

1: Israeli Medical Inventions

1. **Let's Talk!** How much do you know about medical inventions from Israel?
- Which devices that are in use today can give the doctor a "picture" of what is happening inside a person's body?
 - Name a few other examples of medical inventions from the last fifty years that you've heard of.
 - What other medical inventions would you like to see developed?
 - In your opinion, why is Israel a center for medical inventions?

2. a. Match the vocabulary word in Column A to its meaning in Column B

Column A		Column B
1. accurately		a. someone who creates new products
2. equivalent to		b. not expensive
3. inventor		c. a person who is ill and sees a doctor
4. economical		d. disease
5. illness		e. the same as
6. devise		f. not surprising
7. no wonder		g. push down from the mouth to the stomach
8. swallow		h. create, develop
9. patient		i. without any mistakes at all

- b. Choose the correct meaning for the word in **bold**.

- Many **technological tools** enable doctors to find why their patients are ill.
 - tools invented using advanced knowledge*
 - tools that have been used for hundreds of years*
- There are new discoveries that can help a doctor **diagnose** his patient.
 - discover the cause of his problem*
 - find the right medicine for his problem*
- These new inventions help doctors find the source of the problem more **accurately**.
 - quickly*
 - correctly*
- The new devices can also cause the patient less pain and **inconvenience**.
 - trouble and difficulty*
 - time and money*
- Some new ways of diagnosing illness are more **economical** than older ways.
 - expensive*
 - inexpensive*
- One example is a **disposable** camera that can show the reason for stomach pains.
 - used once and thrown away*
 - used again and again*
- The camera is very small because the patient is supposed to **swallow it**.
 - put into his mouth and have it go into his stomach*
 - put it under his back and lie on it*

3. Complete the dialogue below using the words in the bank. Changes may be needed.

**invention, devise, economical, inconvenience, psychologically,
inventor, disposable, swallow, no wonder**

Chavi: Do you see the man standing at the corner? That's Mr. Solomon. He is an
(a) _____ who just developed a new medical device that can help people who are
not able to (b) _____ pills.

Shani: Taking pills is not so difficult. Why is his (c) _____ so special?

Chavi: Some children, and even older people, have to break pills into many pieces before
taking them, which is an (d) _____ and often quite difficult.

Shani: How does his product work?

Chavi: Mr. Solomon (e) _____ his product to look like a regular cup, with a plastic
shelf for holding the pill. A person can drink water from the cup as he always does,
and he swallows the pill without thinking about it. I understand the cup is very popular.

Shani: It is (f) _____ his product is popular. Some children are afraid to swallow
pills, and it is (g) _____ easier for them to just drink the water and not think
about the pill. Is the cup (h) _____, or can it be used many times?

Chavi: The same cup can be used for years. It is more expensive than a regular cup, but it is
quite (i) _____ when you think about how helpful it is.

4. Look at the title of the article. What inventions do you already know of from Israel?



Read the article and see if the invention you are familiar with is mentioned.

Israeli Medical Inventions

- 1 The Jewish religion considers each person to be very special. In fact, saving a human life is equivalent to saving the entire world. If so, it is no wonder that Israel is one of the major centers for medical inventions. Here are a few examples of new devices that were developed in Israel for the purpose of saving lives or improving the quality of life for those who are suffering from illness.
- 5 The first category of inventions are devices that are used to diagnose, or to discover, the fact that a person is ill, and the nature of his illness. This is essential since doctors can only treat a patient after his illness is diagnosed. The sooner the disease is identified, the quicker and more easily it can be treated. That is one reason a large number of Israeli inventors have invented devices which can identify diseases quickly and easily. One of these devices is the "SniffPhone", which was developed by a researcher in Haifa, together with experts
- 10 from other countries. The device is small, easy to use, and economical, and it can accurately diagnose certain types of diseases at its earliest stages, before they become life-threatening. All a patient needs to do is to hold the small device in his hand and breathe into it. His breath is automatically analyzed to make sure there is no sign of specific illnesses.
- Another example of an Israeli invention used to discover signs of illness was invented by a person named Gavriel Iddan, as a result of his own personal experiences. Gavriel suffered from stomach pains for a long time, and he
- 15 experienced the inconvenience and discomfort of tests carried out in the hospital to find the cause for his pain, sometimes without any success. Gavriel devised a disposable camera which is small enough to swallow. This very



small camera, called "PillCam", takes pictures of the stomach and sends information to a computer, and then leaves the body without causing any harm. Because of its small size, it is able to take pictures of the digestive system more easily and more successfully than had been possible before. In this way, a person can find out the reason for his stomach pain more conveniently and more successfully, without needing to stay in a hospital. Amit Goffer is another person who used his own personal problems as an incentive to create one of the great inventions in Israel. Amit was badly injured by a traffic accident, and he became handicapped, without the ability to walk. Amit spent a long time developing a way for people with back injuries to be able to get up from their wheelchairs and to walk again. His invention, called "ReWalk", is a like a "robot" that a person wears on his legs and hip. This technological device allows a person to stand on his own and to walk. ReWalk has changed people's lives. The ability to get up from the wheelchair and walk on their own not only makes life easier, but it helps people feel better physically, as well as psychologically. There are many other Israeli medical inventions. Some of them can cure illnesses, some can help cure heart problems without surgery, and others can reduce pain. In many ways, Israeli inventions are helping people around the world have longer and healthier lives.

5. Answer the questions below, in your notebook, according to the text you read in Exercise 4.

a. Circle TWO correct answers. Which of the following benefits of Israeli medical inventions are mentioned in the first paragraph?

1. Medical inventions show how special people are.
2. Medical inventions show when Israel became a world center.
3. In some situations, medical inventions can save people's lives.
4. They can help people who are suffering from illness have easier lives.
5. Because of these inventions, much fewer people are suffering from disease.

b. According to the text, why is it so important to be able to diagnose illnesses early?

c. Which of the following answers is NOT ACCURATE? The SniffPhone is...

1. used to cure disease.
2. convenient to use.
3. inexpensive.
4. able to find disease.

d. Why did Gavriel Iddan decide to develop the Pillcam?

e. What are the advantages of using the the Pillcam compared to previous methods used to find the cause of stomach problems? (List TWO advantages.)

f. 1. What do the SniffPhone and the PillCam have in common?

