

2020

Erie Rise Leadership
Academy Charter
School

Parent Lesson Plan

[PARENT LESSON PLAN]

6th Grade Week 6 April 27 - May 1

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INTRODUCTION

Hello Parents!

Included in this packet is a week's worth of printed ELA, Mathematics, and Science/Social Studies work for your students while they are at home. Each day is separated into the 3 content areas for the printed material. If you have access to the digital curriculum, a pacing guide is also provided outlining the digital component assigned for each specific day. If you need technology, please contact the school and we can make it available to you. Also remember, USATestPrep is always an option!

We know some of this material maybe be challenging, but try your best to complete it! Hopefully we will see you back in the classroom soon and will be able to go over all the information.

Printed materials may be turned into to the distribution centers once completed, but it is not a requirement.

Mrs. Will will be available on Youtube Live every day from 10AM-11AM to assist with curriculum questions and/or any resource questions for parents or students.

Stay safe and healthy everyone!

Missing seeing everyone's smiling face! Remember to wash your hands!

Educationally Yours ,
Mrs. Veronica Will

HELPFUL INFORMATION

Distribution Sites/Information

Food/Curriculum distribution will take place at:

Erie Rise Leadership Academy Charter School
1006 West 10th Street
Erie, PA 16502

Tuesday and Friday from 10AM-12PM

Leadership Team

Mr. Aubrey Favors, Interim CEO, HR: 814 812-3026

Mrs. Veronica Will, Principal: 814 873-5158

Mr. Kirk Paskell, Transportation: 814 566-0002

Mr. Homer Smith, PR: 814 392-3413

Mrs. Pearl Jeffries, Social Services: 814 722-5056

DIGITAL LESSON PACING GUIDE

ConnectED Instructions

Please see attached instructions for accessing the digital curriculum.

USATestPrep Instructions

Please see attached instructions for accessing this test-prep site.

If you have access to high speed internet, below are the assignments the teachers have assigned for the various content areas:

Digital Pacing Guide

	Monday	Tuesday	Wednesday	Thursday	Friday
ELA/ Writing	ConnectEd StudySync Assignment: First Read: The Education of George Washington: How a Forgotten Book Shaped the Character of a Hero	ConnectEd StudySync Assignment: First Read: The Education of George Washington: How a Forgotten Book Shaped the Character of a Hero	ConnectEd StudySync Assignment: Close Read: The Education of George Washington: How a Forgotten Book Shaped the Character of a Hero	ConnectEd StudySync Assignment: Close Read: The Education of George Washington: How a Forgotten Book Shaped the Character of a Hero	ConnectEd StudySync Assignment: Complete unfinished assignments
Math	USATestPrep Pearson Khan Academy Prodigy	USATestPrep Pearson Khan Academy Prodigy	USATestPrep Pearson Khan Academy Prodigy	USATestPrep Pearson Khan Academy Prodigy	USATestPrep Pearson Khan Academy Prodigy
Science	USATestPrep Khan Academy	USATestPrep Khan Academy	USATestPrep Khan Academy	USATestPrep Khan Academy	USATestPrep Khan Academy
Social Studies	Lesson: Chapter 16: Intro to Chapter USA Test Prep Khan Academy	Lesson: Chapter 16: Place and Time USA Test Prep Khan Academy	Lesson: Chapter 16: Lesson 1 USA Test Prep Khan Academy	Lesson: Chapter 16 Lesson 2 USA Test Prep Khan Academy	Lesson: Chapter 16: Lesson 3 USA Test Prep Khan Academy

ELA PRINT MATERIAL

Writing: Spelling Words Packet

- Students can complete the packet at their own pace throughout the week.

Packet Includes:

Packet Includes:

- Scrambled Words
- Word Find
- Alphabetical Order
- Creating Sentences
- Lesson 1: Short Vowel Spelling practice
- Spelling Bee Packet (see below for more information)

The spelling bee packet gives the correct spellings and the definitions for the words on their list. Students may use this to complete their work, they will need to search for each word in the packet. Students may want to keep the spelling bee packet for future use. Students may go on USATest Prep for more ELA practice.

Reading:

- Go to <https://connected.mcgraw-hill.com/connected/login.do>
- Login in using personal username and password
 - 6th Grade: Launch Study Sync
 - Launch Study Sync AGAIN
 - Click assignments in top/center of screen
 - Don't forget to click SUBMIT when you've completed it
- **Day 1: First Read: The Education of George Washington: How a Forgotten Book Shaped the Character of a Hero**
 - Read the excerpt from Chapter 11 Valley Forge
- **Day 2: First Read: The Education of George Washington: How a Forgotten Book Shaped the Character of a Hero**
 - Reread the excerpt from Chapter 11 Valley Forge
 - Complete Access 1 **First** Read worksheet
- **Day 3: Close Read: The Education of George Washington: How a Forgotten Book Shaped the Character of a Hero**
 - Reread the excerpt from Chapter 11 Valley Forge
 - Complete Access 1 **Close** Read worksheet
- **Day 4: Vocabulary: The Education of George Washington: How a Forgotten Book Shaped the Character of a Hero**
 - Complete the vocabulary worksheet using the excerpt and Access 1 worksheets
- **Day 5: The Education of George Washington: How a Forgotten Book Shaped the Character of a Hero**
 - Complete any work that is not finished

MATH PRINT MATERIALS

Day 1:

1. Complete Basic Facts - Create Flashcards, time how many they get correct in 5 mins
 - a. Your student will know what basic facts s/he is working on.
2. Pearson Book Printed
 - a. Complete the Example 1
3. USATestPrep
 - a. If you are unable to get online to complete the USATestPrep complete the worksheet attached.

Day 2:

4. Complete Basic Facts - Create Flashcards, time how many they get correct in 5 mins
 - a. Your student will know what basic facts s/he is working on.
5. Pearson Book Printed
 - a. Complete Examples 2 and 3
6. USATestPrep
 - a. If you are unable to get online to complete the USATestPrep complete the worksheet attached.

Day 3:

7. Complete Basic Facts - Create Flashcards, time how many they get correct in 5 mins
 - a. Your student will know what basic facts s/he is working on.
8. Pearson Book Printed
 - a. Complete Numbers 1-12
9. USATestPrep
 - a. If you are unable to get online to complete the USATestPrep complete the worksheet attached.

Day 4:

10. Complete Basic Facts - Create Flashcards, time how many they get correct in 5 mins
 - a. Your student will know what basic facts s/he is working on.
11. Pearson Book Printed
 - a. Complete Numbers 13-24
12. USATestPrep
 - a. If you are unable to get online to complete the USATestPrep complete the worksheet attached.

Day 5:

13. Complete Basic Facts - Create Flashcards, time how many they get correct in 5 mins
 - a. Your student will know what basic facts s/he is working on.
14. Pearson Book Printed
 - a. Finish what you haven't.

