



Technology and Engineering Literacy School Questionnaire

2014
Grade 8
Computer-based Assessment

School Questionnaire – Technology and Engineering Literacy

The following questions are about your school's characteristics and policies related to technology and engineering.

Technology refers to all the things people make and do to their natural environment in order to get the things they want and need.

Engineering refers to using skills or knowledge to solve problems that meet people's wants and needs.

Throughout the questionnaire, unless otherwise specified, please consider and include technology and engineering topics and instruction that occur in technology- or engineering-specific courses as well as other courses (for example, science, geography, art).

School Questionnaire – Technology and Engineering Literacy

VE638378

1. In your school, prior to or in eighth grade, what percentage of eighth-grade students receive instruction in each of the following topics? Select **one** circle in each row.

	None: Not included in the curriculum	Under 10%	10–25%	26–50%	51–75%	Over 75%	
a. How objects are designed to solve problems or meet people’s needs	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VE638386
b. The interactions among technology, society, and the environment	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VE638388
c. The role of technology systems (for example, energy usage, healthcare, communications)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VE638389
d. How computers, the Internet, and other digital technologies affect society	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VE638390
e. Careers in technical fields (for example, engineer, medical technician, computer programmer)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VE638392
f. Concepts related to specific technologies (for example, electronics, biotechnology, agriculture)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VE638395

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VE638432

2. Prior to or in eighth grade, how are each of the following areas addressed in your school's curriculum? Select **all** squares that apply.

	Required	Elective	After school	Not offered	
a. Technology and Society (the effects that technology has on society or the natural world; or, the ethical questions that arise from those effects)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638435
b. Design and Systems (the nature of technology, the engineering design process by which technologies are developed, or basic approaches to dealing with everyday technologies, including maintenance or troubleshooting)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638438
c. Information and Communication Technology (for example, computers; software learning tools; networking systems and protocols; handheld digital devices; other technologies for accessing, creating, or communicating information for facilitating creative expression)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638442

VE638446

3. Prior to or in eighth grade, does your school require any technology or engineering instruction to students?

Ⓐ Yes → Continue to Question 4.

Ⓑ No → Skip to Question 5.

School Questionnaire – Technology and Engineering Literacy

VE638450

4. To what extent is your school’s technology or engineering instruction based on the following?
Select **one** circle in each row.

	Not at all	Small extent	Moderate extent	Large extent	
a. State curriculum standards or frameworks	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638453
b. District curriculum standards or curriculum guides	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638456
c. Results from state/district assessments	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638457
d. Results from school assessments	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638462
e. In-school curriculum frameworks or standards for learning	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638459
f. Recommendations from your teachers or content specialists	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638464
g. Commercially designed programs	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638470
h. Textbooks (including digital forms, such as online textbooks)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VF821977
i. Other (specify): _____ _____	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638467

VE638334

5. Prior to or in eighth grade, does your school offer any courses or afterschool programs that cover technology or engineering concepts?

Ⓐ Yes → *Continue to Question 6.*

Ⓑ No → *Skip to Question 8.*

School Questionnaire – Technology and Engineering Literacy

VE681573

6. In the rows below, please identify the most relevant courses that cover technology or engineering concepts (up to five) that your school offers to students prior to or in eighth grade.

a. Course 1: _____

b. Course 2: _____

c. Course 3: _____

d. Course 4: _____

e. Course 5: _____

VE638483

7. In an average school year, how often is the typical eighth-grade student at your school assessed in what he or she knows about technology or engineering using the following methods? Select **one** circle in each row.

	Never	Once or twice a year	Once or twice a quarter	Once or twice a month	Once a week or more	I don't know.	
a. Standardized or performance tests	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VE638486
b. Teacher-developed tests and quizzes	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VE638487
c. Student assignments, projects, or homework	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VE638490

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VE638475

8. The goal of the following set of questions is to gather information about the student-computer ratio for eighth-grade students at your school.