2. What do Gavriel Iddan and Dr. Goffer have in common?

g. Which of the following benefits of ReWalk is not mentioned?

Handicapped people who use ReWalk...

1. have fewer health problems.
2. are happier and in a better mood.
3. find it is less difficult to get things done.
4. never need to use a wheelchair.



6. Let's Write! Choose one of the medical inventions mentioned above and write an opinion essay about who and why it may be beneficial for that particular person.

Write between 100-120 words in your notebook.

2: Living Longer

1. Let's Talk! What do you think?

- a. Do you think that people are living longer than they used to? Why or why not?
- b. Do you have a grandparent, or great-grandparent, who is older than ninety years old? Do you know anyone who is ninety years old or older?
- c. Are the older people that you know active and able to take care of themselves?
- d. Whose obligation is it to help the senior citizens in our community who need help?
- e. How can we improve the quality of life of the older people in our families and in our communities?

Tip:

Remember, when you express an opinion,
you can use:

In my opinion.. / I believe.. /
I think that.. / I'm sure that..

2. a. Choose the correct meaning for the words in **bold**.

1. **From time to time**, our school has a program about how we can volunteer to help people in the neighborhood.
a. *Every week* b. *Occasionally*
2. Last week, we had a program about senior citizens who were lonely and who suffered from **depression**.
a. *sadness* b. *hunger*
3. Our teacher had a list of older ladies who lived alone. She **coordinated** the girls in the class, so that each girl had someone to visit once a week.
a. *organized* b. *counted*
4. She said that **participation** in the volunteer program was very important, as helping others always helps us too.
a. *talking about* b. *taking part*
5. I started visiting Mrs. B., who suffered from **weakness** and could not do any cooking or housework for herself.
a. *pain* b. *lack of strength*
6. I visited her **devotedly** every Tuesday, spoke with her and helped her cook.
a. *reliably* b. *enjoyably*
7. **Somehow**, I began to enjoy being with Mrs. B. and hearing her stories.
a. *After a while* b. *Without understanding why*
8. I understood how important my visits were, and that it was my **duty** to help her feel less lonely.
a. *my responsibility* b. *too hard for me*

b. In each line, choose the word that **DOESN'T MEAN** the same as the word in **bold**.

1. **gentlemen**: sirs men children
2. **eliminate**: bring get rid of take away
3. **caregiver**: helper mother aide
4. **sufficiently**: quickly adequately enough
5. **truly**: really happily truthfully

3. Choose the correct meaning for the words in **bold**.

- a. to **eliminate** something is to...
 1. explain it 2. get rid of it 3. look for it 4. follow it
- b. If you do something **devotedly**, you do it...
 1. with belief 2. truthfully 3. without giving up 4. without getting paid
- c. To **coordinate** something means to...
 1. match something together 2. make a difference 3. figure out 4. make use of
- d. A **caregiver** is...
 1. a doctor who treats sick children 2. a person who cleans others' houses
 3. someone who buys and sells old cars 4. someone who takes care of others
- e. **Participation** in a project means...
 1. organizing part of the project 2. hearing the details about the project
 3. being involved in the project 4. writing a letter about the project
- f. To do your work **sufficiently** means...
 1. that you work quickly 2. that your work is perfect
 3. that your work is good enough 4. that your work is not good enough



4. We are going to listen to a talk by Dr. Brown about helping senior citizens.

a. Before you listen, look at the list of topics below and guess which of them will be discussed in the program. Then, listen to the talk and check your guesses.

Topic	Discussed in the Program	Not Discussed in the Program
1. Names of new medicines that can help older people		
2. The difficulties that older people have		
3. Reasons that people live longer lives		
4. The reason that older people have memory loss		
5. The way the family can help older grandparents		
6. Who the caregivers are and where they come from		



b. Listen again and answer the questions below in your notebook.

1. Who are the people who come to the talk?
 - a. *doctors*
 - b. *family members*
 - c. *older patients*
 - d. *heads of the community*
2. Who does Dr. Brown say we should be helping?
3. Which of the following reasons why people are living longer is NOT mentioned?
 - a. *The air and water are cleaner than they used to be.*
 - b. *Doctors have new ways to treat illnesses.*
 - c. *It is easier to find the reason for diseases than it was in the past.*
 - d. *Some diseases that killed many people in the past do not exist today.*
4. Dr. Brown said that there is not enough research on the best way to...
 - a. *keep people healthy for many years.*
 - b. *help people live longer lives.*
 - c. *help people who are suffering from weakness.*
 - d. *help people enjoy their later years.*
5. What is one problem senior citizens might suffer from, according to Dr. Brown?
6. Dr. Brown listed a few chores that the caregiver can do. Write one of these chores.
7. Choose TWO correct answers. According to Dr. Brown, how can we make our grandparents feel useful?
 - a. *Take care of their physical needs.*
 - b. *Ask them for their advice and opinion.*
 - c. *Have them do their own housework.*
 - d. *Invite them to our house for a meal.*
 - e. *Have them take part in family events.*



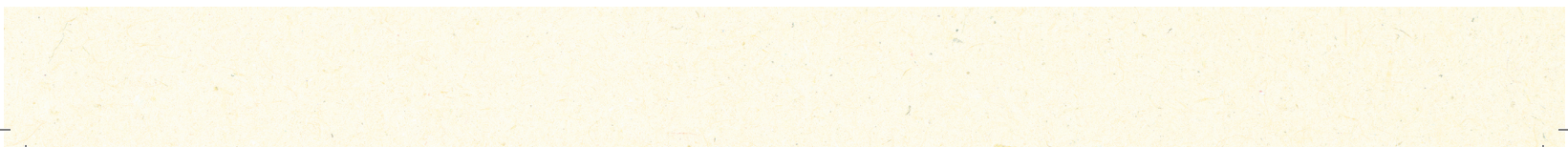
5. Let's Write!

Write a letter to an older person that you visit or know well, telling her about your day.

Ask for her advice or opinion about a specific topic of your choice.

If you don't have someone in mind, you can make up a person to write to.

Write between 100-120 words in your notebook.



3: What a Dilemma!



1. Let's Talk! In pairs, discuss the questions below. Remember the importance of the Mitzvah of honoring our parents when you discuss these questions.

