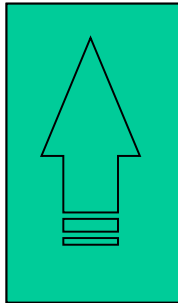
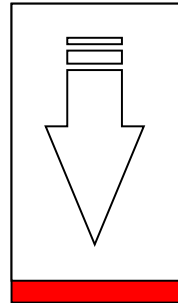


What is the target of the Red / Green method?

- Red = operations the customer **doesn't want to pay for**
- Green = added value operations the customer **wants to buy**.
- In a Total Quality approach the reference is the customer

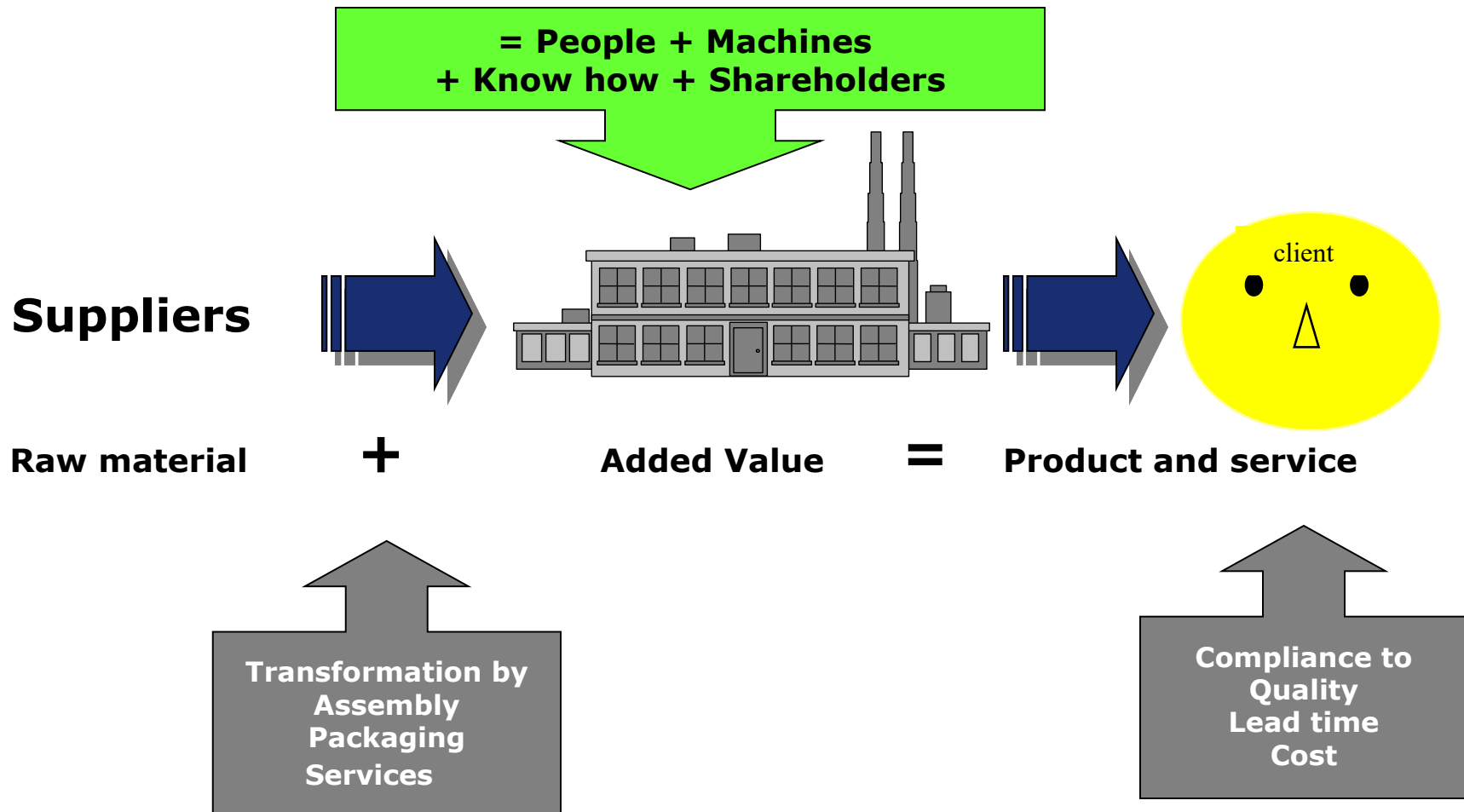


**Increase
Green**



**Decrease
Red**

Where does the added value come from ?



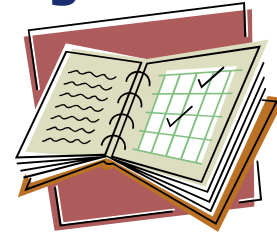
**Desire to work as a team
With open dialogue**