SCIENCE/SOCIAL STUDIES PRINT MATERIAL

Science: Engineering (pages 140-145, printed)

- Day 1:

- Read pages 140-141
- Highlight or underline important information and vocabulary words
- Answer interactive questions while reading
- **Day 2:**
 - Read pages 142-143
 - Highlight or underline important information and vocabulary words
 - Answer interactive questions while reading
- **Day 3:**
 - Read pages 144-145
 - Highlight or underline important information and vocabulary words
 - Answer interactive questions while reading
- **Day 4:**
 - Use the lesson pages to help complete the worksheet titled 'Review and Reinforce Engineering'
- **Day 5:**
 - Use the lesson pages to help complete the worksheet titled 'Lesson Quiz Engineering'

Social Studies:

The textbook used in class is available online to use.

- **Day 1:**
 - Using either the online or print material, complete the Chapter 16 Introduction.
 - USA Test Prep assignments are due on Wednesday April 22nd
 - Khan Academy material is due on Wednesday April 22nd
 - Course material is also available online.
- **Day 2:**
 - Using either the online or print material, complete the Chapter 16: Place and Time material.
 - USA Test Prep assignments are due tomorrow, April 22nd.
 - Khan Academy material is due tomorrow, April 22nd.
 - Course material is also available online.
- **Day 3:**
 - Using either the online or print material, complete the Chapter 16: Lesson 1 Material.
 - USA Test Prep assignments are due Friday, April 24th.
 - Khan Academy Assignments are due Friday, April 24th.
 - Course material is also available online.
- **Day 4:**
 - Using either the online or print material, complete the Chapter 16: Lesson 2 Material.
 - USA Test Prep assignments are due tomorrow, April 24th.
 - Khan Academy Assignments are due tomorrow, April 24th..
 - Course material is also available online.
- **Day 5:**
 - Using either the online or print material, complete Chapter 16: Lesson 3 Material.
 - USA Test Prep assignments are due today!
 - Khan Academy assignments are due today!
 - Course material is also available online.

I hope to see some awesome power points! If you need anything, please reach out!

Ms. Barbero's Class:

6thgeo1@gmail.com

Riseup2020

Mr. Johnson's Class:

6thgeo2@gmail.com

Riseup2022

Mr. Drotar's Class:

6thgeo3@gmail.com

Riseup19!

ADDITIONAL RESOURCES (EDUCATIONAL)

Included are a list of hand selected resources for students with internet to use at home.

<https://my.mheducation.com/login>

<https://www.usatestprep.com/>

<https://www.khanacademy.org/>

<https://www.cdc.gov/flu/pandemic-resources/1918-commemoration/pandemic-timeline-1918.htm>



Scripps National Spelling Bee

Vocabulary List for Difficulty Level Two Bee

2019-2020

1.	disembark	<i>(verb)</i>	to leave or go ashore from a ship.
2.	earthquake	<i>(noun)</i>	a trembling or shaking of the earth that accompanies crustal movements.
3.	brought	<i>(verb)</i>	conveyed or carried along from one place to another.
4.	gallop	<i>(noun)</i>	the natural three-beat gait of a horse.
5.	dinosaur	<i>(noun)</i>	a member of a group of extinct reptiles.
6.	ancient	<i>(adjective)</i>	existing from a long ago period or date.
7.	tapestry	<i>(noun)</i>	a heavy textile woven by hand used for hangings or curtains.
8.	delivery	<i>(noun)</i>	an instance of the physical transfer of a shipment.
9.	attagirl	<i>(interjection)</i>	— used to express encouragement or approval to a woman or girl.
10.	salamanders	<i>(plural noun)</i>	various small amphibians that resemble lizards but don't have scales, are covered with a soft moist skin, live in moist dark places, pose no harm to humans, and feed on small animals such as aquatic worms and insects.
11.	usual	<i>(adjective)</i>	in accordance with the normal custom, usage or habit.
12.	challenge	<i>(noun)</i>	a thing which one can devote energy or effort to.
13.	cahoots	<i>(plural noun)</i>	secret agreement : collusion.
14.	oozing	<i>(verb)</i>	moving slowly or without notice.
15.	Mars	<i>(noun)</i>	the planet that is fourth from the sun and is noted for its apparent red color.
16.	pelican	<i>(noun)</i>	a large web-footed bird with long wings and a very large bill having a throat pouch in which it catches fish.
17.	drastic	<i>(adjective)</i>	notably vigorous or severe.
18.	yoga	<i>(noun)</i>	a group of exercises for achieving well-being and control of mind and body.
19.	burlap	<i>(noun)</i>	a coarse heavy plain-woven fabric typically made from hemp or jute that is used for bagging and wrapping items.
20.	blazer	<i>(noun)</i>	a single-breasted sports jacket usually with bright stripes or in a solid color that has a notched collar and patch pockets.
21.	trombone	<i>(noun)</i>	a brass instrument that consists of a long cylindrical metal tube that ends in a bell and has a movable slide which makes musical sounds.
22.	trembling	<i>(verb)</i>	quaking due to fear or another emotion.
23.	calmed	<i>(verb)</i>	made peaceful : induced quiet and peace in place of agitation or passion.
24.	police	<i>(noun)</i>	the department of the government which is concerned with maintaining public order, safety and health, and which has the power to enforce laws.
25.	certain	<i>(adjective)</i>	given to or marked by complete conviction and assurance.
26.	barograph	<i>(noun)</i>	an automatic instrument which is used to record variations in atmospheric pressure.



This list includes 225 challenging upper elementary words. If you learn the spellings and meanings of these words, you will be well prepared for your classroom bee. If you would like to be well prepared for a school spelling bee, ask your teacher for the 450-word School Spelling Bee Study List, which includes the words listed here in addition to the words at the One Bee and Three Bee levels of difficulty.

27.	charred	<i>(verb)</i>	partly burned on the outside.
28.	Pakistan	<i>(geographical entry)</i>	a country in southern Asia which borders the Arabian Sea.
29.	pressure	<i>(noun)</i>	the burden of mental or physical distress.
30.	surmised	<i>(verb)</i>	guessed : formed an opinion without substantial proof or certain knowledge.
31.	teak	<i>(noun)</i>	the hard, strong, durable, yellowish brown wood of a tall East Indian timber tree which is highly resistant to insect attack and warping and is used for shipbuilding.
32.	transit	<i>(noun)</i>	the public transportation of people by bus, subway train or other local system of conveyance.
33.	cannonade	<i>(noun)</i>	a noisy persistent attack (as of questions).
34.	appetite	<i>(noun)</i>	the desire to eat when food is available.
35.	luggage	<i>(noun)</i>	suitcases, bags used for travel or other articles used to carry a traveler's belongings.
36.	ramparts	<i>(plural noun)</i>	protective barriers.
37.	vinyl	<i>(noun)</i>	any of a group of tough durable plastics based on resins that are used especially in the forming of films and sheeting, flooring, and sound records.
38.	anemometers	<i>(plural noun)</i>	tools used to gauge the speed of the wind.
39.	dainty	<i>(adjective)</i>	characterized by beauty that is delicate in nature.
40.	buckle	<i>(verb)</i>	to secure two loose ends of something (such as a belt) with one end having a fastening and the other a catch.
41.	vividly	<i>(adverb)</i>	intensely, sharply, keenly.
42.	briny	<i>(adjective)</i>	salty.
43.	pavement	<i>(noun)</i>	the surface of a public thoroughfare which is artificially covered.
44.	garnet	<i>(noun)</i>	a brittle material which is typically red in color and occurs mainly in crystals.
45.	furrow	<i>(verb)</i>	to cultivate or till as if with a plow.
46.	sprawl	<i>(verb)</i>	to lie or sit with arms and legs stretched out : to spread out.
47.	museum	<i>(noun)</i>	a building or institution which is devoted to the gathering, care, study and display of objects of lasting interest and value.
48.	wren	<i>(noun)</i>	any of various small brown singing birds.
49.	legend	<i>(noun)</i>	someone having a special status as a result of possessing extraordinary qualities that are typically partly real and partly mythical.
50.	transistor	<i>(noun)</i>	an electronic device made of a small block of a semiconductor with three electrodes on it and that conducts electrons moving in one direction to the opposite direction.