- Medical advances have resulted in longer lives. Have they also resulted in a higher quality life for older people? Why or why not?
- Many years ago, grandparents lived together with their children, grandchildren and sometimes with great-grandchildren. What inspiration could the grandparents offer the children? What assistance could the children give to their grandparents?
- Today, older people often live alone. In what ways can their children and grandchildren give them the respect that they are entitled to?
- Some older grandparents may not be able to take care of all their needs anymore. How can the members of their family help them? At what point should they not be living alone?
- Should senior citizens who need help remain at home with a caregiver, or should they go to an establishment, like an old-age home?
- Under what circumstances should a grandparent move in to live with his children?



2. a. Match the word with its meaning.

1. response		a. connection, relationship
2. assistance		b. bother, interrupt
3. bond		c. lasting a long time
4. disturb		d. support or help for someone
5. permanent		e. when or where
6. deny		f. answer, reaction
7. at what point		g. reject
8. contribution		h. help



b. Choose the answer that has a similar meaning to the first sentence.

1. My mother is not working full-time **anymore**.
 - a. *My mother stopped working such long hours.*
 - b. *My mother never worked full time.*
2. My grandmother needs a lot of **assistance**, so my mother spends more time with her.
 - a. *Right now, my mother needs more help than she used to need.*
 - b. *My grandmother needs more help now than she used to need.*
3. My grandmother can still manage at home for a **limited** time, but with a lot of assistance from the family.
 - a. *My grandmother can still stay at home for a while, if she has help from the family.*
 - b. *My grandmother can stay at home for many years, if the family can help her.*
4. However, keeping grandmother at home alone cannot be a **permanent** situation.
 - a. *Eventually, the situation has to change.*
 - b. *The situation has to change immediately.*
5. My mother is considering the option of finding an **establishment** for senior citizens, where my grandmother can live and get the help that she needs.
 - a. *My grandmother can get the help that she needs by moving to a home for older people.*
 - b. *My grandmother can stay home and get help from an organization that sends volunteers.*
6. My grandmother's **response** to that option was not positive.
 - a. *My grandmother had no opinion about the idea.*
 - b. *My grandmother did not like the idea.*
7. My grandmother is worried that the **dynamics** of her daily life will change if she moves.
 - a. *My grandmother is worried that her daily routine will change if she moves.*
 - b. *My grandmother is worried that she will have to be more active if she moves.*

3. a. Complete the letter below, using words from the word bank. There are more words than needed.

**permanent, deny, assistance, establishment, bond,
disturb, response, anymore, dynamics, limited**

Dear Ettie,

There have been many changes in our home since my grandmother's caregiver left her. My grandmother was not able to stay at home alone (1)._____. At first, my parents were thinking of putting my grandmother in an (2)._____ for older people, but in the end, she came to live with us. As a result, we have to be quiet after 9:30 at night, so we do not (3)._____ her.

I will not (4)._____ the fact that, at first, I was not so happy with the situation. I was hoping that her living with us would be for a (5)._____ time and that it would not be a (6)._____ situation.

Now that my grandmother has been living with us for a few weeks, I am happier with



the change. The (7)._____ between her and us, the grandchildren, is much stronger than it was before. The (8)._____ at home are in some ways better now than they were before, because we are all sensitive to my grandmother's needs. All in all, having grandmother at home has been of great (9)._____ to the closeness of the family.

b. In your notebook, write an example of something...

1. that can **bother** you.
2. that you used to do, but do not do **anymore**.
3. you can do to improve the **dynamics** in the class or in the school.
4. you can do in for a **limited** time but cannot do **permanently**.
5. that is a positive aspect of a senior citizen, living in a senior citizen **establishment**.



4. In groups of three or four, discuss the following dilemma. Your 95-year-old grandmother is living alone. Until now, she managed to take care of herself, but now she needs a lot of assistance, and she cannot be alone anymore. You, her grandchildren, are looking for the best way to take care of her needs. Discuss the following points and try to make a decision.

- a. The assistance needed for a limited amount of time.
- b. A permanent solution to make sure the grandmother gets the care that she needs.
- c. The options that you are considering.
- d. The advantages and disadvantages of each option.
- e. The contribution that the family members can make, to help her get used to the change.
- f. The best way to maintain the bond between her, her children and grandchildren.

5. Present your decision to the class. Describe the needs of "your grandmother", the various options that you considered, and the option that you chose. Explain why you chose that specific option. In addition, suggest ways that the family members can help the grandmother in her new situation.



6. Let's Write! One of your sisters lives in England and was not involved in the decision that you made. Write her a letter, in your notebook, explaining your decision, as well as the reason that you chose that specific option. Write between 120-140 words.



4: How to Invent Something



1. Let's Talk! In pairs, discuss the following questions.

- Have you ever dreamt of inventing a product?
- Do you know anyone who invented a product?
- How does an inventor think of and decide what creation he wants to invent?
- Why is it important for the inventor to confirm that his invention is original?
- How can the inventor make sure that no one copies his invention?

Tip: Remember, when you describe an idea, you can use:

One thing about it is.. / The best way to do it is.. / It's always good to..

2. a. Match the question in Column A with its answer in Column B.

Column A	Column B
1. That's an irregular lamp. Where did you get it?	a. My aunt thought of this unusual invention because she likes to design living rooms, and this lamp can fit into any room.
2. Why did your aunt feel a necessity to invent a lamp? What's different about it?	b. She has applied for a patent to keep her invention safe.
3. How did she think of the idea of making such an unusual creation ?	c. Yes, she did research on all the lamps in the market to make sure that no one else invented this kind of a lamp.
4. Did she make many drafts of the lamp before producing this one?	d. I received it from my aunt. She just finished inventing it, and she wanted me to try it out.
5. So she had to make revisions in her drafts. Does this one work well?	e. Yes, she is planning to do the marketing from her home.
6. Did your aunt do an investigation in order to confirm that no one else makes this kind of lamp?	f. My aunt loves unusual things, like this lamp. It changes colors to match the color of the room.
7. Is your aunt planning to sell her lamp after it works better?	g. Yes, she drew at least 5 different plans, but this is the first model that she made, and she wants me to see if it works well.
8. How is she going to make sure no one steals her ideas?	h. It needs a few changes, but I am sure my aunt will figure out what to do.

b. The sentences below explain how to invent something. Rewrite the sentences in your notebook using the words in the word bank instead of the words in **bold.**

market, keep on trying, necessity, investigate, patented, draft, diverse, lawyer

- Think of a problem that you have and the **need** to find a solution.
- Think of **different** ways you can solve the problem.
- When you think of a solution, draw up a **plan** to see how it would work, before building it.
- If your invention does not work at the beginning, **continue to work at it**.
- Check carefully** that no one already invented the same product.
- After you finish with your invention, you may decide to make sure that your invention is **listed as belonging to you**.
- Some people meet with an **expert in the laws** of patents, so that no one else will be able to copy their invention.
- Finally, you can think about the production and **selling** of the product.

