

**Tech labs**

**TECH 9**

PROGRAMS: ST, EST, AST
LAB TYPE: Observation
CONCEPT: Characteristics of the linking of mechanical parts
STUDENT BOOK: Chapter 13, page 427

# Linking in technical objects

**GOAL**

Study various technical objects to determine the characteristics of the links in them.

**OBSERVATION CRITERIA**

1. What purpose does linking serve in a technical object?  
 \_\_\_\_\_  
 \_\_\_\_\_
2. All links in technical objects display four basic characteristics. In the table below, identify the distinguishing feature of a link that can be used to associate it with each characteristic.

Characteristic	Distinguishing feature
Direct link	_____ _____
Indirect link	_____ _____
Rigid link	_____ _____
Flexible link	_____ _____
Removable link	_____ _____
Non-removable link	_____ _____
Complete link	_____ _____
Partial link	_____ _____

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### MATERIALS

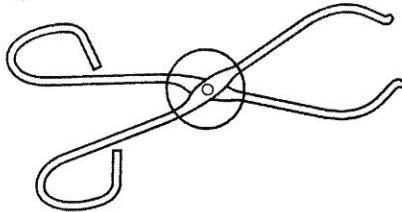
- beaker tongs
- Petri dish
- retort stand
- overflow can
- universal clamp
- C-clamp
- screwdriver
- try square
- retractable utility knife
- plastic cutter
- water pump pliers

### PROCEDURE

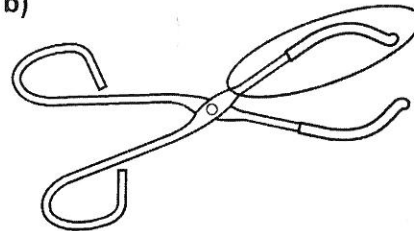
1. In a real example of each of the objects below, locate the link circled in the illustration.
2. Study the various links and determine their characteristics.

#### 1. Beaker tongs

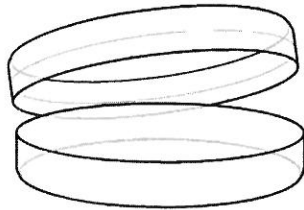
a)



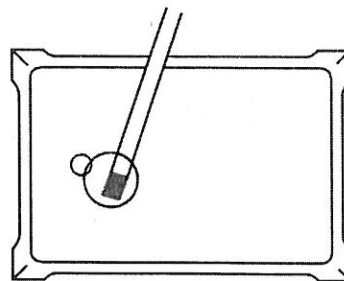
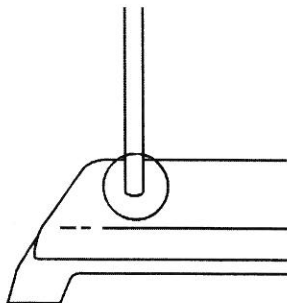
b)



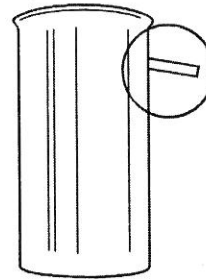
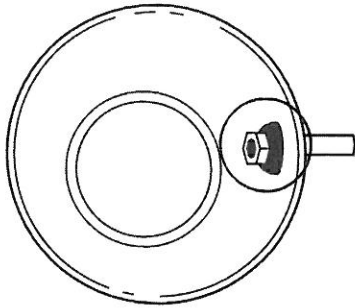
#### 2. Petri dish



#### 3. Retort stand

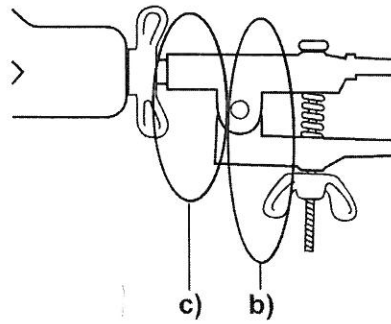
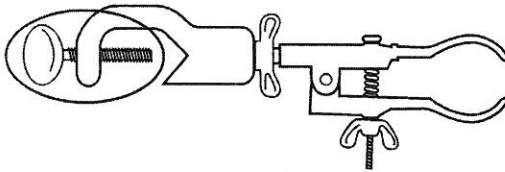