Eyes



Agenda

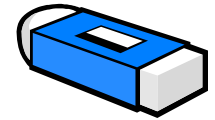


Note book



**Tools for the
Red / Green method**

Eraser

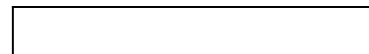


Pen



Watch

Ruler



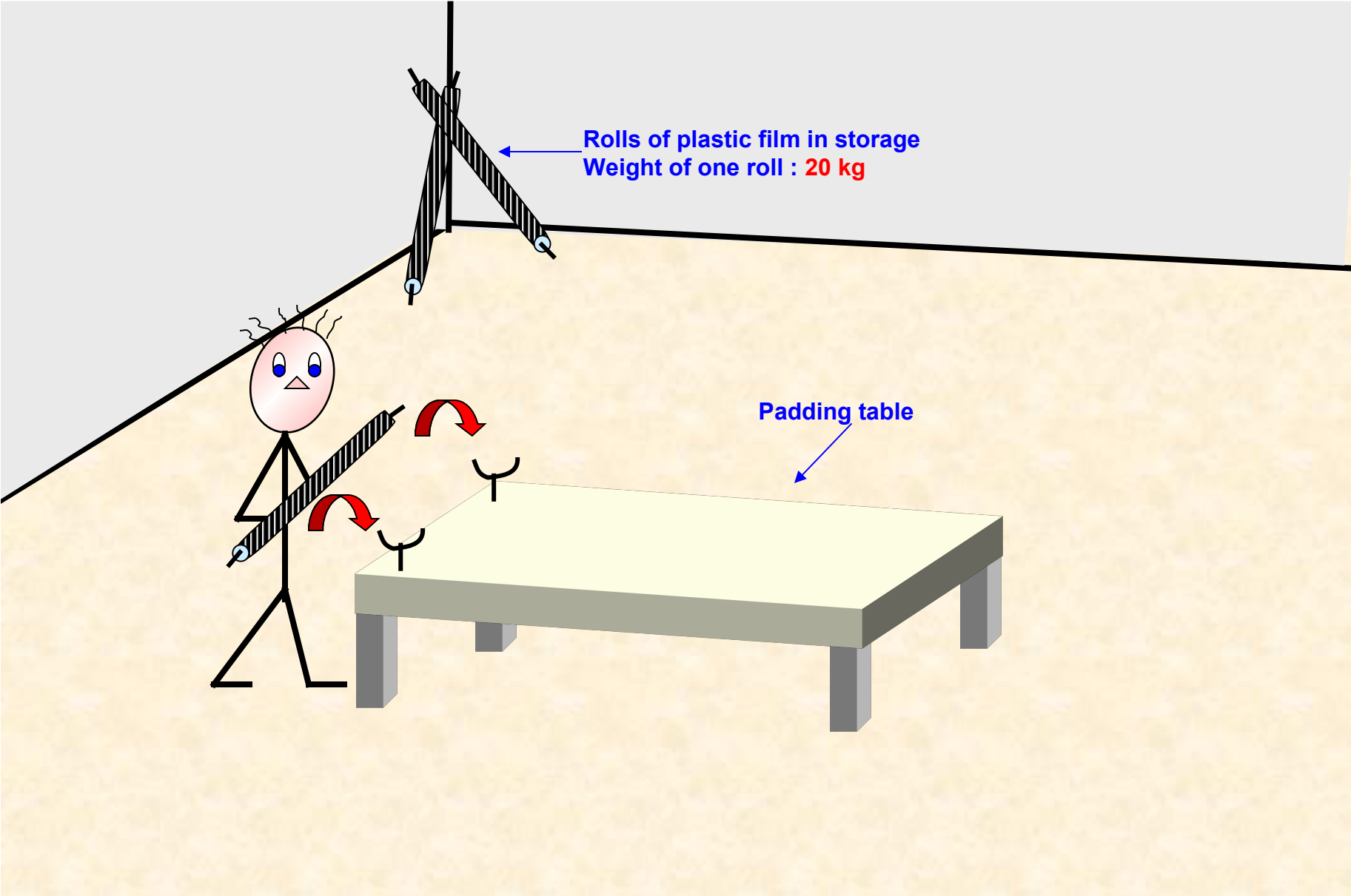
Example of **Red** / **Green**
method in a real case