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51.	amplify	<i>(verb)</i>	to expand, extend or enlarge a statement or idea by adding details or illustration.
52.	security	<i>(noun)</i>	freedom from care, anxiety or fear.
53.	refrain	<i>(noun)</i>	a phrase or verse that recurs regularly typically within a poem or song.
54.	tactics	<i>(plural noun)</i>	methods : systems of procedure.
55.	shepherd	<i>(noun)</i>	a man employed in tending, feeding and guarding sheep.
56.	Angus	<i>(noun)</i>	any of a breed of hornless black or red beef cattle originally from Scotland.
57.	mulish	<i>(adjective)</i>	stubborn, inflexible or uncompromising.
58.	rivalry	<i>(noun)</i>	competition.
59.	siblings	<i>(plural noun)</i>	two or more people with the same parents.
60.	chestnut	<i>(noun)</i>	any of a genus of deciduous trees or shrubs native to temperate regions of the northern hemisphere that have a fruit consisting of a single nut.
61.	minivan	<i>(noun)</i>	a small multipurpose vehicle with rear or side doors and side panels with windows that is used to transport passengers.
62.	plaid	<i>(adjective)</i>	having a cross-barred multicolored pattern.
63.	tissue	<i>(noun)</i>	an aggregate of cells together with their intercellular substance that form one of the structural materials out of which the body of a plant or an animal is made.
64.	scoundrel	<i>(noun)</i>	a bold selfish person who is equipped with low ethical standards.
65.	amino	<i>(adjective)</i>	relating to or containing the group NH ₂ united to a radical other than an acid radical.
66.	menthol	<i>(noun)</i>	an alcohol that occurs naturally in peppermint oil and Japanese mint oil and can be made artificially.
67.	Tabasco	<i>(trademark)</i>	– used for a condiment sauce made from capsicum berries.
68.	obvious	<i>(adjective)</i>	easily perceived by the mind.
69.	pulse	<i>(noun)</i>	a regular wave of distension in the arteries that is a result of blood progressing through an artery at each contraction of the ventricles of the heart.
70.	cottage	<i>(noun)</i>	a small house typically used in the summer.
71.	garland	<i>(noun)</i>	a wreath of leaves or flowers that is worn on the head or used for decoration.
72.	gnaw	<i>(verb)</i>	to bite or chew on with the teeth.
73.	comfort	<i>(noun)</i>	enjoyment in physical or mental well-being.
74.	caroling	<i>(verb)</i>	traveling outside in a group to sing Christmas songs on Christmas Eve.
	OR		carolling



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75.	foolishness	<i>(noun)</i>	the state of lacking seriousness : folly.
76.	constellation	<i>(noun)</i>	any of the 88 configurations of stars.
77.	sundering	<i>(verb)</i>	breaking or forcing apart.
78.	juncture	<i>(noun)</i>	a seam or joint.
79.	exploits	<i>(verb)</i>	takes undue advantage of.
80.	rabble-rouser	<i>(noun)</i>	a person who stirs up the masses of the people (such as to violence or hatred).
81.	profound	<i>(adjective)</i>	hard to understand or comprehend.
82.	wreath	<i>(noun)</i>	a crown or band of intertwined flowers or leaves worn or given as a mark of honor.
83.	profile	<i>(noun)</i>	a representation of something in outline.
84.	untoward	<i>(adjective)</i>	unfortunate or unlucky.
85.	memorial	<i>(adjective)</i>	commemorative.
86.	industrial	<i>(adjective)</i>	of or belonging to a department of a craft, business or manufacture.
87.	barrier	<i>(noun)</i>	an object or objects that serve to separate or keep items apart.
88.	gratingly	<i>(adverb)</i>	with an irritating or harsh effect or sound.
89.	brayed	<i>(verb)</i>	made a loud harsh cry – used of a donkey.
90.	Harlem	<i>(geographical entry)</i>	section of New York City in northern Manhattan that was a center of African American culture in the 1920s.
91.	messenger	<i>(noun)</i>	someone who delivers a written or oral communication : a courier.
92.	beacons	<i>(plural noun)</i>	fires placed on a hill or tower that are used to communicate signals.
93.	generation	<i>(noun)</i>	development, rise.
94.	coverage	<i>(noun)</i>	the amount of reporting given to a news event.
95.	deters	<i>(verb)</i>	turns aside or discourages from acting.
96.	Nepal	<i>(geographical entry)</i>	landlocked country in Asia in the Himalayas on the northeast border of India.
97.	disinfectant	<i>(noun)</i>	a chemical used to destroy vegetative forms of damaging microorganisms.
98.	campaign	<i>(noun)</i>	a period of continuous and often competitive activity in any seasonal occupation or industry.
99.	starvation	<i>(noun)</i>	the instance of suffering from extreme hunger.
100.	gamma	<i>(noun)</i>	the third letter of the Greek alphabet.
101.	spleen	<i>(noun)</i>	an abdominal organ that plays a role in the maintenance of blood volume, the production of blood cells, the recovery of material from worn-out blood cells and the production of antibodies.



