

SOLDERING TOOLS (паяльники)

Vocabulary

Word	Translation
tip	наконечник
shiny	блестящий
solder	припой
flux	паяльный флюс
aid	помогать
soldering process	процесс пайки
melt	расплавливать
undo mistakes	исправлять ошибки
desoldering iron	отпаивающий паяльник
solder sucker	отсос для припоя
vacuum pump	вакуумный насос
solder wick	оплетка
copper braided material	медный плетеный материал
bond	соединять

Glossary

A **soldering iron** is a tool used to heat solder and join pieces of metal together.

Solder is a soft metal. You can melt it and use it to join pieces of metal together.

Flux is a liquid using in soldering process.

A **component** is one part of a piece of equipment.

To **melt** something is to turn it from a solid (твердое тело) into a liquid (жидкий).

A **desoldering iron** is a tool used to remove solder.

A **solder sucker** is a tool which removes solder using a vacuum pump.

A **vacuum pump** is a piece of equipment. You can use it to move gases and liquids.

To **remove** is to take an object away from its current position (текущая позиция) or place.

Solder wick is copper thread (нить) which removes solder.

To **bond** things together is to stick (соединять) them together.

Exercise 1: Listen the text, read and translate it
Soldering Instructions

1. Before you start, make sure the tip is clean and shiny.
2. Now hold the soldering iron in one hand. Hold a long piece of solder in the other. The solder contains flux. This keeps surfaces clean and aids in the soldering process.
3. Next, place the two components together. Touch the area where they join with the soldering iron and solder.
4. Then pull the solder away. Hold the iron in place for another second to melt the solder.
5. Undo mistakes using a desoldering iron. A solder sucker uses a vacuum pump to remove old solder. Solder wick also removes solder. This is a copper braided material. Solder bonds to it when heated with a soldering iron.

Exercise 2: Questions about the text:

1. What should you check before starting to solder?
2. What should the tip be like before you start?
3. What do you hold in each hand during soldering?
4. What does solder contain?
5. What is the purpose of flux?
6. What do you do after placing the two components together?
7. What should you do after pulling the solder away?
8. How long should you hold the iron in place after removing the solder?
9. What can you use to undo soldering mistakes?
10. How does a solder sucker remove old solder?

Exercise 3: True/False

1. The soldering iron tip should be dirty and dull before starting.
2. Solder contains flux that keeps surfaces clean.
3. You should hold the soldering iron in one hand and solder in the other.
4. You should remove the solder first, then the iron.
5. Hold the iron in place for another second after pulling the solder away.
6. A desoldering iron is used to remove old solder.
7. A solder sucker uses a vacuum pump to remove solder.
8. Solder wick is made of plastic.
9. Solder bonds to solder wick when heated.

10. Flux prevents surfaces from getting clean.

Exercise 4: Match the terms with their definitions:

Term	Definition
1. Soldering iron	A. A copper braided material that removes solder
2. Solder	B. A tool used to heat and melt solder
3. Flux	C. A metal alloy used to join components
4. Tip	D. A substance that keeps surfaces clean during soldering
5. Solder wick	E. The heated end of a soldering iron
6. Solder sucker	F. A tool that uses a vacuum pump to remove solder
7. Desoldering iron	G. A tool used to undo soldering mistakes

Exercise 5: Use the words from the box to complete the sentences:

Word Bank: melt, desoldering iron, soldering iron, solder wick, flux, solder, components, tip, solder sucker

1. The _____ is the heated end of the tool.
2. _____ contains flux for cleaning.
3. Hold the _____ in one hand and the solder in the other.
4. _____ keeps surfaces clean during soldering.
5. Place two _____ together to join them.
6. Hold the iron for another second to _____ the solder.
7. Use a _____ to undo mistakes.
8. A _____ uses a vacuum pump.
9. _____ is a copper braided material that removes solder.

Exercise 6: Correct the errors in these sentences:

1. "The soldering iron tip should be dirty and dull."
2. "Solder does not contain flux."
3. "You should hold the solder away from the components."
4. "A desoldering iron is used to join components."
5. "Solder wick is made of plastic."

Exercise 7: Complete the Table

Tool/Component	Purpose
1.	Heats and melts solder
2.	Joins components
3.	Keeps surfaces clean
4.	Heated end of the soldering iron

5.	Removes old solder
6.	Uses vacuum to remove solder
7.	Removes solder with copper braided material

Exercise 8: Which Tool Do You Need?

Situation	Tool
1. You need to join two wires together.	A. Solder wick
2. You need to clean a dirty surface before soldering.	B. Desoldering iron
3. You need to remove excess solder from a joint.	C. Solder
4. You made a mistake and need to remove old solder.	D. Soldering iron
5. You need to heat up a component to melt solder.	E. Flux
6. You need to remove solder using a vacuum.	F. Solder sucker

Exercise 9: Error Correction:

1. "The soldering iron tip should be covered with dirt."
2. "Solder contains no flux."
3. "You should remove the iron before the solder."
4. "A desoldering iron is used to join components."
5. "Solder wick is made of plastic."