**Padding and cutting plastic bags
in 5 operations**

BEFORE

OPERATION N°1

Manually loading the rolls on one side of the table

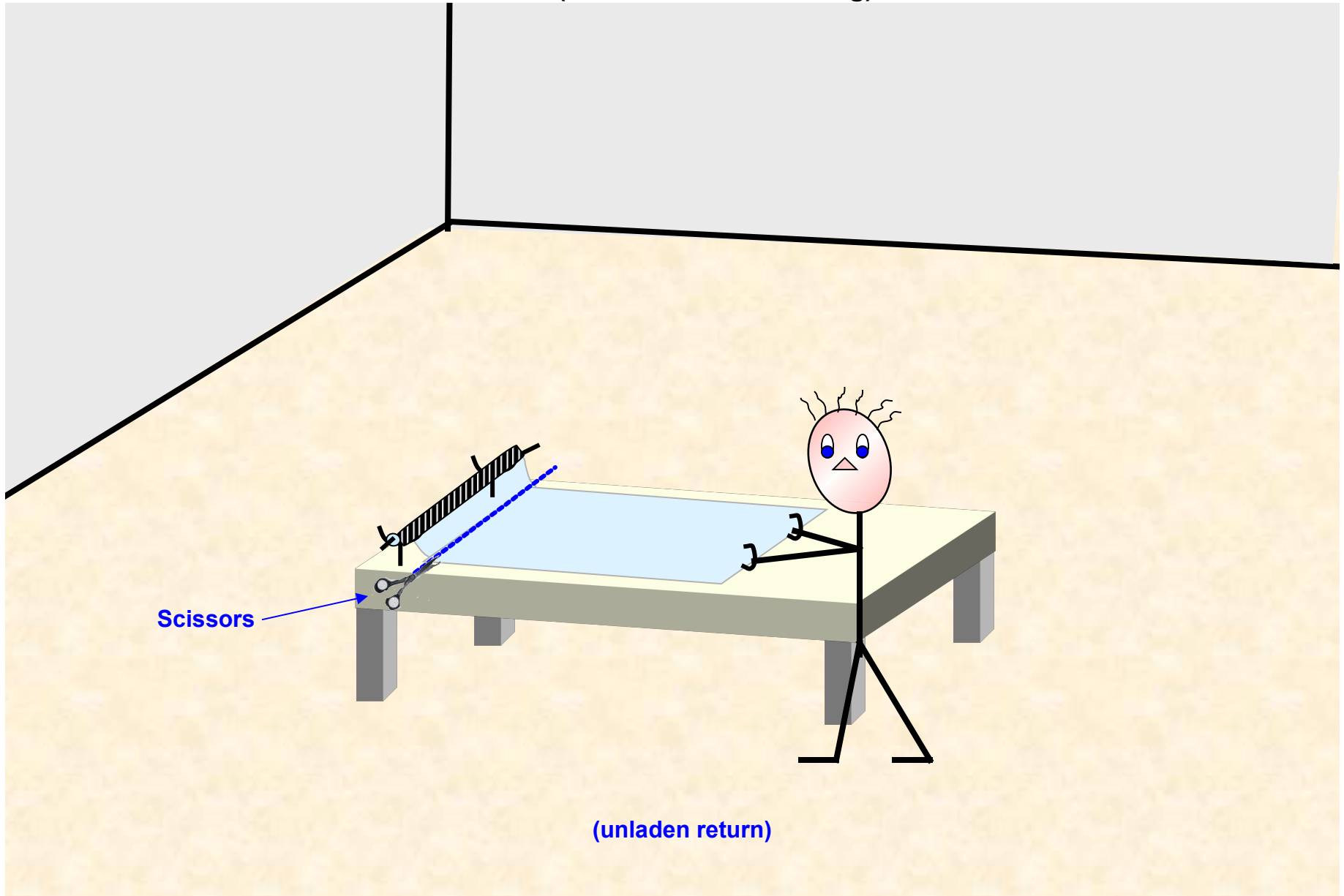


Rolls of plastic film in storage
Weight of one roll : 20 kg

Padding table

OPERATION N°2

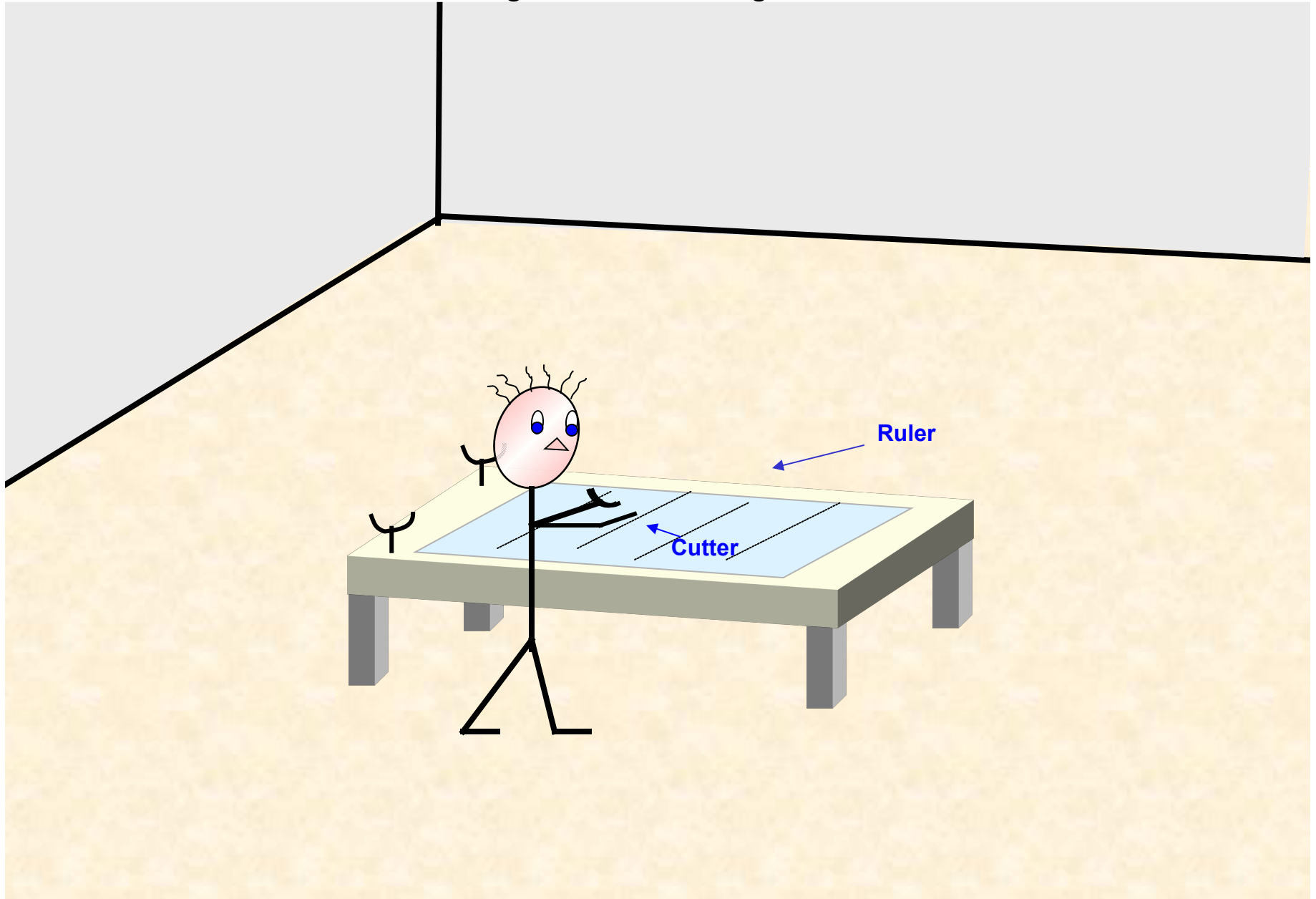
**Spreading the plastic film cutting it with scissors to the length of the mattress
(after unladen returning)**