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102.	utensils	<i>(plural noun)</i>	tools or instruments used in a kitchen.
103.	depot	<i>(noun)</i>	a bus station.
104.	incident	<i>(noun)</i>	an uncommon happening.
105.	brambles	<i>(plural noun)</i>	prickly and rough vines or shrubs.
106.	trifecta	<i>(noun)</i>	a bet in which the bettor selects the first, second and third finishers in a contest or race in the correct order.
107.	shingle	<i>(noun)</i>	coarse and rounded detritus found on the seashore and which is different from regular gravel due to its large size.
108.	mason	<i>(noun)</i>	a skilled artisan who builds using stone, brick or concrete.
109.	avoid	<i>(verb)</i>	to stay clear of : to keep away from.
110.	static	<i>(adjective)</i>	stable, stagnant.
111.	samples	<i>(plural noun)</i>	portions to represent a whole.
112.	modern	<i>(adjective)</i>	contemporary : relating to the present time.
113.	chalk	<i>(noun)</i>	the prepared form of a soft limestone, earthy in texture and white, gray or buff in color used for marking or drawing.
114.	concentrate	<i>(verb)</i>	to bring all one's powers, faculties or activities to bear.
115.	proud	<i>(adjective)</i>	elated : highly pleased.
116.	expiration	<i>(noun)</i>	termination, close, extinction.
117.	batteries	<i>(plural noun)</i>	level of enthusiasm or energy.
118.	centuries	<i>(plural noun)</i>	time spans of 100 years.
119.	differed	<i>(verb)</i>	varied : changed from time to time.
120.	fearsome	<i>(adjective)</i>	arousing from fright or terror.
121.	fiercest	<i>(adjective)</i>	characterized by the most furious unrestrained vehemence or zeal.
122.	residence	<i>(noun)</i>	the place where one lives or has their home.
123.	abated	<i>(verb)</i>	lessened : decreased in force.
124.	scattering	<i>(verb)</i>	spreading widely and randomly by throwing about.
125.	toppled	<i>(verb)</i>	tumbled down : fell from top-heaviness.
126.	vane	<i>(noun)</i>	a movable device used to show the direction of the wind.
127.	vortices	<i>(plural noun)</i>	tornadoes : quickly moving and spiraling columns of air.
128.	turbulent	<i>(adjective)</i>	tempestuous or stormy.
129.	obstacles	<i>(plural noun)</i>	things that hinder progress or stand in the way.



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130.	continental	<i>(adjective)</i>	being the portion of the United States located on the continent of North America.
131.	deportment	<i>(noun)</i>	behavior or conduct.
132.	exhibits	<i>(plural noun)</i>	exhibitions or displays.
133.	agricultural	<i>(adjective)</i>	relating to or used in the science or art of working the soil, harvesting crops and raising livestock.
134.	momentous	<i>(adjective)</i>	weighty : of great importance.
135.	disturbance	<i>(noun)</i>	an interruption of quiet or peace.
136.	wily	<i>(adjective)</i>	crafty : full of deceitful cunning.
137.	rookie	<i>(noun)</i>	a member who is new to an athletic team.
138.	transparencies	<i>(plural noun)</i>	matters for displaying which are made on glass, thin cloth, paper or film and which are viewed by the help of light shining through the matter.
139.	hazmat	<i>(noun)</i>	a substance that is shipped and which would be dangerous to life or the environment if released without proper precaution.
140.	Antarctic	<i>(adjective)</i>	relating to the South Pole or the region surrounding it.
141.	perfume	<i>(noun)</i>	a fluid containing essences of flowers or synthetics which is used for its scent.
142.	plaiting	<i>(noun)</i>	braiding : the interweaving of three or more strands of hair.
143.	writers	<i>(plural noun)</i>	people who practice the act of literary or journalistic composition in words as a job.
144.	series	<i>(noun)</i>	a group of three or more things or events succeeding in order and having a relationship to each other.
145.	audience	<i>(noun)</i>	those present at a stage or film production or viewing of a televised program.
146.	insubstantial	<i>(adjective)</i>	imaginary : lacking substance.
147.	staggered	<i>(verb)</i>	swayed or tottered when standing or walking.
148.	assistance	<i>(noun)</i>	aid given to the needy, usually in monetary form.
149.	sanitized	<i>(verb)</i>	made hygienic through sterilization or cleaning.
150.	diminished	<i>(verb)</i>	decreased.
151.	organist	<i>(noun)</i>	someone who plays any of several large musical instruments which produce sustained tones by means of a keyboard.
152.	operator	<i>(noun)</i>	someone in charge of a telephone switchboard.



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153.	Louisiana	<i>(geographical entry)</i>	a state in the southern United States.
154.	perpetual	<i>(adjective)</i>	constant or indefinitely.
155.	blustery	<i>(adjective)</i>	stormy.
156.	molars	<i>(plural noun)</i>	teeth which are adapted for grinding due to having rounded or flattened surfaces.
157.	arrange	<i>(verb)</i>	to put in the correct or desired order.
158.	dissolved	<i>(verb)</i>	passed into an act by which a solid, liquid or gaseous substance is mixed typically with a liquid.
159.	extremely	<i>(adverb)</i>	in an intense manner.
160.	plastic	<i>(noun)</i>	any of a large group of materials of high molecular weight that usually contain a synthetic or semisynthetic organic substance, that are molded into objects of all sizes and shapes.
161.	multiplication	<i>(noun)</i>	a mathematical operation in which the first number is repeated as many times as there are units in the second number.
162.	middle	<i>(noun)</i>	the part halfway between two points.
163.	reasonable	<i>(adjective)</i>	not absurd or ridiculous : being in agreement with right thinking.
164.	closet	<i>(noun)</i>	a recess or cabinet used to hold china, clothing or other utensils.
165.	investigation	<i>(noun)</i>	study or research.
166.	accident	<i>(noun)</i>	an event that occurs by chance.
167.	discussion	<i>(noun)</i>	a consideration of a question typically occurring in informal debate.
168.	confused	<i>(verb)</i>	confounded : failed to distinguish between two or more parties.
169.	microwave	<i>(verb)</i>	to cook or heat food in an oven that prepares the food with short electromagnetic waves.
170.	gabled	<i>(adjective)</i>	furnished with the vertical triangular portion of the end of a building.
171.	settle	<i>(verb)</i>	seat : to cause to sit.
172.	somber	<i>(adjective)</i>	dejected in appearance or mood : gloomy.
	OR sombre		
173.	tampered	<i>(verb)</i>	interfered with so as to change for the worse.
174.	loyal	<i>(adjective)</i>	devoted to a person : faithful.
175.	remarkable	<i>(adjective)</i>	worthy of being noticed.
176.	joists	<i>(plural noun)</i>	the small timbers or iron or steel beams that are arranged in a parallel fashion stretching from wall to wall in a building.
177.	scrambling	<i>(verb)</i>	moving with urgency.



This list includes 225 challenging upper elementary words. If you learn the spellings and meanings of these words, you will be well prepared for your classroom bee. If you would like to be well prepared for a school spelling bee, ask your teacher for the 450-word School Spelling Bee Study List, which includes the words listed here in addition to the words at the One Bee and Three Bee levels of difficulty.