Exercise 10: Identify the tool based on its description:

1. "I am a tool with a heated metal tip. I melt solder." — _____
2. "I am a metal alloy. I join electronic components." — _____
3. "I am a substance that keeps surfaces clean." — _____
4. "I am a tool that removes solder using a vacuum." — _____
5. "I am a copper braided material that absorbs solder." — _____

Exercise 11: Listen to the dialogue and fill in the missing words

Alex: Hi, Emma! I'm trying to fix a broken wire on my circuit board. I've never _____ (1) before. Can you teach me?

Emma: Hi, Alex! Of course! _____ (2) is easy once you know the basics. Let's start with the tools.

Alex: What tools do I need?

Emma: You'll need a _____ (3), solder, and _____ (4). The soldering iron heats up the solder.

Alex: What is solder exactly?

Emma: Solder is a soft _____ (5) that melts and joins pieces of metal together.

Alex: And what does flux do?

Emma: Flux is a liquid that helps _____ (6) the surfaces during soldering. It makes the solder flow better.

Alex: I see. What about the tip of the soldering iron?

Emma: Before you start, make sure the tip is _____ (7) and shiny. A dirty tip won't heat properly.

Alex: What's the correct way to hold everything?

Emma: Hold the soldering iron in one hand and the _____ (8) in the other. Then place the two _____ (9) together.

Alex: Then I just touch them with the iron?

Emma: Yes, touch the area where they join with the soldering iron and solder. The solder will _____ (10) and flow.

Alex: When do I remove the solder?

Emma: Pull the solder away first. Then hold the iron in place for another second to melt the solder properly.

Alex: What if I make a mistake?

Emma: Don't worry! You can use a _____ (11) iron or a solder sucker. A solder sucker uses a _____ (12) pump to remove old solder.

Alex: Is there another way to remove solder?

Emma: Yes, you can also use _____ (13). It's a copper braided material that absorbs solder when heated.

Alex: That's really helpful! I feel more confident now.

Emma: Great! Just remember to practice on some _____ (14) parts first. And always work in a well-ventilated area.

Alex: Thanks, Emma! I'll give it a try.

Emma: Good luck! Let me know how it goes.

Exercise 12: True/False Questions about the Dialogue

1. Alex is trying to fix a broken wire on his circuit board.
2. Alex has soldered many times before.
3. Emma says soldering is difficult even if you know the basics.
4. The tools needed are a soldering iron, solder, and flux.
5. Solder is a hard metal that cannot be melted.
6. Flux helps clean surfaces during soldering.
7. The soldering iron tip should be dirty and dull.
8. You should hold the soldering iron and solder in the same hand.
9. You should pull the solder away first, then hold the iron for another second.

10. A desoldering iron is used to apply solder.
11. A solder sucker uses a vacuum pump to remove solder.
12. Solder wick is made of copper braided material.
13. Emma suggests practicing on scrap parts first.
14. Emma says to work in a closed room without ventilation.
15. Alex feels less confident after Emma's explanation.

Exercise 13: Write your dialogue based on the provided templates.

Dialogue Template 1: Teaching Someone to Solder

A: Hi, [Name]! I'm trying to [task], but I've never soldered before. Can you teach me?

B: Hi, [Name]! Of course! Soldering is easy once you know the basics. Let's start with the tools.

A: What tools do I need?

B: You'll need a soldering iron, solder, and flux. The soldering iron heats up the solder.

A: What is solder exactly?

B: Solder is a soft metal that melts and joins pieces of metal together.

A: And what does flux do?

B: Flux is a liquid that helps clean the surfaces during soldering. It makes the solder flow better.

A: I see. What about the tip of the soldering iron?

B: Before you start, make sure the tip is clean and shiny. A dirty tip won't heat properly.

A: What's the correct way to hold everything?

B: Hold the soldering iron in one hand and the solder in the other. Then place the two components together.

A: Then I just touch them with the iron?

B: Yes, touch the area where they join with the soldering iron and solder. The solder will melt and flow.

A: When do I remove the solder?

B: Pull the solder away first. Then hold the iron in place for another second to melt the solder properly.

A: What if I make a mistake?

B: Don't worry! You can use a desoldering iron or a solder sucker. A solder sucker uses a vacuum pump to remove old solder.

A: Is there another way to remove solder?

B: Yes, you can also use solder wick. It's a copper braided material that absorbs solder when heated.

A: That's really helpful! I feel more confident now.

B: Great! Just remember to practice on some scrap parts first. And always work in a well-ventilated area.

A: Thanks, [Name]! I'll give it a try.

B: Good luck! Let me know how it goes.

Dialogue Template 2: Troubleshooting a Soldering Problem

A: I tried to solder these two wires, but they won't stick together. What am I doing wrong?

B: Let me see. First, did you clean the tip of the soldering iron?

A: No, I didn't. Is that important?

B: Yes, very important! The tip must be clean and shiny. A dirty tip won't heat the solder properly.