3. a. Fill in the parts of speech in the table below.

Noun	Verb	Adjective	Adverb
1.	create		
2. diversity			
3.		marketable	----
4. revision			----
5.	patent		----
6.	necessitate		

b. Use word families from the table that you completed in Exercise 3.a. to complete these paragraphs.

- We like to acquire many things in life, but some of the things that we buy are not a. _____ but things that we want. While raising children **necessitates** that we buy food and clothing for them, it is not always b. _____, to buy them the toys that they ask for. Buying a child everything he needs is not c. _____ the best thing for him.
- Our school **diversified** its program, and now it offers many a. _____ courses that can help us in the future. Because of this b. _____ each girl can find a course that suits her.
- I had to make a. _____ in my English project after the teacher gave me comments. I had to b. _____ the introduction and the table of contents. I hope the c. _____ version is better.

c. Write three more sentences, in your notebook, using words from different word families.



4. Look at the title of the article below. What do you think you'll learn? Read and find out.

"Invent-a-Product"

- Have you ever thought of becoming an inventor? If so, you are not alone. In fact, in the year 2020, there were hundreds of thousands of new inventions that were developed in the United States alone. The inventors of these creations put in a lot of thought, time, and effort in planning and producing these items. They also worked on receiving a patent for their invention, which is an official acknowledgement
 - that this invention is theirs. A patent keeps an inventor's creation safe and prevents others from copying it and taking money for it.
- For many of us, creating a new invention seems almost impossible. Yet according to Jeremy Rutman, who is a lawyer specializing in patents, inventing a new product is not as difficult as it seems. In an article called "Invent-a-Product", Professor Rutman explains the steps that are necessary in order to develop the new
- invention you have always dreamed of creating.
- The first step is to think of a problem that needs a solution. For instance, the person who devised the "Kankomat", a milk holder with a small knife for opening a bag of milk, thought of the idea while he was looking for scissors to open a bag of milk. In fact, most inventions are created out of necessity, as a solution to a problem. After you come up with a problem, think of several diverse ways to solve the
- problem. The solution may be in the form of an item, or it may be a service that you can offer that is not available as of now. You may even have an idea about how to improve a product that already exists. Even if your solution is irregular or different, it does not mean that it is not worth developing.
- The next, and very important step, is to confirm that your idea for an invention is original. You need to find out if anyone else has already invented and patented the product that you were thinking of
- inventing. This investigation may take some time, and you may need some help with it, but before you start marketing your new invention, you must make sure that your new invention is really new.



The last step in developing your creation is to make a model of it. Build your product or write a summary of the service that you will offer, and make sure your plans are practical. Your first draft of the product or the service may not work well, and your plan may need revisions, but don't give up. Keep on trying, until your invention really works.

Congratulations! You discovered a need, you thought of a solution, you made sure your idea is original, and you developed a plan that will work. Now is the time to advance to the next step, and to decide how you will manufacture and market your invention. If you created a service, it may be enough to advertise your service, and see how successful it is. If your invention is a product, it must be made somewhere. You must decide if you want to start a small business and produce the invention yourself, or if you would rather sell your invention to a company that is interested in producing it. Another decision that you must make, is whether you want to acquire a patent for the invention or not.

To some people, creating a new invention may seem to be a long and tiring process, while for others, it may be an exciting adventure. Nevertheless, for the potential inventors among us, inventing a new product may make a difference in your lives and in the lives of others.

5. Answer the questions according to the article in Exercise 4 in your notebook.

a. The first paragraph explains why...

1. *there were so many inventions developed in 2020.*
2. *inventing a product takes a lot of time and effort.*
3. *it is often important to get a patent on an invention.*
4. *anyone would want to copy someone else's invention.*

b. The "kankomat" is an example of a product that...

c. Choose TWO correct answers. What are some of the things that a person can do to help him invent a solution to a problem? (Paragraph 3)

1. *He can think about the necessity of finding a problem to solve.*
2. *He can think of various ways to solve the problem.*
3. *He can find a service that will help him think of solutions.*
4. *He can find a way to make a product better.*
5. *He must make sure that his ideas are irregular and different.*

d. Before you develop your invention, you must investigate whether..... (Paragraph 4)

e. After you finish working on the model of your invention, you may need...

1. *to change some of the details of the model.*
2. *to find a store that will sell the model.*
3. *to advertise the invention the way it is.*
4. *to write an outline explaining how you made the model.*

f. What is ONE thing you need to do in order to turn your idea for an invention into a product that you can sell?

g. What is the most important advantage of inventing a new product that the writer mentions in the last paragraph?



6. Let's Talk! In pairs, act out a situation where one girl is telling her friend about her idea for an invention. One friend describes her idea and the other asks questions about it. You can switch roles afterwards. Your questions and answers can be creative and humorous. Include at least 3 new vocabulary words in your presentation. Present your role play to the class.

5: Let's Be Inventors

1. Let's Talk! Let's imagine that you are an inventor.

- What do you want to invent?
- What is your intention in making this item?
- Can you claim that your invention makes life easier?
- Can you demonstrate how the invention works?
- Can you make a drawing of the new invention?
- Do you think that the new object will be profitable?

Tip: When we imagine a situation, we could use:
It could be.. / I might.. /
It's possible to..

2. a. Match the vocabulary word to its meaning.

1. feature (n)	a. race, game with a winner
2. competition	b. summary, plan
3. claim (v)	c. picture, sketch
4. outline	d. characteristic
5. estimate (v)	e. say, declare
6. drawing	f. guess, evaluate

b. Choose the word in each line that is DIFFERENT than the word in bold.