(unladen return)

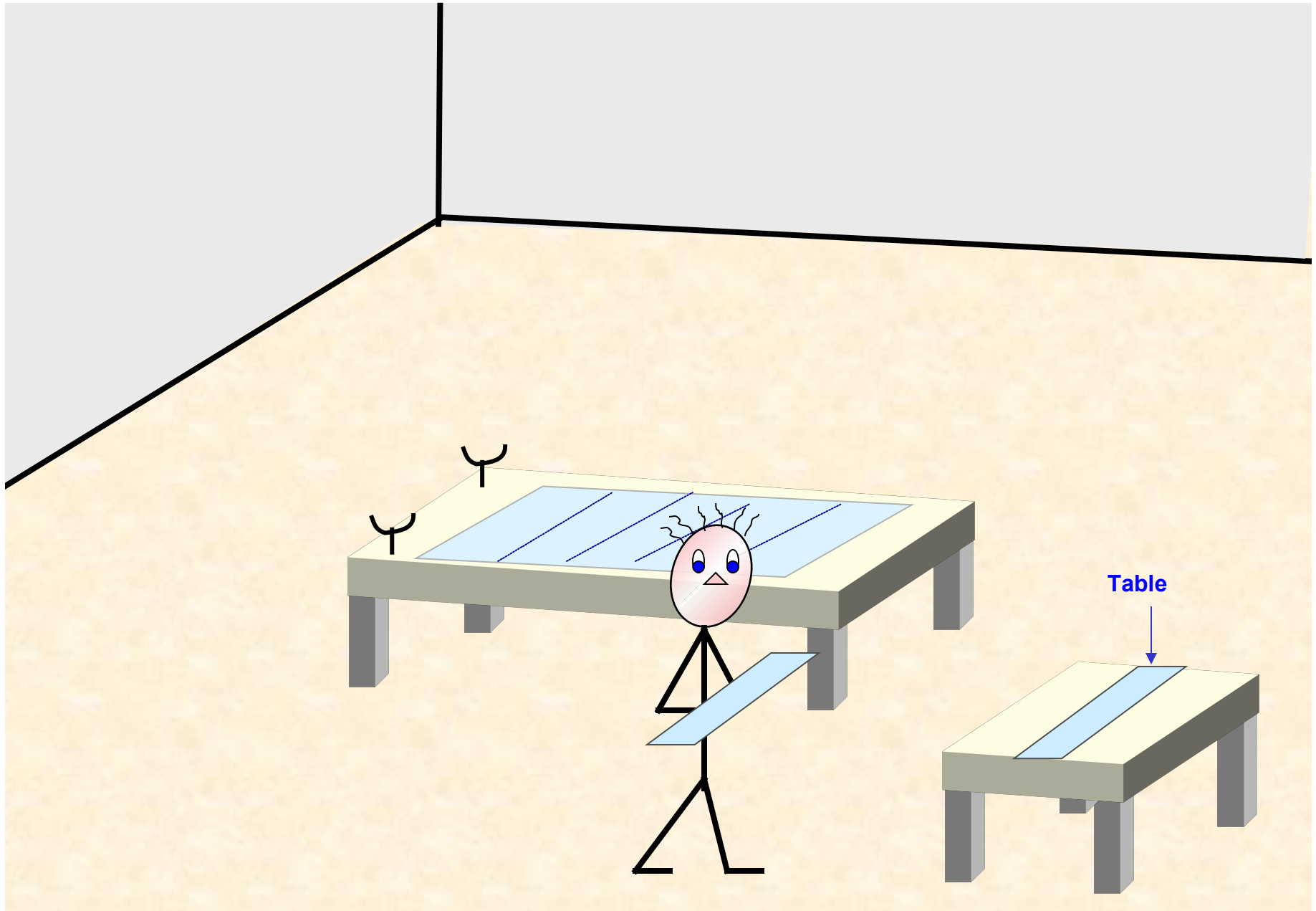
OPERATION N°3
OPERATION N°4

Marking the bag's width to cut out with a ruler
Cutting the mattress using the cutter