A: How do I clean it?

B: Use a damp sponge or brass wool. Wipe the tip gently until it's shiny.

A: What else could be the problem?

B: Are you using flux?

A: No, I don't have any flux.

B: That's probably the issue. Flux helps the solder flow and bond to the metal surfaces.

A: Where do I apply the flux?

B: Apply a small amount to the joint before soldering. It will clean the surfaces and help the solder flow.

A: Anything else I should check?

B: Make sure you're heating the joint, not just the solder. Place the iron on the joint first, then touch the solder to it.

A: I think I was doing it wrong. Thanks for your help!

B: No problem! Try again and let me know how it goes.

Dialogue Template 3: Choosing the Right Soldering Equipment

A: I want to start soldering, but I don't know which equipment to buy. Any recommendations?

B: Sure! For beginners, I recommend a basic soldering iron with a fine tip. Also get some good quality solder.

A: What kind of solder should I get?

B: Use rosin-core solder. It has flux inside, so you don't need to add flux separately.

A: What about the wattage?

B: For electronics, a 30-40 watt iron is perfect. Higher wattage can damage components.

A: Do I need a soldering station?

B: Not for basic work. A simple iron is fine. But if you plan to do a lot of soldering, a station with temperature control is better.

A: What about desoldering tools?

B: Get a solder sucker and some solder wick. They're essential for fixing mistakes.

A: Is there anything else I should buy?

B: Yes, get a stand for the iron, a damp sponge for cleaning, and some safety glasses.

A: Thanks for the advice! I'll start with these tools.

B: You're welcome! Good luck with your soldering projects.

Useful Phrases for Soldering Dialogue Templates

English	Russian
Can you teach me?	Можешь научить меня?
I've never soldered before.	Я никогда не паял.
Soldering is easy once you know the basics.	Пайка проста, когда знаешь основы.
What tools do I need?	Какие инструменты мне нужны?
What is solder exactly?	Что именно такое припой?
It makes the solder flow better.	Это делает припой более текучим.
Before you start, make sure...	Перед началом убедись, что...
What's the correct way to...?	Как правильно...?
Touch the area where they join.	Прикоснись к месту соединения.
Pull the solder away first.	Сначала убери припой.
Hold the iron in place for another second.	Подержи паяльник еще секунду.
Don't worry!	Не волнуйся!
That's really helpful!	Это очень полезно!
I feel more confident now.	Теперь я чувствую себя увереннее.
Practice on scrap parts first.	Сначала потренируйся на ненужных деталях.
Work in a well-ventilated area.	Работай в хорошо проветриваемом помещении.
Let me know how it goes.	Дай знать, как пройдет.
What am I doing wrong?	Что я делаю не так?

Use a damp sponge to clean the tip.	Используй влажную губку для очистки жала.
Apply flux to the joint.	Нанеси флюс на соединение.
Heat the joint, not just the solder.	Нагревай соединение, а не только припой.
For beginners, I recommend...	Для начинающих я рекомендую...
A 30-40 watt iron is perfect.	Паяльник на 30-40 ватт идеален.
Get a solder sucker and solder wick.	Купи отсос и фитиль для удаления припоя.
Good luck with your soldering projects!	Удачи в твоих проектах по пайке!

Exercise 14: Report: Soldering Practice

Word Bank: solder wick, held, corrected, melted, inspected, worked, touched, practiced, solder sucker, checked, placed, strong, held, pulled, prepared

1. I _____ a soldering iron, solder, and flux.
2. I _____ the tip to make sure it was clean and shiny.
3. I _____ the two components together.
4. I _____ the soldering iron in one hand and the solder in the other.
5. I _____ the area where the components joined.
6. The solder _____ and flowed onto the joint.
7. I _____ the solder away first.
8. I _____ the iron in place for another second.
9. I _____ the joint to check if it was strong.
10. I _____ any mistakes using a desoldering iron.
11. I used a _____ to remove old solder.
12. I also used _____ to absorb solder.
13. I _____ on scrap parts before the real project.
14. I _____ in a well-ventilated area.
15. The final joint was _____ and secure.

Exercise 15: Instruction: How to Solder Properly

Word Bank: apply, touch, hold, allow, well-ventilated, place, gather, check, pull, desoldering iron, solder wick, inspect, plug in, melt, hold

1. First, _____ a soldering iron, solder, and flux.
2. _____ the tip of the soldering iron is clean and shiny.

3. _____ the soldering iron and wait for it to heat up.
4. _____ the two components together.
5. _____ the soldering iron in one hand and the solder in the other.
6. _____ the tip of the iron to the area where the components join.
7. _____ the solder to the joint, not to the iron.
8. The solder will _____ and flow onto the joint.
9. _____ the solder away first.
10. _____ the iron in place for another second.
11. _____ the joint to cool down.
12. _____ the joint to make sure it is strong.
13. If you make a mistake, use a _____ to remove old solder.
14. You can also use _____, a copper braided material.
15. Always work in a _____ area.