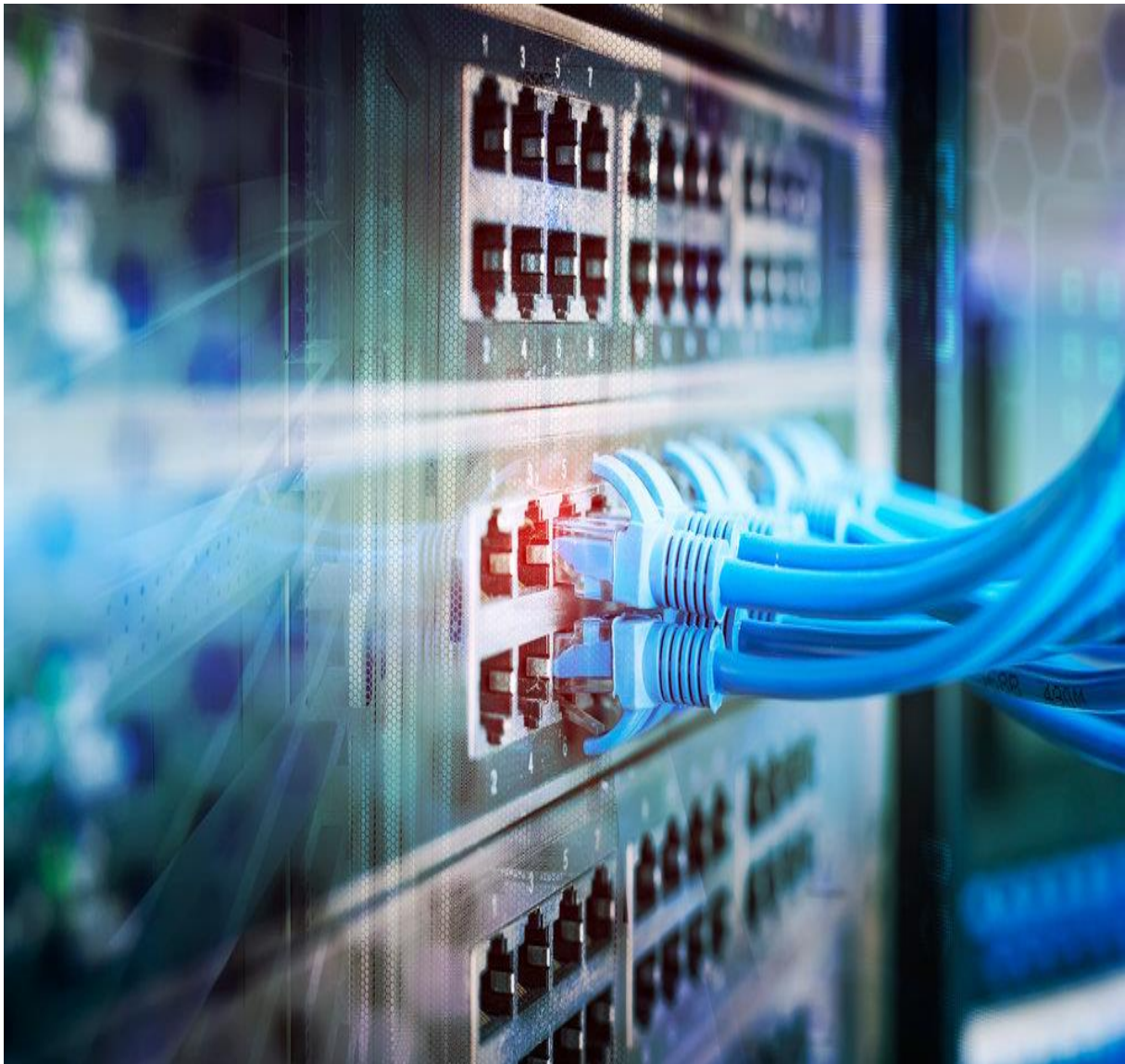


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# COMPUTER SYSTEMS SERVICING