178.	inspector	<i>(noun)</i>	a police officer ranking below a superintendent.
179.	distressed	<i>(adjective)</i>	overcome with pain or grief.
180.	smudge	<i>(noun)</i>	a splotch or smear.
181.	throttle	<i>(verb)</i>	to choke : to stop the breathing of by any means.
182.	perfection	<i>(noun)</i>	flawlessness : freedom from defect.
183.	capable	<i>(adjective)</i>	marked by general efficiency and by adequate resourcefulness, skill and reliability.
184.	gadgets	<i>(plural noun)</i>	typically small devices that are often considered novelties and that are found especially on pieces of machinery.
185.	channel	<i>(noun)</i>	a band of frequencies able to accommodate a single television or radio communication.
186.	chisel	<i>(noun)</i>	a tool consisting of a metal bar with a sharpened edge at one end used for working on the surface of materials by chipping or carving.
187.	chimney	<i>(noun)</i>	a vertical structure incorporated into a building that carries off smoke, fumes or gases.
188.	minnow	<i>(noun)</i>	a very small fish that can grow up to three inches long and that is common in streams.
189.	domain	<i>(noun)</i>	a large subdivision of the Internet denoted by an abbreviation consisting of computers or sites with a common purpose or a common location.
190.	shuffle	<i>(verb)</i>	to slide the feet back and forth without lifting them.
191.	carpenter	<i>(noun)</i>	a person whose career is to build or repair with wood.
192.	pruners	<i>(plural noun)</i>	a tool which is used to remove dead branches or leaves from vegetation.
193.	parcel	<i>(noun)</i>	a package.
194.	squawk	<i>(verb)</i>	to emit a loud harsh cry.
195.	Sheetrock	<i>(trademark)</i>	— used to describe a plasterboard formed of gypsum between two surfaces of hard paper.
196.	trowel	<i>(noun)</i>	a hand tool with a blade that is used to apply, spread, shape and smooth any loose material.
197.	nervous	<i>(adjective)</i>	originating in or affected by the nerves.
198.	spirit	<i>(noun)</i>	any supernatural being such as an apparition or elf.
199.	equator	<i>(noun)</i>	the circle of the celestial sphere whose plane runs perpendicular to the axis of Earth.
200.	evidence	<i>(noun)</i>	something submitted legally to a tribunal as a means of realizing the truth of any alleged matter of fact under investigation before it.
201.	solar	<i>(adjective)</i>	related to the sun and its effects on Earth and other planets.
202.	explore	<i>(verb)</i>	to search or look into.
203.	distance	<i>(noun)</i>	the amount of separation between two points.
204.	fault	<i>(noun)</i>	responsibility for failure.



This list includes 225 challenging upper elementary words. If you learn the spellings and meanings of these words, you will be well prepared for your classroom bee. If you would like to be well prepared for a school spelling bee, ask your teacher for the 450-word School Spelling Bee Study List, which includes the words listed here in addition to the words at the One Bee and Three Bee levels of difficulty.

205.	colonists	<i>(plural noun)</i>	someone who settles in a new country.
206.	prudence	<i>(noun)</i>	wisdom shown in the exercise of self-control and reason.
207.	assembly	<i>(noun)</i>	a meeting scheduled for an entire student body and faculty of a school held for recreational, administrative or educational reasons.
208.	sheriff	<i>(noun)</i>	an important county officer in the United States who is typically elected by the people.
209.	tarry	<i>(verb)</i>	to dawdle or procrastinate.
210.	entity	<i>(noun)</i>	something that has an objective or physical reality and distinct character.
211.	archives	<i>(plural noun)</i>	repositories for documents of historical value.
212.	commotion	<i>(noun)</i>	noisy confusion.
213.	vacancy	<i>(noun)</i>	an empty office or post.
214.	beatboxing	<i>(noun)</i>	a musical style comprised of solo vocal imitation of percussion.
215.	mutate	<i>(verb)</i>	to undergo a significant alteration.
216.	commonplace	<i>(noun)</i>	a comment or remark lacking in originality.
217.	gingerbread	<i>(noun)</i>	a cake made with molasses and ginger which is then cut in fancy shapes and frosted.
218.	dispute	<i>(verb)</i>	to wrangle : to argue with persistence.
219.	episode	<i>(noun)</i>	a part of a television or radio serial presented in one period.
220.	confection	<i>(noun)</i>	a delicacy.
221.	autographs	<i>(plural noun)</i>	handwritten signatures.
222.	petite	<i>(adjective)</i>	little or small.
223.	station	<i>(noun)</i>	a post or position of duty.
224.	withers	<i>(plural noun)</i>	the ridge on a horse that falls between the shoulder bones.
225.	hunky-dory	<i>(adjective)</i>	fine.

Read

From Chapter Eleven: Valley Forge

Most of us have heard about the hard, cold winter at Valley Forge. The bloody feet in the snow and all the rest.

For those of you who for whom the details are a bit hazy, war was a summer thing in those days. No major battles were expected to be fought in the off season. Both armies would hunker down for the winter. Valley Forge, Pennsylvania, was selected as the winter home for the twelve thousand or so soldiers directly under George's control in the fall of 1777, a year after the crossing of the Delaware had given the Americans their first unambiguous victory.

Although the first months of Valley Forge were a hellish struggle—if hell can be freezing, that is—there are no contemporary images of the cadaverous survivors to remind us of the horror.

The most famous image, which is both fictional and trite, is a painting made 198 years after the (non) incident, depicting George Washington, fully clothed and shod (as he of course would have been), praying alone in the snow (as he never did). For those of a less Norman Rockwellesque frame of mind—it was actually a guy named Friberg who made that particularly falsely iconic, Rockwellesque image—Valley Forge is seen most often as a metaphor for the entire revolutionary struggle: against impossible odds, impossibly undersupplied troops suffered and sacrificed with no realistic hope in sight.

But they soldiered on.

Without any evocative images to remind us, though, the true horror is often forgotten. As fall turned into winter in 1777, two-thirds of the twelve thousand soldiers camped in Valley Forge still had no shoes. No shoes! At one point, a third were listed as unfit for duty—well, four thousand or so, which was more than a third once you subtract the twenty-five hundred who had died by the spring from the horrific diseases that sliced through the camp, all of them untreatable at the time and most of them contagious.

Dysentery, typhoid, consumption, pneumonia, jaundice, etc., all had their way with the troops. It didn't help that the conditions were horrifyingly unsanitary by modern standards (and by contemporaneous Prussian standards, but we'll get to that in a minute). Nor, of course, did the freezing cold offer any comfort.

In short, George Washington's army was in desperate conditions—even more desperate than the circumstances of the Duke of Schonberg's army that, as George had read in the *Panegyrick*, once suffered "an incredible scarcity of all things; and the rage of Hunger, more cruel than that of the Sword. ..weaken'd

below by Mortal Diseases; consum'd from within with want; and fac'd without, with a numerous Army. ..." This was warfare in the era before modern technology, when the difference between defeat and victory wasn't who had stealth fighters and bunker-busting bombs, but who was best able to rise above hunger and disease to fight on.

Lack of adequate shelter, at least at first, contributed to the misery, suffering, and disease of George's men. Hobbit homes would have been a step up from the accommodations originally available at Valley Forge. Malnutrition didn't help. The soldiers survived, at times, on nothing but "fire bread," made from flour, melted snow, and nothing else. Occasionally their diet would be supplemented by fallen animals, which were butchered where they fell. They would let what little might remain rot, although the rotting was, as some small consolation, limited by the cold.

They relieved themselves where they were, the germ theory of disease being a century in the future. The cold therefore prevented at least some incidents of illness by freezing things that might otherwise putrefy.

But the cold also killed throughout the winter.