- anybody:** no one anyone any person everyone
- claim:** say justify tell as true deny
- intention:** reason objective process goal
- relevance:** approval importance significance impact
- profitable:** beneficial affordable money-making worthwhile
- comment:** opinion statement observation question

3. Complete the following dialogue, using the words in the word bank. Make necessary changes. There are more words than needed.

feature, competition, anybody, comment, outline, intention, relevance, estimate, drawing

Rivki: Leah, did you hear that there is a (a)_____ between our class and the tenth grade?

Leah: Yes, I did. Each class has to come up with a way to make our school more beautiful. Our teacher told us that the (b)_____ of this activity is to make the students care more about their school.

Rivki: I understand. If the girls work hard to make the school nicer, it shows that the school has (c)_____ in their lives. What do we have to do in order to win?

Leah: Both classes have to plan a way to design their classroom so that it will be an enjoyable place to learn. Each class must give in an (d)_____ of their plans and of the materials that they need to buy. They also have to give a presentation showing the (e)_____ of their ideas, and some (f)_____ on why their idea is best. They must also (g)_____ how much the materials will probably cost.



Rivki: I would like to help design our classroom. Who do I need to speak with?

Leah: Our teacher said that (h)_____ who wants to be part of the committee should see her after school.

Rivki: That is exciting! Thank you so much for telling me about it.



4. Let's Write and Talk! You and your class have been invited to a competition for young inventors. In order to compete, you have to follow the instructions given.

a. In groups of three or four, think of an invention that can make life easier. Your invention may be imaginary or humorous, and it does not have to be practical. Your invention can be a service or a product, but it must be different from anything that is available today.

Tip: If it is difficult to think of an idea, think about small inconveniences in life, and try to find a solution to them.

In your notebooks, fill in the information you need to complete the form below. In Question 8, write a comment about your invention, to show why you think it is worthwhile.

1. The name of my invention.
2. My intention in creating this invention.
3. Its most important feature.
4. The relevance of this invention in daily life
5. A description or a drawing of the way the invention will look.
6. An outline of the steps needed to produce this invention.
7. Complete the following sentences:
 - a. *I estimate that the new product/service will take... to produce.*
 - b. *I think it will be profitable because...*
 - c. *I claim that my invention will help people because...*
8. Additional comments.



b. Present your ideas to the class, describing your invention and explaining why it is important. If possible, demonstrate how your invention works, or show a picture illustrating how it might look.

c. As each group presents its invention, you should write feedback on the various inventions in your notebook. The feedback should relate to the following topics:

1. The name of the invention presented.
2. The function or purpose of the invention.
3. Its relevance to your life.
4. Its importance to society.
5. The way the invention was presented.
6. Other comments.



5. Let's Write! In your notebook, write a short composition describing two of the inventions that were presented in class explaining why these are the two inventions that you chose. Use your notes from the feedback from Exercise 4.c. to help you. You may choose the two you felt were most interesting, most humorous, most practical, or were presented nicely. Explain why these inventions have the potential to benefit someone or to make life easier. You may also compare the two inventions and explain why they are similar or why they are different. In summary, write why you feel that these two groups should take part in the competition.

You can use the following outline as you write your impressions.

Paragraph 1: Introduce the topic.

Paragraph 2: Describe the first invention, and write the reason you chose to write about it.

Paragraph 3: Describe the second invention, and explain why you chose to write about it.

Paragraph 4: Summarize your ideas and write your conclusions.

Note: Each paragraph must have at least two sentences.

Write between 120-140 words.



6: Technology and Halacha

1. Let's Talk! Think about what you have in your home.

- Which electric appliances do you have in your home?
- Have these appliances been affected by computerization?
- Which of the appliances can be used on Shabbat? Did they need to be adapted in order to use them?

2. a. For each definition, write the correct word from the bank below.

science, show up, resolve, inquire, knowledgeable, consultant

Definition	Word
1. familiar with a lot of information	
2. appear suddenly	
3. the study of the forces and objects that Hashem created in the world	
4. ask	
5. someone who gives advice	
6. find a solution	

b. Choose the correct meaning for each word in bold.

- In the 1960s, there was a technological **revolution** that changed how things worked.
a. a change which affects many people b. something that happens suddenly
- At that time, many household **appliances**, like the refrigerator, began to work differently than 10 years earlier.
a. furniture b. machines
- Engineers** worked on creating complex appliances with certain advantages.
a. a person who designs and makes machines b. a person who sells old machines
- They began producing **electronic** appliances, which work better and save electricity.
a. automatic, smart b. fancy, elegant
- These electronic appliances are prepared in **factories** throughout the world.
a. where engineers study b. where products are manufactured
- Some of these electronic appliances have to be **adapted** so that it is possible to use them on Shabbat.
a. modified, have changes made b. used with the correct setting
- After the appliances are adapted, it is possible to use them without **compromising** on our values.
a. strengthening b. giving up



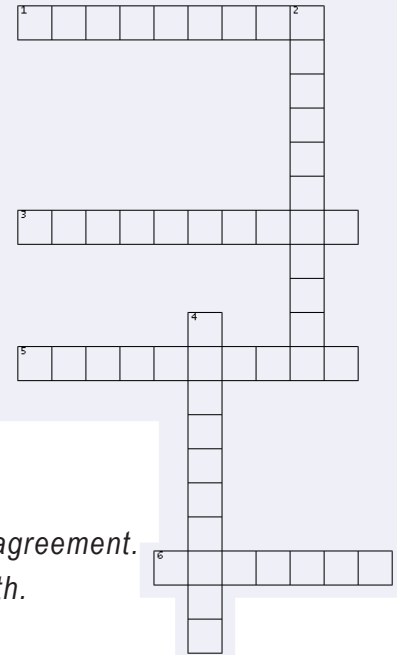
3. a. Complete the crossword puzzle below. Use the clues to fill the correct words.

ACROSS

1. machine found in the home
3. a change which affects many people
5. making a decision that helps you come to an agreement with someone else
6. a place where products are made

DOWN

2. using computer parts to control electricity
4. someone who gives advice



b. In your notebook, write a sentence about...

1. an appliance that you have in your home.
2. a compromise that you made with someone in order to resolve a disagreement.
3. a person that you know who is knowledgeable in medicine and health.
4. a revolution that took place in the last one hundred years.
5. something that happened when someone showed up without telling you they were coming.

4. a. We are going to read about the Institute of Science and Torah, which was started by Rabbi Halperin more than fifty years ago. Why do you think there was a need for the Institute? Which types of experts do you think are needed there?



b. Read the article and see if your ideas are correct.