**Computer Systems Servicing**  
**Quarter 3 – Module 7: Creating straight-through cable**

**First Edition, 2020**

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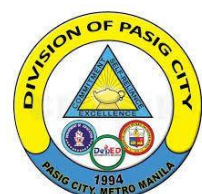
# **COMPUTER SYSTEMS SERVICING**

**11**

## **Quarter 3**

### **Self-Learning Module 7**

#### **Creating Straight-through Cable**



# Introductory Message

For the Facilitator:

Welcome to the **Computer Systems Servicing** Self-Learning Module on **Creating straight-through cable!**

This Self-Learning Module was collaboratively designed, developed and reviewed by educators from the Schools Division Office of Pasig City headed by its Officer-in-Charge Schools Division Superintendent, Ma. Evalou Concepcion A. Agustin, in partnership with the City Government of Pasig through its mayor, Honorable Victor Ma. Regis N. Sotto. The writers utilized the standards set by the K to 12 Curriculum using the Most Essential Learning Competencies (MELC) in developing this instructional resource.

This learning material hopes to engage the learners in guided and independent learning activities at their own pace and time. Further, this also aims to help learners acquire the needed 21st century skills especially the 5 Cs, namely: Communication, Collaboration, Creativity, Critical Thinking, and Character while taking into consideration their needs and circumstances.

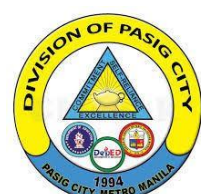
In addition to the material in the main text, you will also see this box in the body of the module:



## ***Notes to the Teacher***

This contains helpful tips or strategies that will help you in guiding the learners.

As a facilitator you are expected to orient the learners on how to use this module. You also need to keep track of the learners' progress while allowing them to manage their own learning. Moreover, you are expected to encourage and assist the learners as they do the tasks included in the module.



For the Learner:

Welcome to the **Computer Systems Servicing** Self-Learning Module on **Creating straight-through cable!**

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. You will be enabled to process the contents of the learning material while being an active learner.

This module has the following parts and corresponding icons:



**Expectations** - This points to the set of knowledge and skills that you will learn after completing the module.



**Pre-test** - This measures your prior knowledge about the lesson at hand.



**Recap** - This part of the module provides a review of concepts and skills that you already know about a previous lesson.



**Lesson** - This section discusses the topic in the module.



**Activities** - This is a set of activities that you need to perform.



**Wrap-Up** - This section summarizes the concepts and application of the lesson.



**Valuing** - This part integrates a desirable moral value in the lesson.



**Post-test** - This measure how much you have learned from the entire module.





## EXPECTATIONS

After completing this lesson, you should be able to:

1. identify the steps in creating straight-through cable.
2. perform the steps in creating straight-through cable.
3. appreciate the importance of creating straight-through cable.

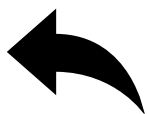


## PRE-TEST

Direction: Write the correct color coding for each pin of Straight-through Cable - B.  
Choose the letter of the correct answer from the box.

- \_\_\_ 1. PIN 1
- \_\_\_ 2. PIN 2
- \_\_\_ 3. PIN 3
- \_\_\_ 4. PIN 4
- \_\_\_ 5. PIN 5
- \_\_\_ 6. PIN 6
- \_\_\_ 7. PIN 7
- \_\_\_ 8. PIN 8

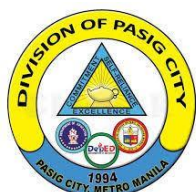
- a. White /Brown
- b. White/Green
- c. Brown
- d. Orange
- e. White/Blue
- f. Blue
- g. White/Orange
- h. Green



## RECAP

Direction: Read each statement carefully. Write the letter of the correct answer.

- \_\_\_ 1. A unique locking system that prevents accidental unplugging resulting from shock and vibration.