OPERATION N°5

Manually unloading the bags onto the table



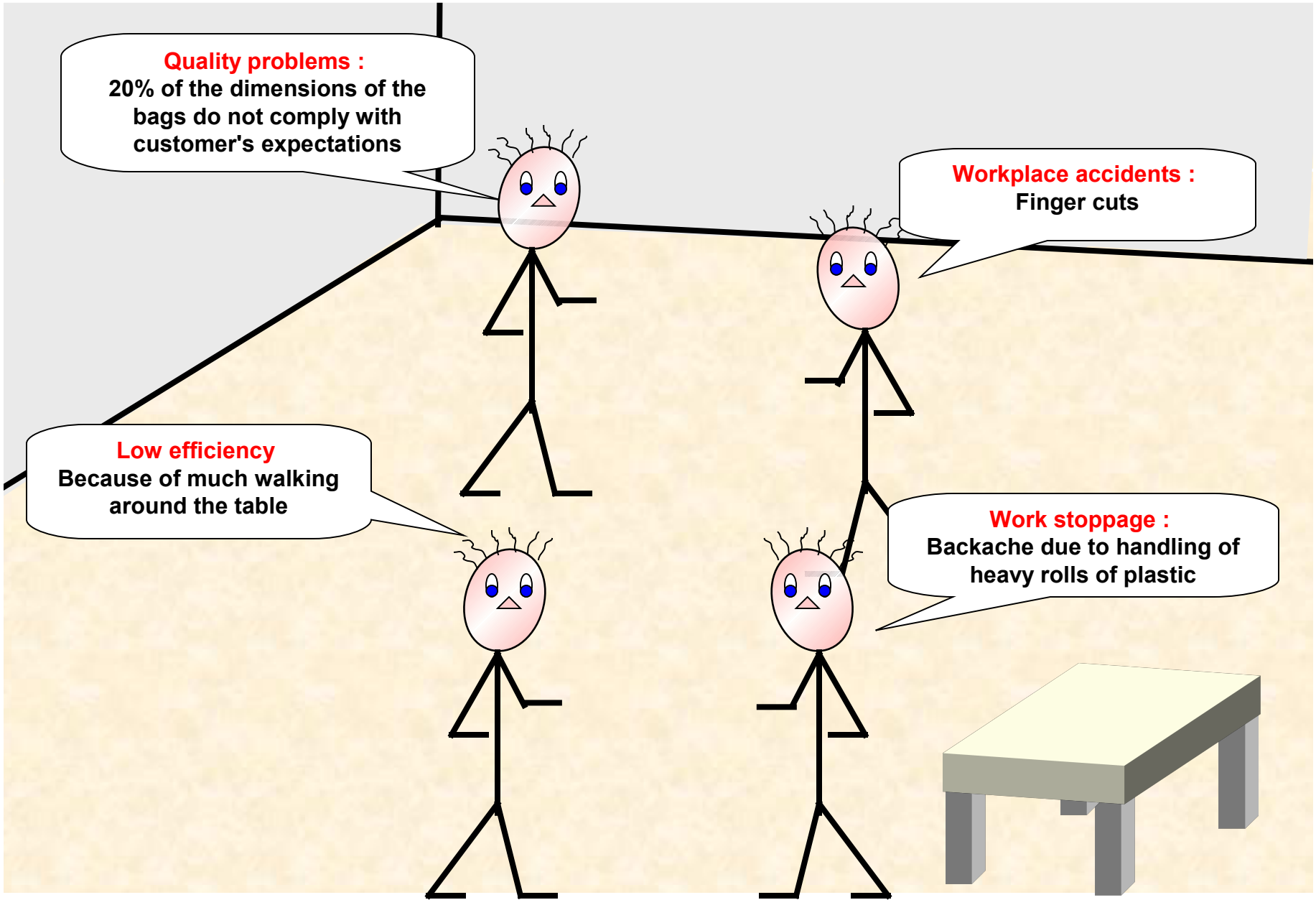
PROBLEMS mentioned by the workers

Quality problems :
20% of the dimensions of the bags do not comply with customer's expectations

Workplace accidents :
Finger cuts

Low efficiency
Because of much walking around the table

Work stoppage :
Backache due to handling of heavy rolls of plastic



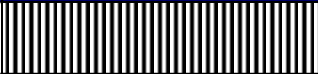
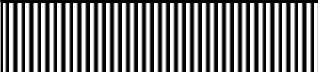

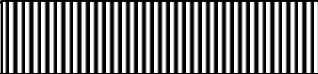




Observations and Red / Green analysis of operations

TIME	ACTIONS	DURATION in MM	COLOR
8h30	Getting the roll	3	
8h33	Manually loading the roll onto the table	3	
8h36	Spreading the plastic film onto the table	Total 15	
8h37 1/2	Returning unladen to the roll	Total 5	
8H38	Cutting with scissors	A few seconds	
	Same spreading, unladen returning, cutting : 10 times		
8h56	Measuring the widths to cut with a ruler	10	
9h06	Cutting the lengths with a cutter	9	
9h15	Unloading bags and placing them on the table	15	
9h30	End		
TOTAL		60	

Information about quality problems

An average of 20% of the dimensions of the bags do not comply with the customer's expectations.