The Institute for Science and Halacha

- 1 Technology has brought about many changes in our times. On a personal level, technology has affected the way our home appliances work, the way people protect their homes, and the way hotel doors open. While these changes make life easier for some, they are often problematic for Jews who keep Shabbat. For example, while the older refrigerators could be used on Shabbat as long as you remembered to turn off the light, the newer refrigerators are so computerized that opening the door will
- 5 automatically cause electronic changes. Moreover, this is only one example of the many problems that can come up in appliances and in other fields. For this reason, Rabbi Levi Yitzchak Halperin, of blessed memory, established The Institute for Science and Halacha in the year 1965, when the technological revolution was still in its beginning stages. The Institute employs knowledgeable rabbis and experienced engineers who work together to find solutions to the Halachic problems in every area of life.
- The Institute, the first of its kind, is acknowledged throughout the world for its ability to solve difficult questions
- 10 without compromising on Torah values. One of the earliest examples that illustrate this point, is the unusual incident that occurred almost forty years ago, when unusual guests showed up at Rabbi Halperin's office. One of the guests was a prince from Saudi Arabia, dressed in his traditional clothing, and the other was a Japanese businessman. The prince, who was the son of the Saudi Ambassador¹ to Hong Kong, had joined the businessman to set up a factory in Japan to produce electronic locks for hotel rooms. The business was very successful, and all of the hotels in Hong Kong used the new electronic
- 15 system. However, the new system caused one of the most important hotels in the city to lose many customers. This was because a large number of Jewish businessmen from the United States, who used to spend a few weeks at a time at the hotel, were no longer able to stay there, since they could not open the doors of their rooms on Shabbat. The Saudi prince and the Japanese businessman were anxious to resolve this issue, so that everyone could benefit from their product. Rabbi Halperin, who was familiar with the electronic lock system, was able to explain in detail how the locks can be adapted to
- 20 enable religious Jews to use them on Shabbat.
- Today, the Institute works together with private people, as well as with hospitals, factories, and government offices

¹ ambassador - שגריר

such as the Electric Corporation, to find ways to guarantee that new technology does not harm those who keep Torah law. Distinguished rabbis often turn to the Institute to inquire about new products and their status, and private people from Jewish communities throughout the world turn to the Institute to find answers to their personal questions. The Institute has a team of consultants who spend time with engineers, designers, manufacturers, and heads of public institutions to solve Halachic problems that are caused by new technology. In addition, the Institute publishes many books about the way new inventions may be adapted for use on Shabbat, and under what circumstances they may be used. Many aspects of our world are changing, often for the better. Thanks to the hard work of The Institute for Science and Halacha and other institutes like them, a large number of technological advances in every area of life can be adapted to allow Jews to benefit from the advantages of technology, without compromising on Halacha.

5. Answer the questions below, in your notebook, according to the article in Exercise 4.

a. The first paragraph discusses new advances in technology to explain...

1. *why life is easier today than it used to be many years ago.*
2. *how new refrigerators are different than they were in the past.*
3. *why it was important to set up The Institute for Science and Halacha.*
4. *why The Institute for Science and Halacha needs to hire rabbis and engineers.*

b. Which of the following topics in NOT mentioned in Paragraph 1?

1. *Why new refrigerators are so computerized.*
2. *Why the Institute was started in the year 1965.*
3. *Why appliances today may cause problems.*
4. *Why the Institute employs rabbis and engineers.*

c. Complete the sequence of cause and effect that is described in Paragraph 2.

1. ...

As a result, Jewish people could not open hotel doors on Shabbat and they stopped coming to the hotel.

2. ...

Rabbi Halperin was able to tell them how they could solve the problem.

d. The fact that Rabbi Halperin was able to help the Saudi prince and the Japanese businessman is mentioned to prove that...

e. Which of the following is NOT mentioned as one of the activities of the Institute?

1. *Answer questions to rabbis of communities about technology and Halacha.*
2. *Give advice to companies who want their products to be used by everyone.*
3. *Publish books explaining how it is possible to use certain products.*
4. *Produce appliances and other equipment that can be used on Shabbat.*

f. Choose the correct word to complete the sentence.

According to Paragraph 4,... of the new inventions can be used by Jews who keep the laws of the Torah, because of the hard work of The Institute of Science and Halacha.

1. *all* 2. *most* 3. *many* 4. *very few*



6. Let's Write!

Write a paragraph describing an appliance or any equipment that you have in your home that has changed in the last few years because of modern technology. Include your opinion on the change, and whether the equipment or appliance can be used on Shabbat. Write between 100-120 words in your notebook.

7: Ask the Rabbi from The Institute of Science and Halacha

1. Let's Talk! Rabbis from The Institute of Science and Halacha, that we read about in the previous section, answer many new questions of Torah law that have come up in our times, specifically about keeping Shabbat.

- Why do you think there are so many new questions that need answers?
- Do you have a Shabbat mode on your refrigerator? How do you set it?
- If someone does not have a special Shabbat mode, how can he open the door of his refrigerator on Shabbat?
- Give other examples of questions that people can ask relating to technology and Halacha.

2. Choose the correct meaning for the vocabulary words in each group. Not all the definitions are needed.

Group 1:

Column A		Column B
1. prohibition		a. the specific way that something works
		b. riding on water skis on the sea
2. surface		c. allow, let
		d. the special design on the label of a product.
3. chemical		e. the top or outside layer of something
		f. relating to the way natural material behaves
4. mode		g. application
		h. relating to the way small children behave
5. permit		i. for that reason
		j. something that is important to do
6. use		k. something that is not allowed to be done
		l. consulting

Group 2:

Column A		Column B
1. property		a. exactly
		b. therefore
2. specifically		c. how it used to be years ago
		d. the things that someone is doing
3. accordingly		e. moreover
		f. the things that belong to someone
4. insurance		g. prevent something from happening
		h. unusually
5. old-fashioned		i. protection of property
		j. the way to do something

- 3. Complete the story below with the words in the word bank. Make the necessary changes. There are more words than you need.**

to blame, old-fashioned, mode, prohibition, use, specifically, permit, surface

Until last month, I had an (a)_____ refrigerator that was twenty years old. Every Friday, my father turned off the light, so there was no (b)_____ to open the door on Shabbat. There were times when my little brother turned on the light on Shabbat, and he was (c)_____ for the fact that we could not use the refrigerator until the end of Shabbat. Now, we have a new refrigerator, with a shiny white (d)_____. It also has a special automatic Shabbat (e)_____. That means that the (f)_____ of the refrigerator on Shabbat is (g)_____, without any special preparation.