- a. Modular jack
  - b. RJ45
  - c. Network cable
  - d. Twisted pair cable
- \_\_\_2. A tool use to connect network wires to a patch panel and modular jack.
- a. Crimping tool
  - b. LAN tester
  - c. Punch down tool
  - d. Wire stripper
- \_\_\_3. This electronic device used to verify the connections in a signal cable assembly.
- a. Crimping tool
  - b. LAN tester
  - c. Punch down tool
  - d. Wire stripper
- \_\_\_4. This is a special tool used to cut, hold, and attach and RJ45 jack to the end of the cable.
- a. Crimping tool
  - b. LAN tester
  - c. Punch down tool
  - d. Wire stripper
- \_\_\_5. A connector attached to the end of a twisted-pair cable.
- a. Modular jack
  - b. RJ45
  - c. Network cable
  - d. Twisted pair cable



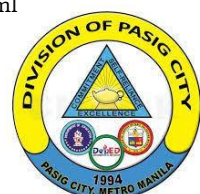
## LESSON

### Straight-Through Cable

a type of twisted pair cable that is used in local area networks to connect a computer to a network hub such as a router.

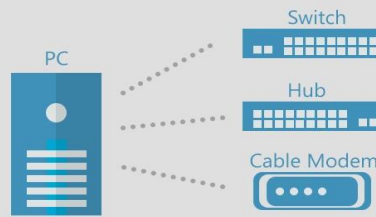


<http://angel3508.blogspot.com/2016/09/how-to-configure-rj45-pinout.html>



## When to use a Straight Through Cable?

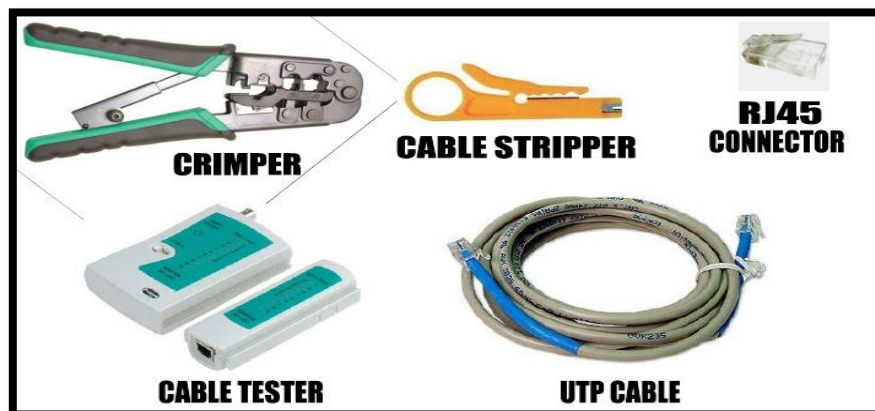
*Straight-Through cables are used when connecting two dissimilar devices together*



<https://www.computercablestore.com/what-are-ethernet-cables>

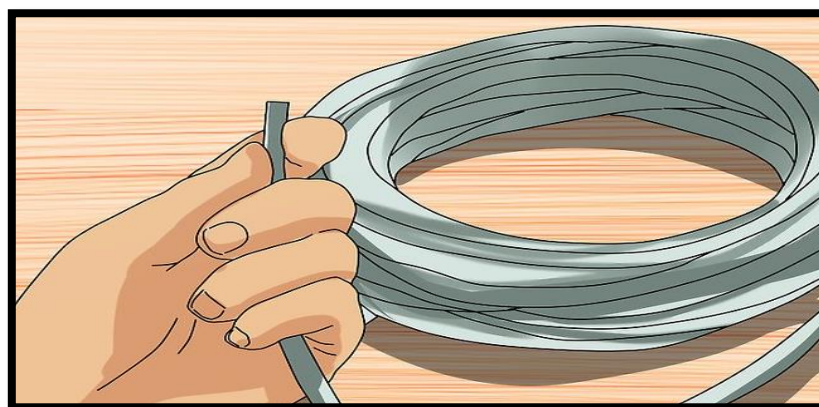
### Steps in Creating Straight-Through Cable

