

Links and Guides worksheets

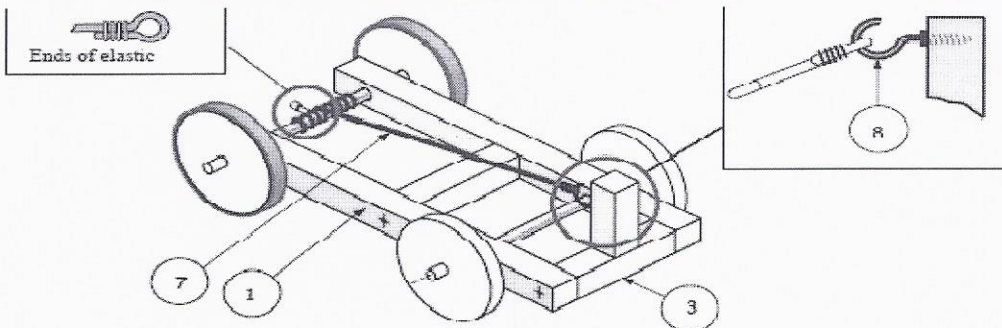
1. True or false?

- a) If glue plays a role of a linking component in it is considered a direct link. **F**
- b) A link can be both partial and flexible. **T**
- c) A link can be both partial and complete. **F**
- d) A complete link can never move once they are linked together. **T**

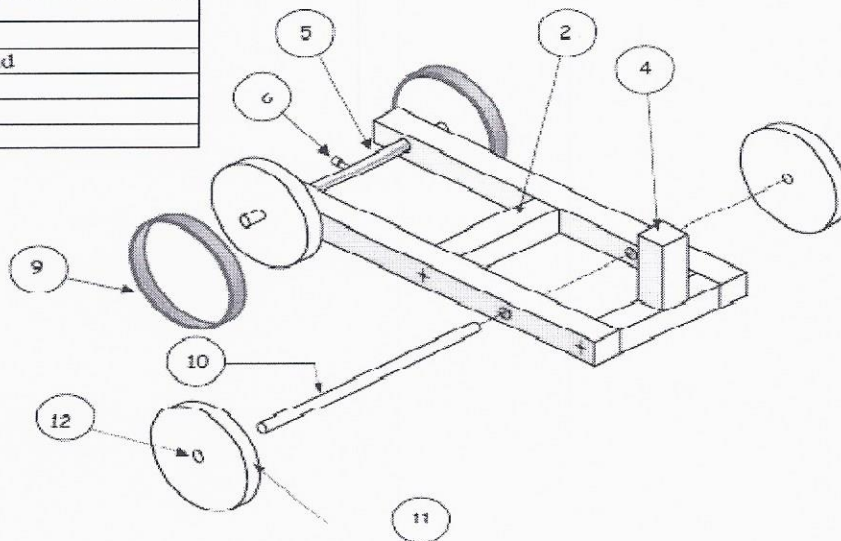
2. During a family breakfast, you explain that there are three main types of guiding. You use the jar of peanut butter with its screw-on lid, the cutlery drawer, the refrigerator door and the kitchen scissors as examples. Which type of guiding does each of these objects demonstrate?

- a) jar of peanut butter H
- b) cutlery drawer T
- c) refrigerator door R
- d) kitchen scissors R

Use the picture below to answer questions 4 and 5



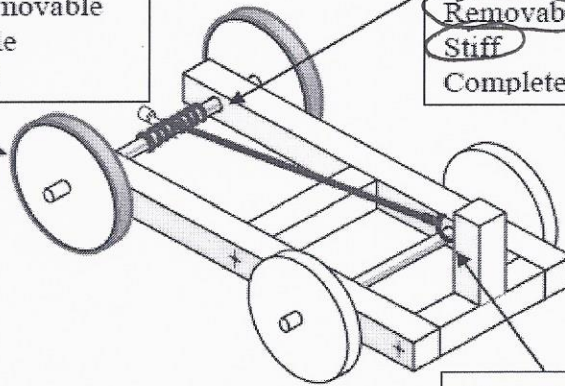
NO.	NAME
1	Chassis
2	Centre support brace
3	End support brace
4	Post
5	Drive shaft
6	Drive shaft pin
7	Elastic
8	Hook
9	Rubber tread
10	Axle
11	Wheel
12	Hub