Observations and Red / Green analysis of operations

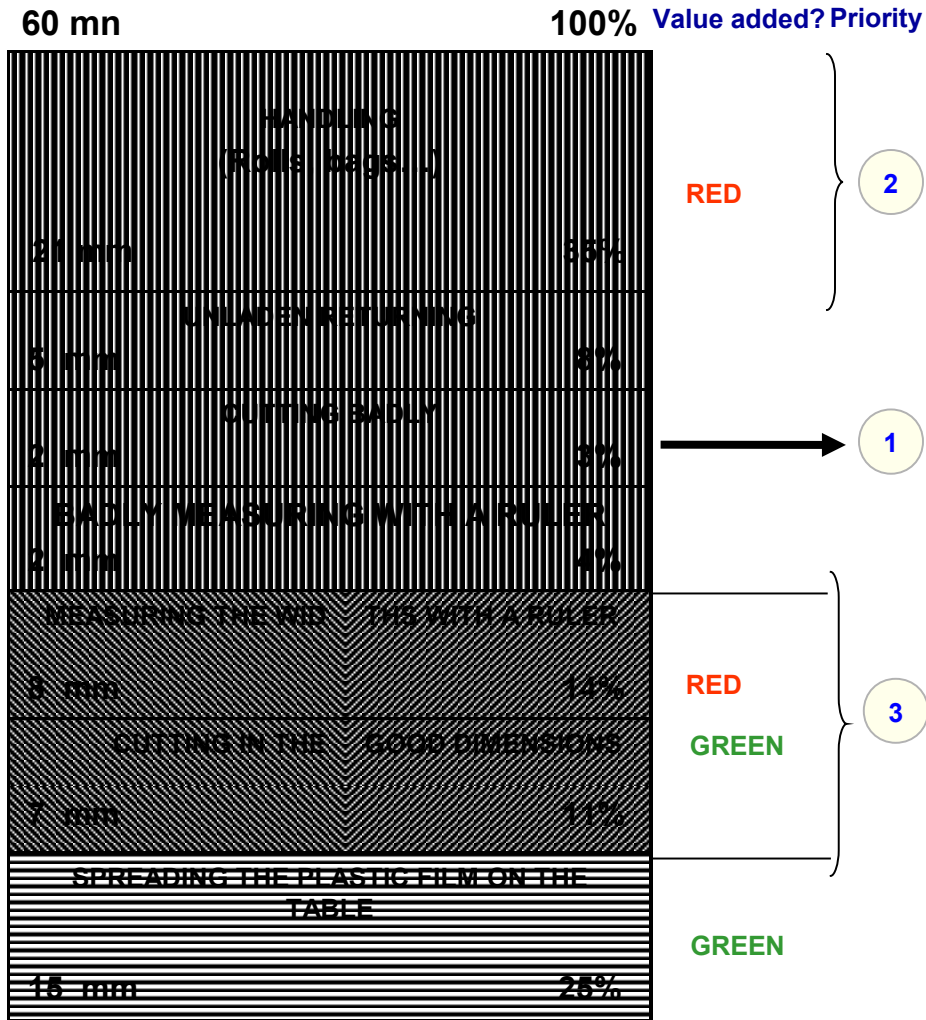
TIME	ACTIONS	DURATION IN MM	COLOR
8h30	Getting the roll	3	
8h33	Manually loading the roll onto the table	3	
8h36	Spreading the plastic film onto the table	Total 15	
8h37 1/2	Returning unladen to the roll	Total 5	
8H38	Cutting with scissors	0	
	Same spreading, unladen returning, cutting : 10 times		
8h56	Measuring the widths to cut with a ruler	10	
9h06	Cutting the lengths with a cutter	9	
9h15	Unloading bags and placing them on the table	15	
9h30	End		
TOTAL		60	

Information about quality problems

An average of 20% of the dimensions of the bags do not comply with the customer's expectations.

Red / Green observations and actions plan

Presentation in a « chimney » form : 100% = 60 mn



WHO?	DOES WHAT?	WHEN?
PAUL	Security problem Eliminating heavy handling	Week 6
PIERRE	Security problem Finding a safe cutting device that doesn't cut fingers	Week 5
JACK	Quality problem Putting the sizing of the bags under control	Week 9

Example of **Red** / **Green**
method in a real case

**Padding and cutting of plastic bags
with 5 operations**

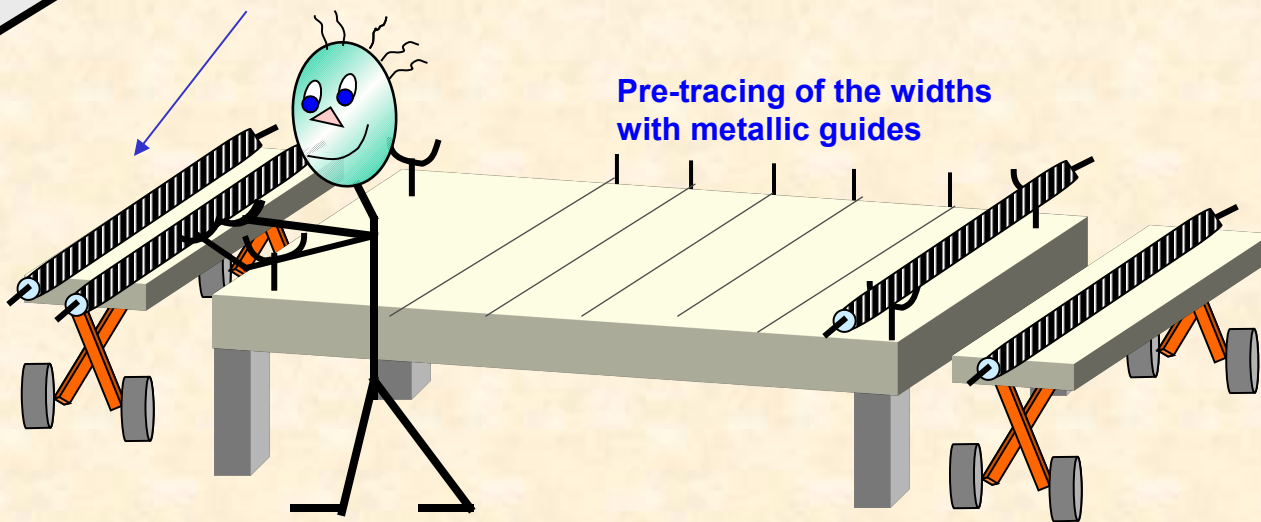
AFTER

OPERATION N°1

Loading a roll on both extremities of the padding table with a lifting table with castors