1. Prepare the tools and materials.

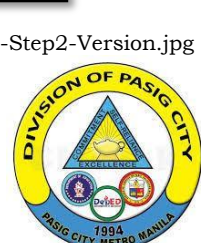


<https://www.slideshare.net/senchun80/crimping-and-testing>

2. Cut the twisted-pair cable based on the needed length.

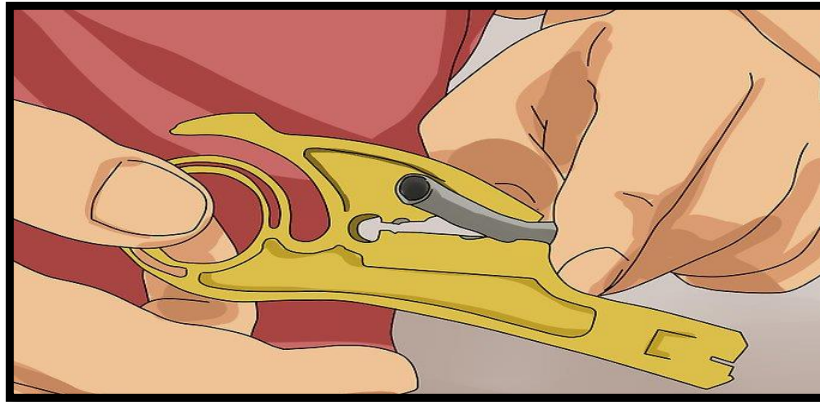


<https://www.wikihow.com/Make-a-Network-Cable#/Image:Make-a-Network-Cable-Step2-Version.jpg>



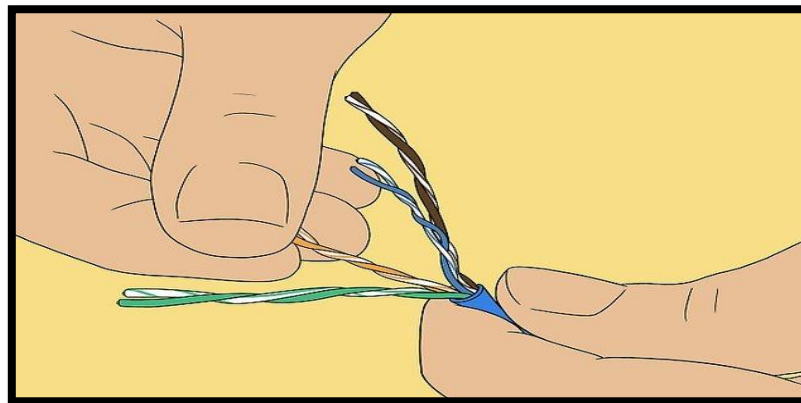


3. Remove the outer jacket of the cable to expose the four pairs of wires inside.



<https://www.wikihow.com/Make-a-Network-Cable#/Image:Make-a-Network-Cable-Step3-Version.jpg>

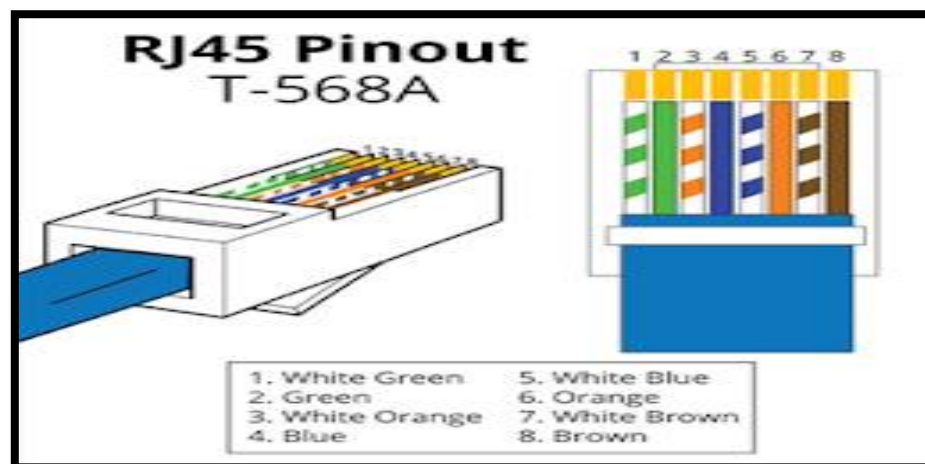
4. Untwist the wires, make sure that they are free from any damage.