3. Circle the links below.

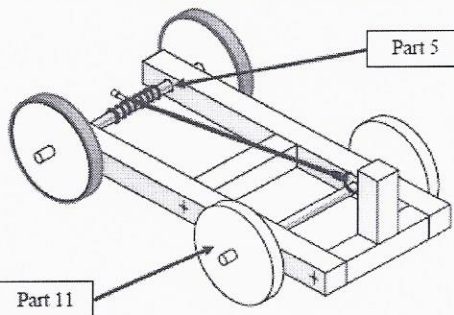
Characteristics of the link between the tread and the wheel	
Direct Removable Stiff Complete	Indirect Not removable Flexible Partial

Characteristics of the link between the chassis and the drive shaft	
Direct Removable Stiff Complete	Indirect Not removable Flexible Partial



Characteristics of the link between the hook and the post	
Direct Removable Stiff Complete	Indirect Not removable Flexible Partial

4. For each area, name the guided parts, indicate the type of guiding involved and name the part which controls the movement.



→ guide shaft
 - it rotates
 - chassis controls movement

→ wheel
 - it rotates
 - drive shaft controls movement

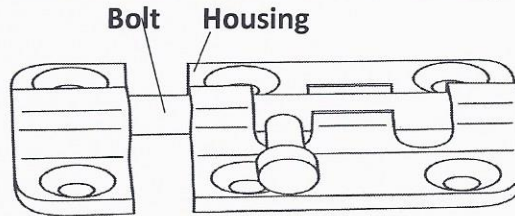
5. For each of the examples give the 4 types of links involved.

a- Football is a sport that requires a lot of equipment, including a helmet. Inside the helmet is a layer of flexible padding to protect the player's head. It is held in place with glue. *indirect, flexible, NR & complete*

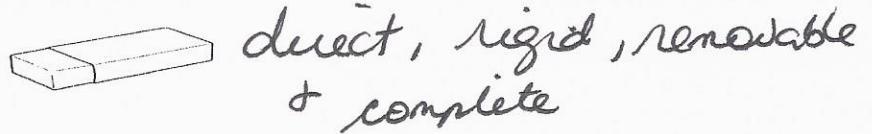
b- Helmets are mandatory not only in football; they are also required in ice hockey. One of the differences between football helmets and hockey helmets lies in their wire face masks. The masks on hockey helmets can usually be raised, but not the masks on football helmets. Given that the mask is usually attached to the hockey helmet with two screws and two nuts. *indirect, rigid, renewable & partial*

c- Safety bolts like the one illustrated below are used to lock doors. What are the characteristics of the link between the bolt and the housing?

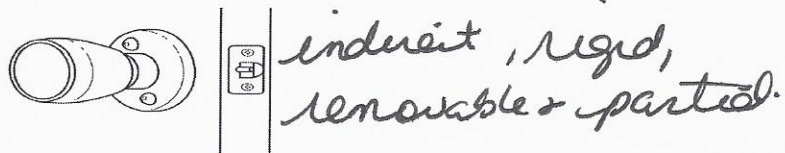
*direct, rigid
NR & partial*



d- Consider the link between the eraser below and the plastic-coated paper covering it.



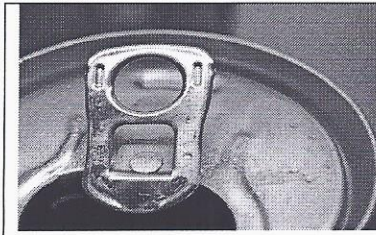
e- Consider the link below between the doorknob and the door.



f- When a house is under construction, builders often nail asphalt shingles to the roof.

indirect, complete, NR & rigid

6. For each picture below, name the 4 links associated with it.



How the tab is linked to the can.