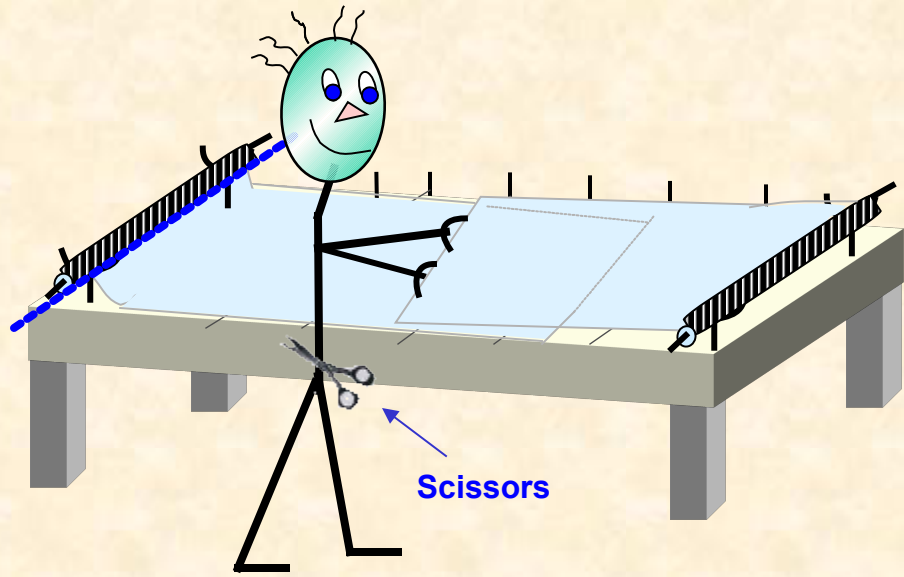
Pre-storage of the rolls on lifting tables with castors on both extremities of the table

Pre-tracing of the widths with metallic guides



OPERATION N°2

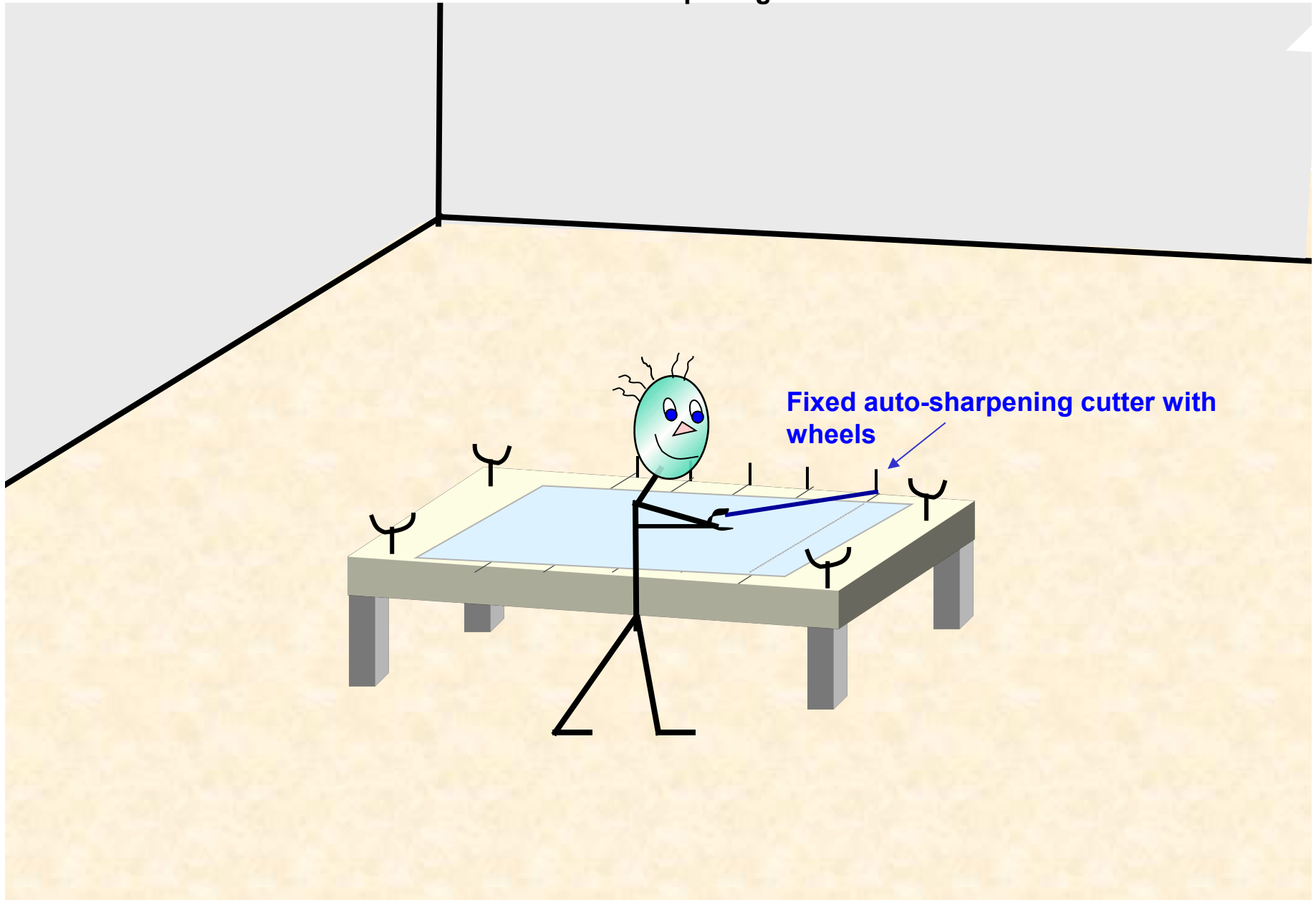
Spreading the plastic films of both rolls, in one direction and then the other and cutting them with scissors to the length of the mattress