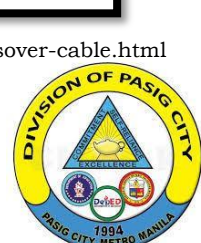
<https://www.wikihow.com/Make-a-Network-Cable#/Image:Make-a-Network-Cable-Step4-Version.jpg>

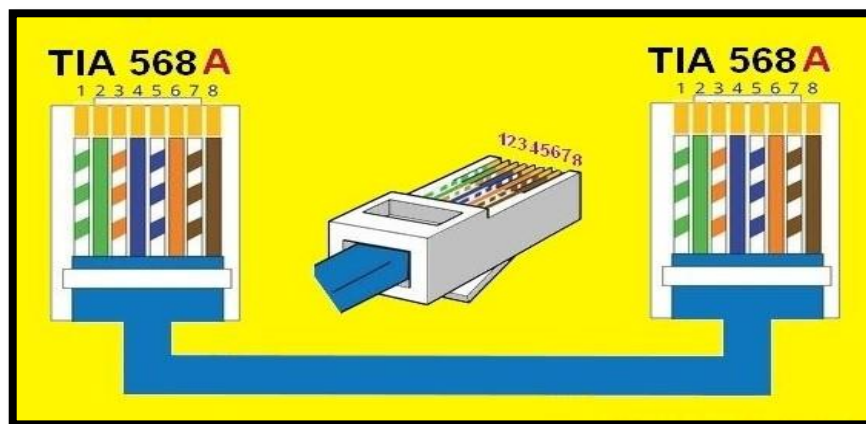
5. Arrange the wires based on the type of cable.

#### **Straight-Through Cable – A**



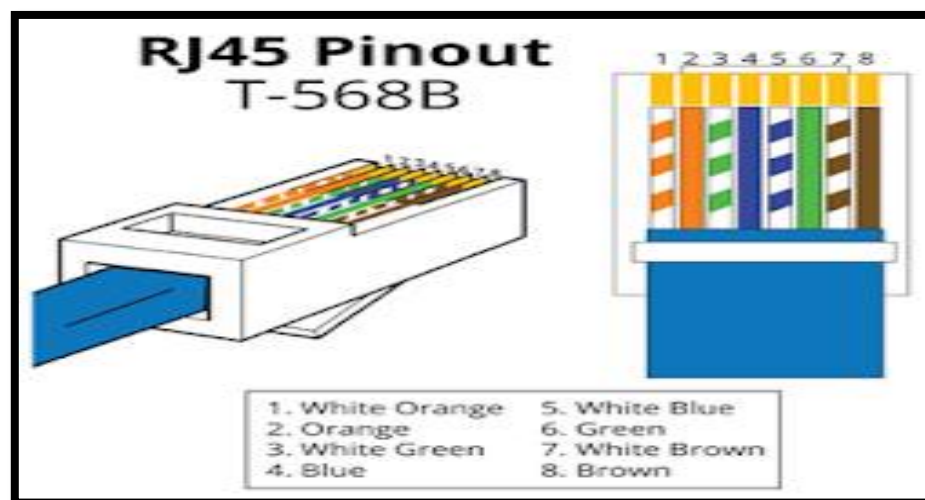
<http://www.cables-solutions.com/difference-between-straight-through-and-crossover-cable.html>



