 2007. Data are presented every 10 years.



Year	Number of Births
1957	4,300,000
1967	3,520,959
1977	3,326,632
1987	3,809,394
1997	3,880,894
2007	4,315,000