- 4. The Institute for Science and Halacha offers an opportunity to talk to the rabbis to ask questions. We are going to listen to conversations that are based on questions and answers that were among those that appear in the journals of the Institute.**

Listen to the conversations, and answer the questions below in your notebook.

a. The first question is about a baby spoon that changes color...

b. Why is it permitted to use the spoon?

1. *Because it prevents the baby from getting hurt.*
2. *Because the change is only on the surface*
3. *Because no one actually colored on the spoon.*
4. *Because the change is chemical.*

c. The question about a light with an electronic eye does not mention...

1. *what makes the light go on.*
2. *how strong the light is.*
3. *the reason that he wants this light.*
4. *where he wants to put the light.*

d. Why can the electronic light not be used on Shabbat?

1. *It might make people come to his property.*
2. *Because the insurance recommended it.*
3. *He would benefit from it intentionally.*
4. *It might cause people to worry.*

e. In old-fashioned clothes dryers, it was permitted to take out clothes from the dryer on Shabbat only... before Shabbat.

f. A new clothes dryer can be opened on Shabbat if...

g. In the last question, the rabbi from Monsey explains the reason...

1. *that his refrigerator does not have a Shabbat mode.*
2. *that he bought an electronic refrigerator.*
3. *that the people in his community want to avoid problems.*
4. *that he is a rabbi of a synagogue in Monsey.*



- 5. Let's Write! Think of a situation where you may have a Halachic problem because of technology. It can be imaginary, or it can be a situation where you already know the answer. Write a letter to The Institute of Science and Halacha explaining your problem.**

Do not forget to begin your letter with an introduction and end with words of thanks.

Write between 100-120 words in your notebook.

8: Nanotechnology



carbon molecule



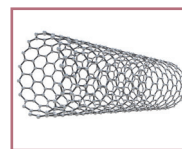
piece of charcoal



graphite



diamond



nanotube

1. Let's talk!

- The pictures above are all products of the element carbon. Which of these products are natural? Which are a result of technology?
- What do you think nanotechnology is? What does it mean?
- Can you think of any advantages to making products with parts that are so small, you can barely see them?

2. a. Circle the word that DOES NOT have the same meaning as the word in bold.

- implications:** location, meaning, importance, conclusion
- tiny:** very small, little, huge, miniature
- risk:** threat, safety, danger, possibility for bad
- approximately:** more or less, almost exactly, about, favorably
- promising:** negative, encouraging, favorable, positive
- exceptionally:** very, extremely, usually, especially
- production:** prohibition, manufacturing, creation, invention

b. Choose the correct meaning of the words in bold.

- Carbon is one of the natural **elements** in the world.
a. substances b. buildings
- The **width** of my bedroom is three meters.
a. from side-to-side b. from top to bottom
- We have hot water from a **solar** water heater.
a. energy from electricity b. energy from the sun
- When you **multiply** three by ten, the answer is....
a. $3+10=13$ b. $3 \times 10=30$
- Nanotechnology is a kind of technology that uses components with very small **measurements**.
a. few places b. small sizes
- Many people think that nanotechnology will be used **extensively** in the future.
a. very often and in many ways b. with a lot of money
- Some feel that the use of technology has a **promising** future.
a. optimistic b. doubtful

3. a. Complete the following sentences, using the words in the word bank below. There are more words than needed.

width, promising, approximately, extensively, measurement,
production, implications, exceptionally, element, tiny



Before my sister got married, my parents began looking (1)_____ for advertisements about apartments for sale. One advertisement seemed to be very (2)_____, since it was in our neighborhood and it was not expensive. However, when my parents and my sister looked at the apartment, they realized that it was (3)_____ small. In fact, the (4)_____ of the bedroom was only two meters, and the (5)_____ of the whole apartment was (6)_____ twenty square meters.

My sister said that for a while she would rather live near us in a (7)_____ apartment than live far away, but that eventually she and her future husband would probably move to another city. I was not so happy to hear that, since the (8)_____ of their moving far away are that I would not be able to see my sister very often.

b. Draw a chart like the one below in your notebook. Write the sentences below in the correct column.

Reasons to Use Nanotechnology	Reasons Not to Use Nanotechnology	Neutral Information
-------------------------------	-----------------------------------	---------------------

1. A nanometer is so **tiny** that it is **approximately** the size of a molecule.
2. Through nanotechnology, it is possible to work with molecules of various **elements**.
3. Nanotubes are very **promising**, because they make items that are strong.
4. Because of their benefits, many companies are using nanotubes **extensively** in **production**.
5. Some people think that there are **risks** in using nanotechnology.
6. Nanotechnology is good for the environment because it can **multiply** the power of **solar** heaters.
7. No one knows the **implications** of using massive amounts of nanotubes.



4. So now you know a little bit about nanotechnology. Read the article below and find out more.

What is Nanotechnology?

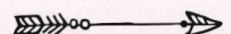
1 You have all heard of a millimeter and perhaps a micrometer, which is one millionth of a meter, but have you ever heard of a nanometer?

A nanometer is a measurement that is one thousand times smaller than a micrometer, approximately the size of a molecule. Just to get an idea of the size that we are talking about, the width of a human hair contains about eighty thousand nanometers. As small as a nanometer is, researchers have found that nanotechnology, which means working with such tiny amounts of material, may have great potential to help society.

The reason that nanotechnology is so promising is that it can make many substances much stronger and easier to work with. For example, carbon is an element that is very common in our world. It is found in a soft rock called graphite, and it is also found in diamonds, which are much harder. Using nanotechnology, carbon can become exceptionally strong and light, much stronger and lighter than any other material found in the world. As a result, companies around the world are developing nanotubes, which are cylinders made of the molecules of carbon. These companies hope that this technology will be able to improve the quality of life in many different ways.

Some of the improvements that they hope to achieve are environmental. For example, nanotechnology may soon be used to multiply the amount of solar energy that is produced in the world. In fact, it is estimated that it will be possible to produce almost 10,000 times the amount of solar energy

Tip! This article includes a few technical words that you may not know. Continue reading, and you will find the explanation of these words.