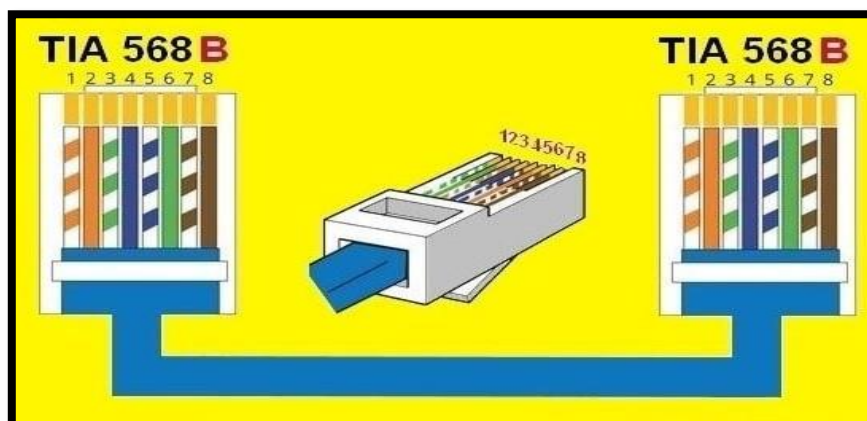


<https://www.pinterest.ph/pin/54254370493984026/>

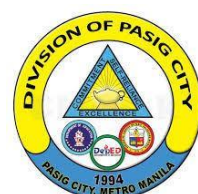
### Straight-Through Cable – B



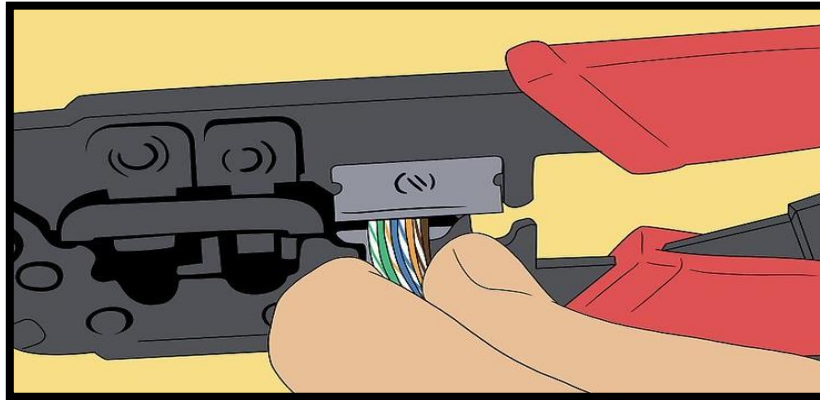
<http://www.cables-solutions.com/difference-between-straight-through-and-crossover-cable.html>



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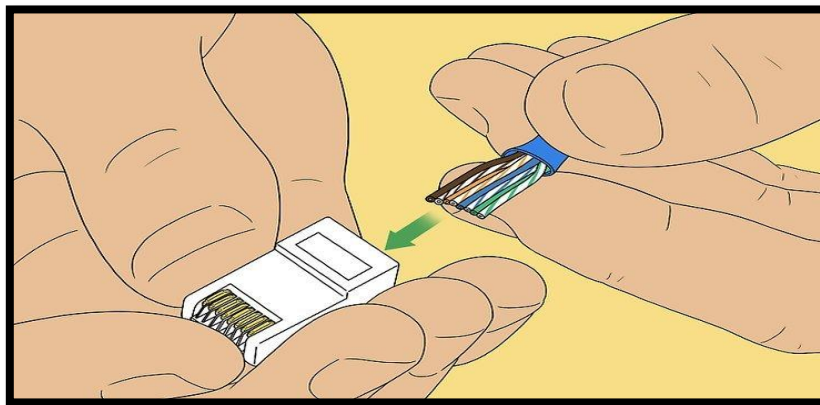


6. Cut the wires so that they will be of exact length, make sure that the ends of the wires are aligned.



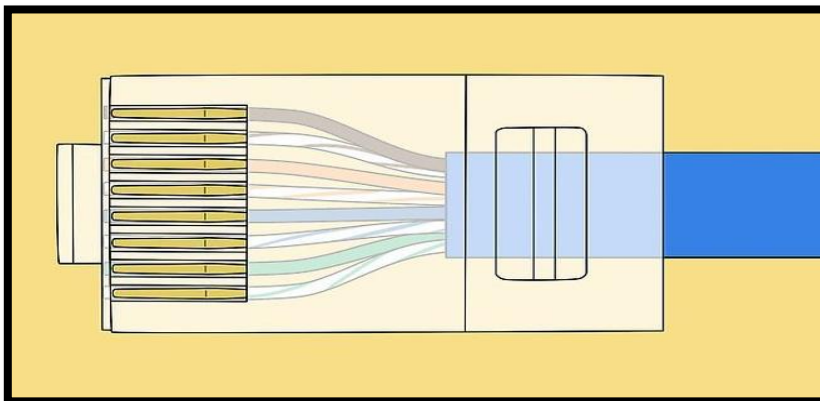
<https://www.wikihow.com/Make-a-Network-Cable#/Image:Make-a-Network-Cable-Step6-Version.jpg>