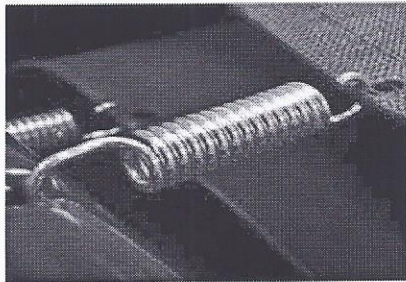
indirect, rigid, NR & partial



How the paper is linked to the wall.

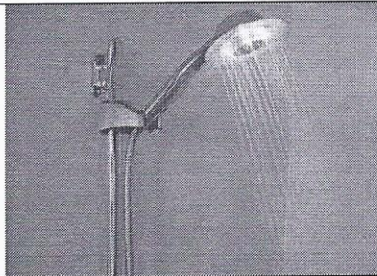
SET GOALS!

indirect, rigid, NR & complete



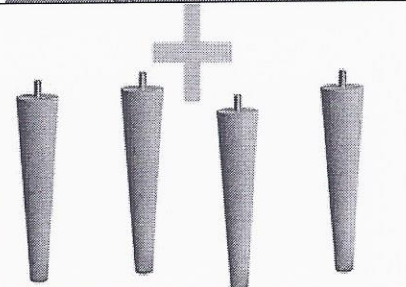
How the tarp is linked to the metal bar.

indirect, flexible, removable & partial



How the shower head (nozzle) is linked to the shower holder.

direct, rigid, removable & partial



These are legs for a table or chair. How would the legs be linked to a table or chair.

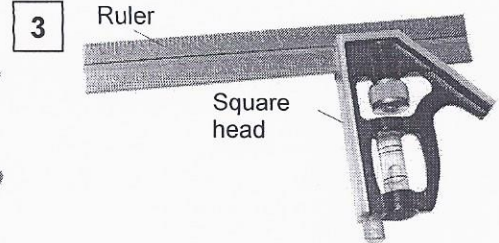
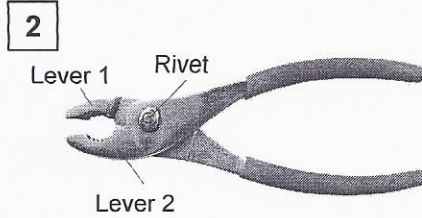
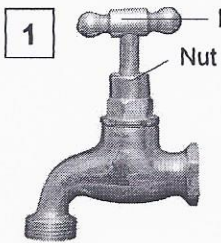
indirect, rigid, removable & complete



How the birdhouse is linked to the tree.

indirect, rigid, removable & complete

7. Look at the three objects below.



For each of the three objects, name the type of guiding involved and identify the guiding component.

Faucet: *helical + nut*

Pliers: *rotational + rivet*

Combination square: *translational + track*

8. Give the links for each picture.

a- Characteristics of the link between the handle and the punch of a hole punch. (A rivet is used)



indirect, NR, complete + rigid

b- The shelf and side panel. (The shelf is glued into the side panel).



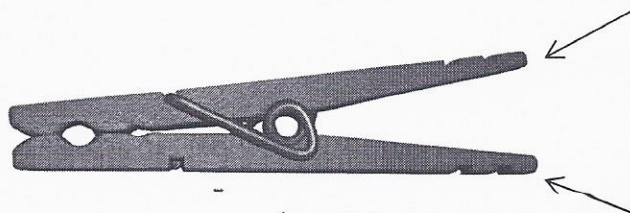
indirect, NR, complete + rigid

c- Light bulb and socket



direct, rigid, complete + removable

d- Clothes pin prongs



indirect, removable, partial + flexible