- 20 than can be produced today. Nanotubes can also be used to help clean rivers and seas that are polluted. In addition, nanotechnology can solve many health problems, and can be used extensively in manufacturing. Advocates of nanotechnology say that nanotechnology will allow the production of many items that are smaller, easier to use, need less energy, and cost less than similar products that are available today.
- 25 On the other hand, some people are concerned about the use of nanotechnology. They say that it is important to think about the risks involved, and not to focus exclusively on the benefits. They say that the implications of nanotechnology have not properly been studied. For example, opponents of the rapid development of nanotechnology point out that we do not know how massive use of nanotubes will affect our surroundings. Actually, there has been very little research on the possible threats of
- 30 nanotechnology to health, to society, and even to the environment. For example, no one knows how large number of nanotubes that stay in the sea will affect the water or the fish. Because of this question and many others, some organizations have called on governments to stop the development of nanotechnology until there are serious studies on its possible consequences.
- Should nanotechnology be developed because of its advantages? Should it be considered a potential
- 35 threat to our economies, our health, and our environment? At this point, there is not enough research on the topic to allow governments to make a knowledgeable decision.

5. Answer the questions below, in your notebook, according to the article in Exercise 4.

a. The purpose of the first paragraph is to...

1. *compare the sizes of different measurements.*
2. *describe the size of a carbon molecule.*
3. *define the word nanotechnology.*
4. *explain how nanotechnology can help society.*

b. In Paragraph 2, the article mentions carbon as an example of...

c. Give one example of how nanotechnology can help the environment.

d. Which of the following advantages of producing things made from nanotubes are NOT mentioned in the article?

1. *It will be possible to produce things more quickly.*
2. *The products will be more convenient to use.*
3. *The products will be less expensive.*
4. *The products will be energy efficient.*

e. Write one possible reason that nanotechnology may have risks along with the benefits.

f. Because of the possible risks, some recommend...

g. What is the writer's opinion about the use of nanotechnology?

1. *It has many advantages.*
2. *It has many risks.*
3. *No one will ever know.*
4. *More information is necessary.*



6. Let's write! Write a letter to a newspaper, expressing your opinion about whether or not it is worthwhile to continue developing products using nanotechnology. You can choose one side or the other, even if you do not have an opinion on the topic.

In the first paragraph, introduce your topic. You may also write your opinion in short.

In the second paragraph, explain the reasons for your opinion.

In the last short paragraph, write a conclusion, again stating your opinion.

Base your opinion on the information in the reading comprehension, but do not copy sentences from the article!

Write between 120-140 words in your notebook.

9: Technology – Good or Not?



1. Let's Talk! In this unit, we learned about different aspects of technology. In groups of three students, discuss the following questions. Your group will then present the points you felt are most important, in a class discussion.

- What are the technological aspects we learned about?
- Which technological advances in the field of medicine have been developed in the last fifty years? How have they helped people live longer and healthier lives?
- Can technology affect the ethical values of society? If so, in what way?
- What are the benefits of the technological revolution on the economy of our country?
- What are the benefits in our everyday lives?
- As a whole, does technology make the lives of religious Jews more difficult? If so, what can be done to overcome these difficulties?

2. Match the questions and their answers.

1. What topic are you going to talk about? ____	a. Yes, I think that, as a whole , nanotechnology can benefit society.
2. When you look at different sides of the issue, do you think that nanotechnology will make our lives easier? ____	b. I do not see any problem of values in changing the form of the elements. We are allowed to make changes in nature, as long as we use these changes for positive reasons.
3. Are there financial benefits to developing products using nanotechnology? ____	c. Yes. First of all, it will soon be possible to diagnose diseases more easily.
4. Do you think it is ethical to make such extensive changes in the way elements react? ____	d. In short, I feel that companies should continue developing their products using nanotechnology. There are probably more benefits than risks.
5. Can nanotechnology also benefit the field of medicine? ____	e. I am going to address the issue of nanotechnology.
6. In conclusion , do you think that companies should continue to develop products using nanotechnology, even though there are risks? ____	f. Yes, there are. These products will be cheaper to make, and they will help our economy .

3. Complete five of the following sentences, in your notebooks, so that they can be used in an opinion essay about the technological revolution. Use the vocabulary we learned in this unit.

- The technological revolution is promising/profitable because...
- The contribution of technology to our health and well-being is...
- Electronic appliances can work better because...
- On the surface, it seems that...
- However, in the long term,...
- No one knows the implications of...
- The technological revolution may be to blame for...
- It is no wonder that...
- In conclusion, I claim that...



4. Let's Talk! In this unit, we have learned about the technological revolution.

Working in groups of three or four, discuss your opinions on different aspects of technology. You may discuss the aspects that you learned about in Unit 3, or you may discuss additional aspects.

The table below can help you organize your thoughts. Copy it into your notebooks to help you.

Aspect #1:	a. Advantages
	b. Disadvantages / Difficulties
	c. What can help overcome difficulties:
Aspect #2:	a. Advantages
	b. Disadvantages / Difficulties
	c. What can help overcome difficulties:
Aspect #3	a. Advantages
	b. Disadvantages / Difficulties
	c. What can help overcome difficulties:



5. Let's Write! You are going to write an opinion essay about the use of technology.

You can use the information you and your group discussed to help you, but you must write this alone. You are to write between 120-140 words in your notebook.

Before you begin writing, organize your thoughts. Decide which aspect/aspects of technology you will address, which advantages and disadvantages you will mention, and what your final opinion is. The outline below is one example of the way you can organize your writing.

Advantages and Disadvantages of Technology

Paragraph 1: Introduce your topic. You may also mention your opinion.

Paragraph 2: List two or three advantages, explaining why they are beneficial and giving examples.

Paragraph 3: List two or three disadvantages, explaining why they are harmful and giving examples.

Paragraph 4: Give ideas about how to overcome difficulties.

Paragraph 5: Conclusion - Express your own opinion in two or three sentences.

Tip! Remember how to use connectors

1. Connectors that show sequence: first of all, to begin with, in conclusion, to sum up, in short
2. Adding information: furthermore, moreover, for instance, especially, as well as
3. Contrast: however, despite/in spite of, nevertheless, on the one hand, on the other hand
4. Cause: since, for this reason, that is why
Effect: therefore, consequently, as a result