7. Firmly hold the cable and insert the wires into the RJ45 jack.



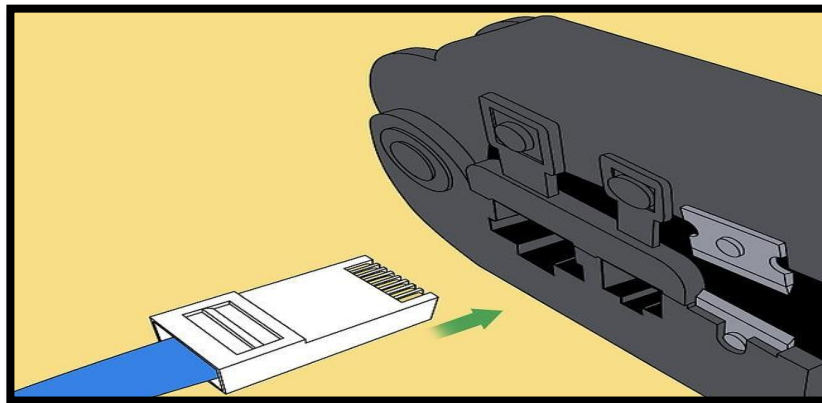
<https://www.wikihow.com/Make-a-Network-Cable#/Image:Make-a-Network-Cable-Step7-Version.jpg>

8. Check if the end of the wires touches the end of the RJ45 jack.



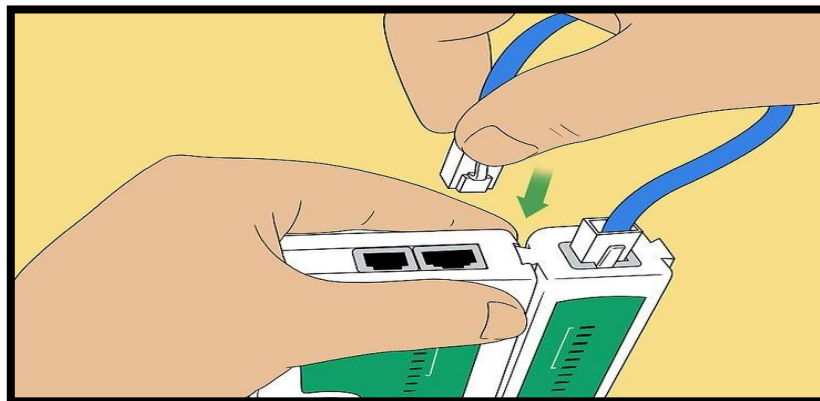
<https://www.wikihow.com/Make-a-Network-Cable#/Image:Make-a-Network-Cable-Step8-Version.jpg>

9. Plug the cable into the crimping tool, firmly squeeze it while securely holding the cable.

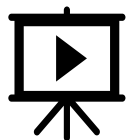


<https://www.wikihow.com/Make-a-Network-Cable#/Image:Make-a-Network-Cable-Step9-Version.jpg>

10. Use a LAN tester to ensure that the connection of all the wires in both ends of the cable.



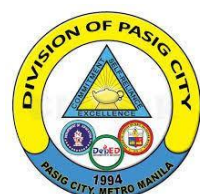
<https://www.wikihow.com/Make-a-Network-Cable#/Image:Make-a-Network-Cable-Step10-Version.jpg>



## ACTIVITIES

Direction: Arrange the following sequence of steps in creating straight-through cable. Write numbers 1-10 on the blank line.

- \_\_\_\_\_ Use a LAN tester to ensure that the connection of all the wires in both ends of the cable.