4. Overflow can

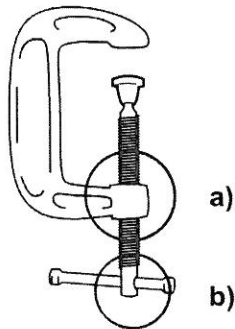


5. Universal clamp

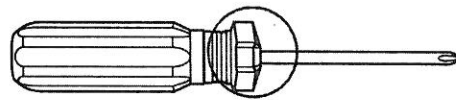
a)



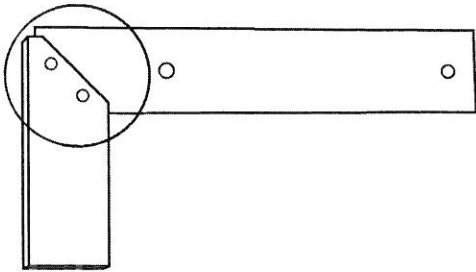
6. C-clamp



7. Screwdriver

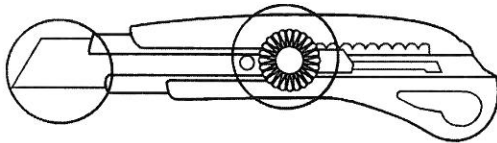


8. Try square

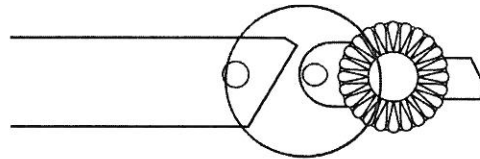


9. Retractable utility knife

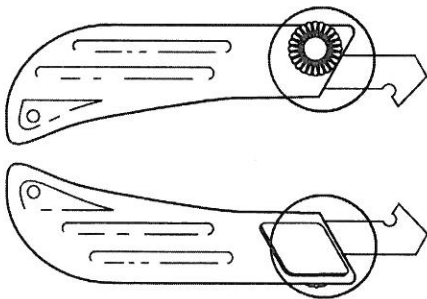
a)



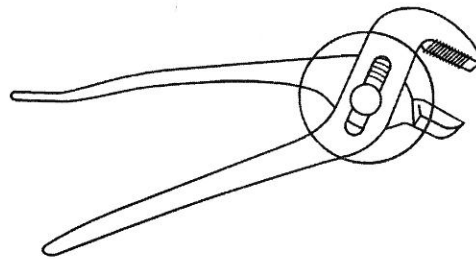
b)



10. Plastic cutter



11. Water pump pliers



### OBSERVATIONS

Record your observations in the table below. Give your table a title.

Title: \_\_\_\_\_

Object	Link	Direct	Indirect	Rigid	Flexible	Removable	Non-removable	Complete	Partial
1. Beaker tongs	a) Between the handles								
	b) Between the rubber casing on the tong ends and the tongs themselves								
2. Petri dish	Between the lid and the container								
3. Retort stand	Between the base and the upright metal rod								
4. Overflow can	Between the spout and the can								
5. Universal clamp	a) Between the tightening screw and the body of the clamp								
	b) Between the jaws of the clamp								
	c) Between the tightening screw and the clamp								
6. C-clamp	a) Between the frame of the clamp and the threaded rod								
	b) Between the threaded rod and the metal bar								
7. Screwdriver	Between the handle and the metal shaft								
8. Try square	Between the blade and the plastic handle								
9. Retractable utility knife	a) Between the retractable blade and the housing								
	b) Between the tightening mechanism and the blade								
10. Plastic cutter	Between the blade and the housing								
11. Water pump pliers	Between the handles								