This suffering, **epitomized** by shoeless soldiers' bloody footprints in the snow, is the darkest image that comes to us from that winter at Valley Forge, Pennsylvania.

What most people don't see is why and how the American soldiers—those who survived, that is—overcame all of this. They emerged tougher, stronger, and better, rather than weaker, crippled, and dispirited, as would surely have been the case without the entrance, towards the end of that winter, of someone almost more **prototypically** American—or at least more self-made—than George Washington.

Lieutenant General Friedrich Wilhelm Rudolf Gerhard Augustin Baron von Steuben—Baron von Steuben for short—was little of what his name would suggest. For one, he seems to have been a self-appointed baron. Then again, Michael Jackson was a self-anointed King (of Pop). Self-anointing, rather than inheriting titles, seems to be the American fashion, so von Steuben fit right in.

Nor, going a little deeper, had he been a lieutenant general in the Prussian army, as the Americans believed. He had risen to the rank of major there and later been given the honorary title of lieutenant general in a prince's court, after he had been downsized out of the Prussian army. Von Steuben *was*, though, **indisputably** a Friedrich, a Wilhelm, a Rudolf, and a Gerhard, all at once, which is more than most people can say for themselves.

Von Steuben is often given short shrift for his inflated credentials, but as he was to make his biggest mark in a land in which no one of importance had any credentials—the most notable of all, such as Washington and Benjamin Franklin, lacking even university degrees—an observer might ask a big, historical so what? Okay, he was a captain and then major, never a general in the Prussian army, but it *was* the *Prussian* army, widely considered the best in Europe. And he wasn't just any staff officer, he had been aide-de-camp to

the King of Prussia. The King!

Von Steuben was even one of thirteen officers selected for a *Spezialklasse der Kriegskunst*, a kind of warfare class conducted by the King. Presumably the baron—or whatever he was—was chosen for that class by the King himself. As von Steuben didn't speak English very well, the whole "lieutenant general in the Prussian army" thing was very possibly a misunderstanding. Meanwhile the title, if incorrect, did arguably convey his background and skill in a kind of shorthand.

Anyway, the somewhat inflated background is what Benjamin Franklin conveyed in a letter he wrote to George Washington (who was later to repeat the characterization), when Franklin was in Europe scouting out potential officers.

If the inflated military rank was of the same provenance as the "baron" title—which might, to be fair, have been the fault of faulty genealogical work by his father, not deliberate **mendacity** on the part of either von Steuben fils or père—or if they were both puffery, we still won the war, which we might not have done otherwise.

Von Steuben proved himself by his actions, just as George Washington and Benjamin Franklin (and all great Americans since) have done.

Von Steuben, after all, started his life in a land where a "baron" title would open up vistas—promotions, positions at court—that would be otherwise closed to him. He then came to a land where a convenient conflation of ranks advanced his career to the level where his skills and talents naturally should have placed him. We are here today, most would agree, because von Steuben overcame the limitations of his birth by the only means reasonably available, puffery. It sounds unpleasant. But it worked.

Von Steuben, who loved the pomp of the army as much as anything else, traveled to America, somewhat exotically, not with a wife but with a greyhound. Von Steuben's dog, whether by nature or nurture, had learned to howl when someone sang out of tune (but to wag his tail when the singing was in tune). The dog's short-legged, jowly master wore "a splendid medal of gold and diamonds" on his chest, which was the outward sign of an honorary knighthood. How could he be ignored?

George Washington rode out especially to meet him, and was, if not instantly taken, then very soon impressed. The "baron" may have been **eccentric**, but then geniuses often are, aren't they? He was, as George was soon to see, exactly the man George needed to supply the order and discipline the American army so desperately needed.

Possibly von Steuben's most important contribution to the American army—don't laugh, it saved countless lives—was putting the latrines *down* hill from where the soldiers lived. Sounds obvious, doesn't it? The Americans hadn't thought of it.

Oh, and he also came up with the idea of the latrines themselves. Someone had to suggest them, and that someone was the little “baron” himself. He had picked up his ideas in Germany, where latrines were standard issue.

Despite his Prussian background, von Steuben was American enough to particularly point out what he found a refreshing—if at first infuriating—difference between American soldiers and their European counterparts. Ultimately, the difference in American soldiers was the spirit of the Revolution, itself, its *raison d’être*. Or, as Von Steuben put it, “The genius”—that is, the inherent spirit—“of this nation is not in the least to be compared with the Prussians, the Austrians, or French.” While you could say to a European soldier, “‘Do this,’ and he doeth it,” in America, von Steuben discovered, “I am obliged to say, ‘This is the reason why you ought to do that,’ and then he does it.”

In other words, Americans thought for themselves. Even the common soldiers didn’t let themselves be pushed around.

From the book *The Education of George Washington*, by Austin Washington. Copyright ©2014. Published by Regnery Publishing. All rights reserved. Reprinted by special permission of Regnery Publishing, Washington, DC.

Annotations

indisputably	not able to be questioned or doubted
mendacity	dishonesty
eccentric	deviating from established or conventional practices or conduct

refix *proto* means "original" and the suffix *-ly* means "in a particular manner." The text says von Steuben was "prototypically American." I
prototypically means _____

Name Class Date.....

Vocabulary Review

Think about the meaning of each word in the box as it's used in *The Education of George Washington: How a Forgotten Book Shaped the Character of a Hero*. Use the correct word to fill in the blanks below.

Vocabulary Words
prototypically
mendacity
eccentric
epitomized
indisputably

1. She _____ a strong leader and served as an ideal example to young women.
2. The sundae _____ features a sauce, whipped cream, and ice cream.
3. The House of Pancakes is _____ the best place to get pancakes/breakfast.
4. The person lying had the _____ to smile when telling tales.
5. My aunt appears _____ as she enjoys talking in French to her plants.

LESSON 4 Engineering



- What Is Engineering?
- What Are Some Branches of Engineering?
- How Does Engineering Benefit Society?



my planet DiARY

Posted by: Aaliyah

Location: Brewerton, New York



One modern invention has helped me throughout my entire life—my hearing aids. They come with an FM system and they help me hear people. This invention helps me at school so I can listen in class and at home so I can hear the TV. The FM system acts just like a microphone, but instead of ever hearing the sound it only goes into my hearing aid. If I didn't have my hearing aids, my life would be completely different. I wouldn't be able to socialize and I would be so lonely without my friends. This invention has helped me my entire life and it is really worth it!

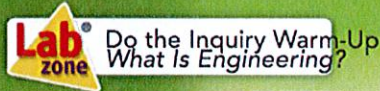
BLOG

Read the following questions. Write your answers below.

1. How are Aaliyah's hearing aids similar to a microphone? How are they different?

2. What is one modern invention that has helped you? How has it helped?

▶ PLANET DIARY Go to Planet Diary to learn more about engineering.



Vocabulary

- engineering bioengineering aerospace engineering
- mechanical engineering civil engineering
- chemical engineering electrical engineering

Skills

- ▶ Reading: Relate Cause and Effect
- ▶ Inquiry: Infer

What Is Engineering?