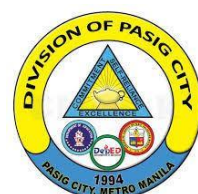


- \_\_\_\_\_ Prepare the tools and materials.
- \_\_\_\_\_ Plug the cable into the crimping tool, firmly squeeze it while securely holding the cable.
- \_\_\_\_\_ Cut the twisted-pair cable based on the needed length.
- \_\_\_\_\_ Check if the end of the wires touches the end of the RJ45 jack.
- \_\_\_\_\_ Remove the outer jacket of the cable to expose the four pairs of wires inside.
- \_\_\_\_\_ Firmly hold the cable and insert the wires into the RJ45 jack.
- \_\_\_\_\_ Untwist the wires, make sure that they are free from any damage.
- \_\_\_\_\_ Cut the wires so that they will be of exact length, make sure that the ends of the wires are aligned.
- \_\_\_\_\_ Arrange the wires based on the type of cable.

### Performance Checklist

Check the following if you've met the criteria:

CRITERIA: Did you...?	YES	NO
1. Prepare the tools and materials?		
2. Cut the twisted-pair cable based on the needed length?		
3. Remove the outer jacket of the cable to expose the four pairs of wires inside?		
4. Untwist the wires, make sure that they are free from any damage?		
5. Arrange the wires based on the type of cable?		
6. Cut the wires so that they will be of exact length, make sure that the ends of the wires are aligned?		
7. Firmly hold the cable and insert the wires into the RJ45 jack?		
8. Check if the end of the wires touches the end of the RJ45 jack?		
9. Plug the cable into the crimping tool, firmly squeeze it while securely holding the cable?		
10. Use a LAN tester to ensure that the connection of all the wires in both ends of the cable?		







## WRAP-UP

Straight-Through cable a type of twisted pair cable that is used in local area networks to connect a computer to network devices like modem, router, network switch, patch panel, hub and printer in sharing resources.



## VALUING

Direction: Read and answer the following questions carefully in two to three sentences each number.

1. What are the importance of creating straight-through cable?

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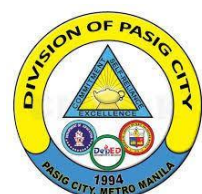
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2. Cite a situation in which you can apply the knowledge of creating straight-through cable.

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## POST-TEST

Direction: Fill-in the blanks of steps in creating straight-through cable. Write the answer on the blank space.

Length	Tester	Wires	Crimping	RJ45
Cable	Arrange	Tools	Check	Jacket

1. Prepare the \_\_\_\_\_ and materials.
2. Cut the twisted-pair \_\_\_\_\_ based on the needed length.
3. Remove the outer \_\_\_\_\_ of the cable to expose the four pairs of wires inside.
4. Untwist the \_\_\_\_\_, make sure that they are free from any damage.
5. \_\_\_\_\_ the wires based on the type of cable.
6. Cut the wires so that they will be of exact \_\_\_\_\_, make sure that the ends of the wires are aligned.
7. Firmly hold the cable and insert the wires into the \_\_\_\_\_ jack.
8. \_\_\_\_\_ if the end of the wires touches the end of the RJ45 jack.
9. Plug the cable into the \_\_\_\_\_ tool, firmly squeeze it while securely holding the cable.
10. Use a LAN \_\_\_\_\_ to ensure that the connection of all the wires in both ends of the cable.





## KEY TO CORRECTION

Post-Test:	1. 10	Activity:	1. 10
1. Tools	2. 1	2. 1	2. 1
2. Cable	3. 9	3. 9	3. 9
3. Jacket	4. 2	4. 2	4. 2
4. Wires	5. 8	5. 8	5. 8
5. Arrange	6. 3	6. 3	6. 3
6. Length	7. 7	7. 7	7. 7
7. RJ45	8. 4	8. 4	8. 4
8. Check	9. 6	9. 6	9. 6
9. Crimping	10. 5	10. 5	10. 5
10. Tester			
Pre-Test:	1. G	1. G	1. G
2. D	2. D	2. D	2. D
3. B	3. B	3. B	3. B
4. F	4. F	4. F	4. F
5. E	5. E	5. E	5. E
6. H	6. H	6. H	6. H
7. A	7. A	7. A	7. A
8. C	8. C	8. C	8. C
Recap:	1. A		
2. C	2. C		
3. B	3. B		
4. A	4. A		
5. B	5. B		

## References

<https://www.wikihow.com/Make-a-Network-Cable>

[https://en.wikipedia.org/wiki/Computer\\_network](https://en.wikipedia.org/wiki/Computer_network)