	Number	
a. At your school, what is the total number of students in the eighth grade?	□, □ □ □	VE638480
b. Approximately how many computers in the school are available to eighth-grade students for educational purposes?	□, □ □ □	VE638484
c. Approximately how many of these computers are connected to the Internet?	□, □ □ □	VE638485
d. Approximately how many of all computers are eighth-grade students allowed to take home with them (for example, laptops or tablets)?	□, □ □ □	VE675583

If you answered question 8d with a number greater than 0, *continue to Question 9.*

If you answered question 8d with 0, *skip to Question 10.*

VE675587

9. Does your school provide computers that students are allowed to take home with them?
- Ⓐ Yes, and students are allowed to keep their computer after the school year ends.
 - Ⓑ Yes, but students must return their computer (for example, at the end of the week or end of the school year).
 - Ⓒ No

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VE638517

10. In your school, prior to or in eighth grade, what percentage of eighth-grade students has taken advantage of the following school-sponsored resources during or after school? Select **one** circle in each row.

	School does not provide this resource to students.	0–5%	6–20%	21–50%	Over 50%	
a. Clubs, competitions, exhibits, etc., related to some aspect of technology and engineering	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638518
b. Technology resources such as robotics or digital photography	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638519
c. Workshop for industrial technologies (for example, auto mechanics, machining, metalworking, construction, carpentry)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638520
d. Workshop or laboratory for drafting or design tools (for example, computer-aided design [CAD], systems analysis)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638521
e. Online courses in any subject	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638522

School Questionnaire – Technology and Engineering Literacy

VE638436

11. This year in your school, are the following resources available to teachers for teaching or professional development? Select **one** circle in each row.

	Yes	No	
a. Financial support for professional development related to technology and engineering	<input type="radio"/> A	<input type="radio"/> B	VE638440
b. Financial support for association memberships related to technology and engineering	<input type="radio"/> A	<input type="radio"/> B	VE638441
c. Financial support for university or online courses related to technology and engineering	<input type="radio"/> A	<input type="radio"/> B	VE638443
d. Technology resources such as robotics or digital photography	<input type="radio"/> A	<input type="radio"/> B	VE638445
e. Workshop for industrial technologies (for example, auto mechanics, machining, metalworking, construction, carpentry)	<input type="radio"/> A	<input type="radio"/> B	VE638449
f. Workshop or laboratory for drafting or design tools (for example, computer-aided design [CAD], systems analysis)	<input type="radio"/> A	<input type="radio"/> B	VE638452
g. Supplies or equipment for technology demonstrations	<input type="radio"/> A	<input type="radio"/> B	VE638454
h. Textbooks or digital tutorials related to technology or engineering	<input type="radio"/> A	<input type="radio"/> B	VE675624

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VE675659

12. Does your school have equipment available for instruction with the following capabilities? Select **one** circle in each row.

	Not available	Available for some teachers	Available for all teachers	
a. Recording video	Ⓐ	Ⓑ	Ⓒ	VE677568
b. Taking digital images	Ⓐ	Ⓑ	Ⓒ	VE677569
c. Converting non-digital images or content (for example, scanner)	Ⓐ	Ⓑ	Ⓒ	VE677570
d. Projecting digital images	Ⓐ	Ⓑ	Ⓒ	VE677571
e. Projecting interactive data (for example, interactive whiteboard that responds to user control via stylus, finger, or other device)	Ⓐ	Ⓑ	Ⓒ	VE677572
f. Collecting data (for example, tools such as sensors or probes that detect or collect information such as motion, pH, temperature, light)	Ⓐ	Ⓑ	Ⓒ	VE677573
g. Mobile computing (for example, handheld or portable computer devices)	Ⓐ	Ⓑ	Ⓒ	VE677574

School Questionnaire – Technology and Engineering Literacy

VE638523

13. To what extent is your school’s capability to provide instruction in technology or engineering concepts hindered by any of the following? Select **one** circle in each row.