Think about all the things you do to get ready for school. You get dressed, eat breakfast, and brush your teeth. The zipper on your pants, the microwave that cooked your cereal, even your toothpaste tube are examples of products designed by engineering. **Engineering** is the application of science to satisfy needs and solve problems. **Engineering requires both scientific and technical knowledge to design things that make life better.**

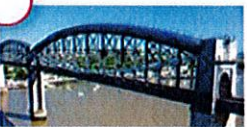
apply it!

Look at the photos of products designed to make people's lives easier.

1 **Relate Cause and Effect** Label each picture with the letter of the problem the product was designed to solve.

- A. Prevent people from getting wet
- B. Allow travel over difficult terrain
- C. Make food last longer
- D. Perform difficult math calculations

2 **CHALLENGE** Name an unintended consequence of a refrigerator.



Do the Quick Lab
Designing a Solution.

Assess Your Understanding

got it?

I get it! Now I know that engineering requires both _____


I need extra help with _____

Go to [my science](#) COACH online for help with this subject.

FIGURE 1

► REAL-WORLD INQUIRY **Branches of Engineering**

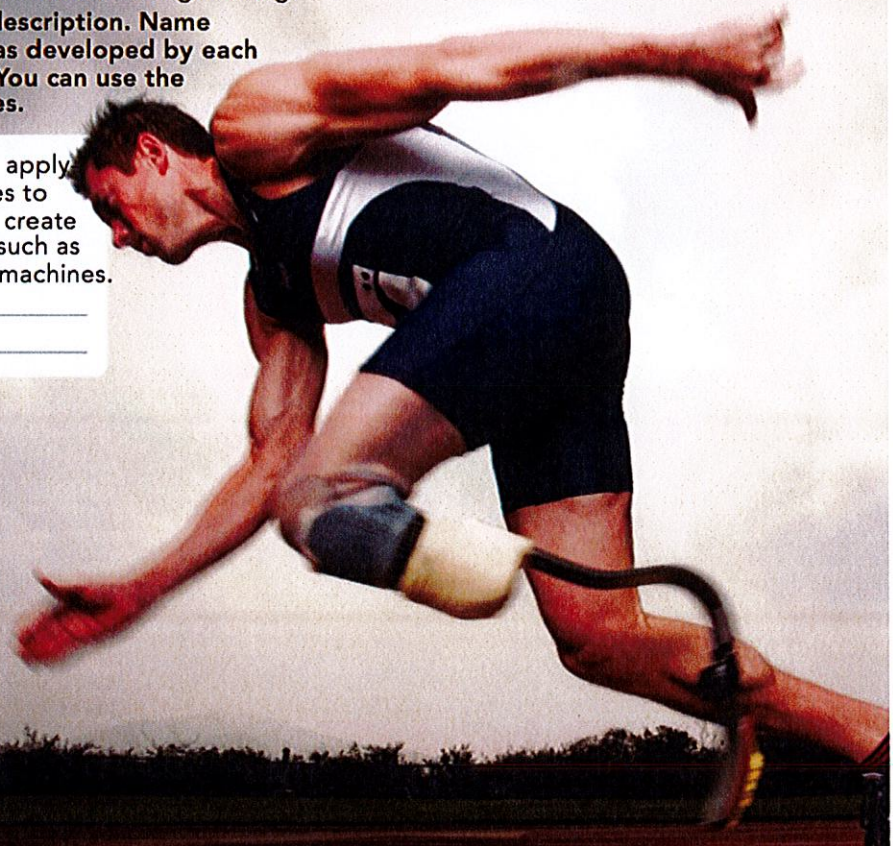
There are many different branches of engineering.

 **Identify** Read each description. Name another product that was developed by each branch of engineering. You can use the Internet to find examples.

Bioengineering involves applying engineering principles to biology and medicine to create processes and products such as artificial limbs and X-ray machines.




Aerospace engineering consists of the design, construction, and testing of airplanes and spacecraft.



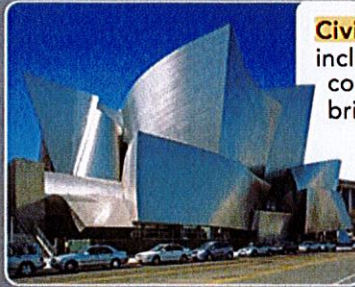
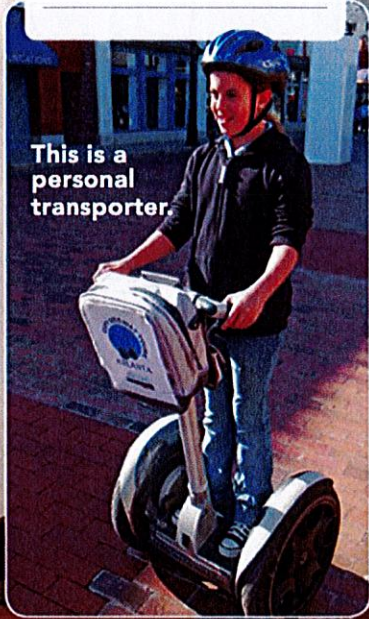
► **What Are Some Branches of Engineering?**

People from many areas of engineering may be involved in the development of an engineering product. For example, it takes the work of many engineers to get a space shuttle off the ground. Some engineers determine a space shuttle's shape and design. They also calculate the thrust needed to lift the space shuttle. Other engineers find the best fuel mixtures for the space shuttle engines.

 Engineering has many branches. They include bioengineering, aerospace engineering, mechanical engineering, civil engineering, chemical engineering, and electrical engineering. Some of the common branches of engineering are described in Figure 1.

Mechanical engineering deals with the design, construction, and operation of machinery such as cars or personal transporters.

This is a personal transporter.



Civil engineering includes the design and construction of roads, bridges, and buildings.

Chemical engineering deals with the conversion of chemicals, such as oil, into useful products, such as diesel fuel.



Electrical engineering involves the design of electrical systems, including power, control systems, and telecommunications, such as satellites.



Do the Quick Lab *Branches of Engineering.*

Assess Your Understanding

1a. **Infer** Why do you think there are many types of engineering?

b. **Classify** What branches of engineering were involved in making a hair dryer?


got it?


I get it! Now I know that the branches of engineering include

I need extra help with

Go to **my science** online **COACH** online for help with this subject.

▶ How Does Engineering Benefit Society?

What would life be like without electricity? You could not use the Internet, play video games, or recharge your digital music player. However, usually you do have electricity every day because of power lines and generators designed by engineers.  **Engineers design products that improve our daily lives in many ways, including saving lives, energy, and time and effort.**

 **Relate Cause and Effect**
Circle the cause of the need to design an early warning system for tsunamis on the Indian Ocean.

Saving Lives In 2004, a tsunami (tsoo NAH-mee), or giant ocean wave, washed over southeast Asia. It was one of the worst natural disasters ever—more than one million people lost their homes. As a result, engineers designed a tsunami early-warning system in the Indian Ocean, as shown in **Figure 2**. The early-warning system gives people in high-risk areas time to reach safe ground.

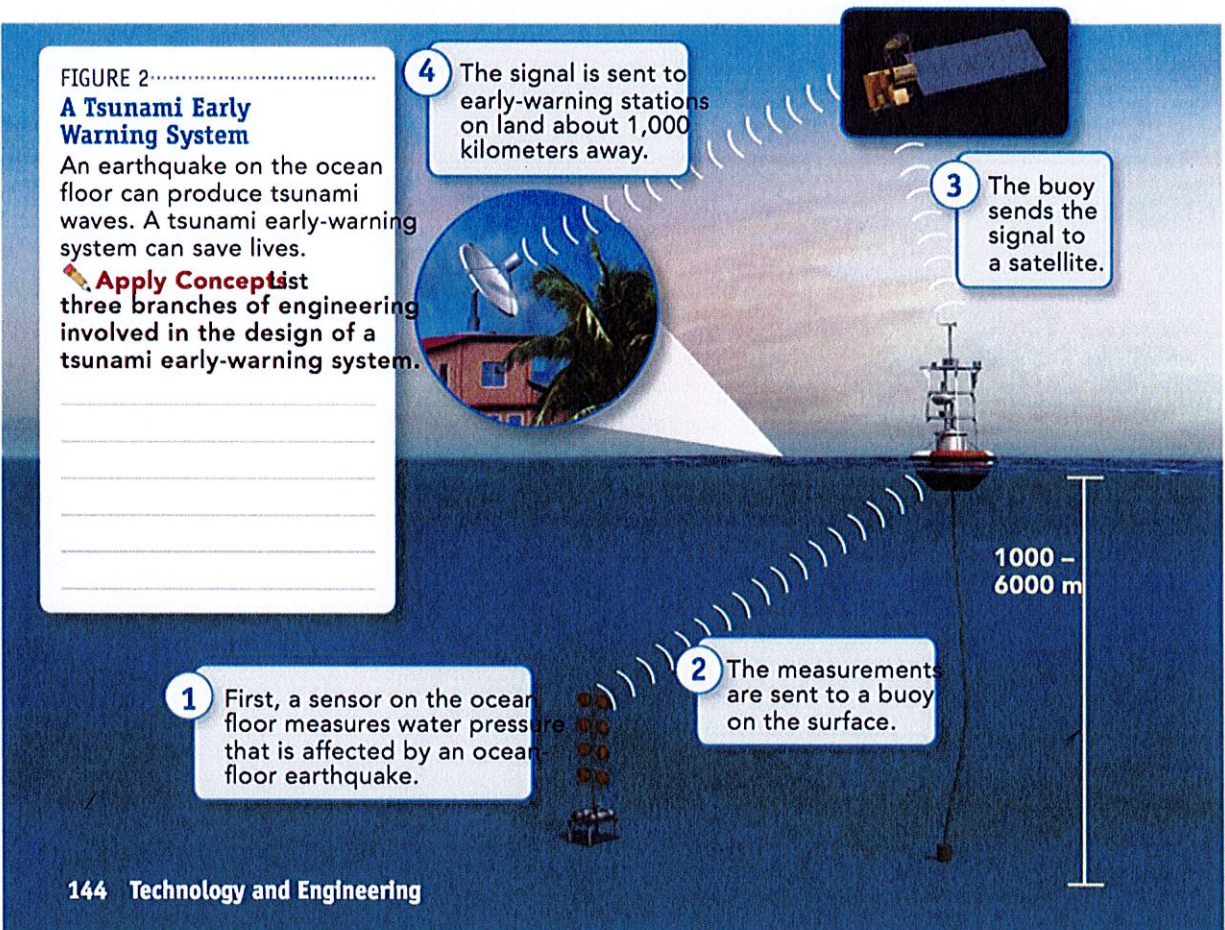


FIGURE 3

Useful Products

Hybrid cars save energy. PDAs save time and effort in your daily life.



Infer Under each photo, list two problems that each technology solves.



Blank lined box for writing answers for the hybrid car.

Blank lined box for writing answers for the PDA.

Saving Energy Engineers try to make products that use energy more efficiently. For example, engineers designed hybrid cars like the one shown in Figure 3, that run on both gasoline and electricity. They use less fuel and get better gas mileage. Engineers also designed light bulbs that provide brighter light with less electricity. Items like these benefit the environment.

Saving Time and Effort Engineers have also created devices that combine different functions to save you time. A PDA, or personal digital assistant, can serve as a handheld computer and a cell phone. A PDA phone is useful for making phone calls, storing data, sending e-mails, and sending information on the Internet.

Lab zone Do the Quick Lab *Advances in Transportation.*

Assess Your Understanding

2a. Review How does engineering benefit society?

Blank lines for writing the answer to 2a.

b. Make Judgments How have people's lives been improved by solar panels?

Blank lines for writing the answer to b.

got it?

I get it! Now I know that engineering benefits society by

I need extra help with

Go to **my science COACH** online for help with this subject.

Review and Reinforce

Engineering

Understanding Main Ideas

Answer the following questions in the spaces provided. Use a separate sheet of paper if you need more room.

1. What is an engineer's goal and what does he or she need to meet that goal?

2. What are six branches of engineering?

3. What are three ways in which the products designed by engineers improve our daily lives?

Building Vocabulary

Match each term with its definition by writing the letter of the correct definition in the right column on the line beside the term in the left column.

- | | |
|-------------------------------|---|
| 4. ___ aerospace engineering | a. the application of science to satisfy needs and solve problems |
| 5. ___ civil engineering | b. the application of engineering principles to biology and medicine to create processes and products |
| 6. ___ electrical engineering | c. the design, construction, and testing of airplanes and spacecraft |
| 7. ___ chemical engineering | d. the design, construction, and operation of machinery |
| 8. ___ engineering | e. the conversion of chemicals into useful products |
| 9. ___ mechanical engineering | f. the design and construction of roads, bridges, and buildings |
| 10. ___ bioengineering | g. the design of electrical systems |

Lesson Quiz

Engineering

Fill in the blank to complete each statement.

1. Engineers design products that improve our daily lives in many ways, including saving lives, _____, and time and effort.
2. _____ engineering includes the design and construction of roads, bridges, and buildings.
3. Engineers need both scientific and _____ knowledge.
4. Chemical engineering deals with the conversion of _____, such as oil, into useful products, such as diesel fuel.
5. The application of science to satisfy needs and solve problems is called _____.
6. Control and telecommunication systems are designed by _____ engineers.

Write the letter of the correct answer on the line at the left.

7. ____ Which branch of engineering consists of the design, construction, and testing of airplanes and spacecraft?
A civil engineering
B electrical engineering
C aerospace engineering
D mechanical engineering
8. ____ Which of the following would a bioengineer most likely design?
A a satellite
B a bridge
C an artificial limb
D a car
9. ____ Engineers designed a tsunami early-warning system, of which a main function is to save which of the following?
A time
B lives
C effort
D energy
10. ____ Which of the following is **NOT** something designed by an engineer?
A microwave
B planet
C zipper
D toothpaste tube