	Not at all	Small extent	Moderate extent	Large extent	
a. Lack of qualified teachers trained in technological or engineering content	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638524
b. Lack of technical support personnel	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638525
c. Lack or inadequacy of instructional materials (for example, textbooks, computers, software)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638526
d. Lack or inadequacy of Internet connectivity	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638528
e. Lack or inadequacy of laboratory or workshop equipment	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638529
f. Lack or inadequacy of audio-visual resources	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638533
g. Lack of curriculum development expertise or standards specificity	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638534
h. Lack of time because of demands for other curriculum content	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VE638535

School Questionnaire – Technology and Engineering Literacy

VE638496

14. In the past two years, what percentage of teachers in your school has participated in professional development in any of the following? Select **one** circle in each row.

	Not applicable	0%	1–25%	26–50%	51–75%	Over 75%	I don't know.	
a. Content, curriculum, or pedagogy related to engineering design	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ	VE638497
b. Content, curriculum, or pedagogy related to technology or technological literacy	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ	VE638498
c. Integrating information and communications technology into instruction	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ	VE638504

VE638333

15. In your school, prior to or in eighth grade, how much emphasis is placed on teaching students the following? Select **one** circle in each row.

	None	A little	Some	A lot	I don't know.	
a. Inventions that change the way people live	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638336
b. Choices people make that affect the environment	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638338
c. Conditions that influence the use or availability of machines or devices	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638340
d. The ways people work together to solve problems in their community or the world	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE677585

School Questionnaire – Technology and Engineering Literacy

VE638350

16. In your school, prior to or in eighth grade, to what extent do students do the following activities? Select **one** circle in each row.

	Not at all	Small extent	Moderate extent	Large extent	I don't know.	
a. Describe how inventions change society	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638354
b. Compare how different activities affect the environment	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638355
c. Explain why people have different tools, machines, or devices in different parts of the world	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638356

VE638372

17. In your school, prior to or in eighth grade, how much emphasis is placed on teaching students the following? Select **one** circle in each row.

	None	A little	Some	A lot	I don't know.	
a. The use and purpose of tools, machines, or devices	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638375
b. The care or maintenance of tools, machines, or devices	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638376
c. Designing or creating something to solve a problem	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638377
d. Designing something when there is limited time, money, or materials	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE639184
e. Figuring out how to fix something	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE677599
f. Finding the right people to work with or get help from to fix something	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE677600

School Questionnaire – Technology and Engineering Literacy

VE638380

18. In your school, prior to or in eighth grade, to what extent do students do the following activities?
Select **one** circle in each row.

	Not at all	Small extent	Moderate extent	Large extent	I don't know.	
a. Use tools and materials to fix something	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE677603
b. Use different tools, materials, or machines to see which are best for a given purpose	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638383
c. Build or test a model to see if it solves a problem	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638384
d. Figure out why something is not working in order to fix it	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE677604
e. Take something apart in order to fix it or see how it works	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638385
f. Design a computer program	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE677605
g. Examine how parts, processes, or people work together in a system	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE677606

School Questionnaire – Technology and Engineering Literacy

VE638391

19. In your school, prior to or in eighth grade, how much emphasis is placed on teaching students the following? Select **one** circle in each row.

	None	A little	Some	A lot	I don't know.	
a. How to judge reliability of sources	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638396
b. How to credit others for their ideas	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638399
c. How to collaborate or share information with others	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE677607
d. How to consult with experts to get help	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE677609
e. How to find information or data to solve a problem	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE239167
f. Run simulations (a learning activity that imitates real life)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE677608

VE638410

20. In your school, prior to or in eighth grade, to what extent do students do the following activities? Select **one** circle in each row.

	Not at all	Small extent	Moderate extent	Large extent	I don't know.	
a. Use digital tools to gather and display information in order to test a hypothesis	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638433
b. Select and use appropriate digital technologies to create a presentation	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638434
c. Use a computer or other digital technology to simulate a system and explain different outcomes	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638428
d. Give feedback to others when working together	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VE638420