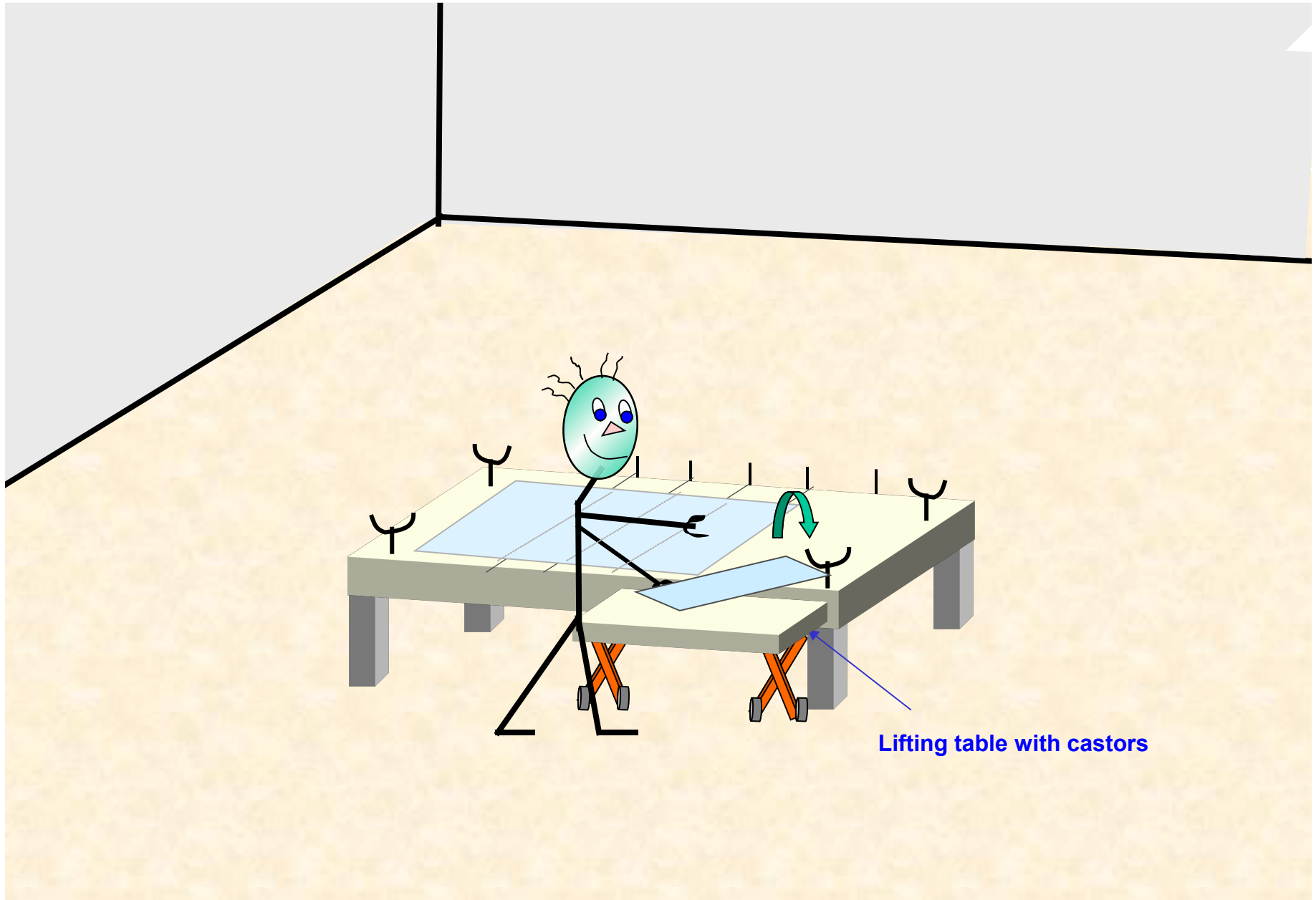


Scissors

OPERATION N°3

Directly cutting the widths of the bags by following the pre-established tracings with a fixed auto-sharpening cutter with wheels





Overview of improvements

Principle : To calculate the return of investments we suppose that the number of bags being produced is the same before and after the improvements.

PRIORITY	WHO?	WHO DOES WHAT?	COST	RETURN OF INVESTMENT
1	PIERRE	<p>Security problem: Finding a safe cutting device</p> <p>Fixed cutting device with wheels and a branch to avoid contact of fingers with the cutting part</p>	75 €	<p>Deletion of accidents by cuts (approximately 4 weeks of work stoppage per year = 1500 €)</p>
2	PAUL	<p>Security problem : Eliminating heavy handling</p> <p>Setting up lifting tables with castors.</p> <p>Simultaneously, thanks to the setting up of two lifting tables with castors on both sides of the padding table, deleting unladen returning.</p>	900 €	<p>Decrease of work stoppage due to backaches (approximately 2 weeks per year = 750 €)</p> <p>Productivity increase : + 18%</p> <p>Productivity increase : + 8%</p>
3	JACK	<p>Quality problem: Putting the sizing of the bags under control</p> <p>Setting up a pre-tracing of widths with metallic guides to delete the operation of measuring with a ruler.</p>	300 €	<p>Reduction by 20% of defects and waste of raw material = Productivity increase : 3%</p> <p>Productivity increase : 14+4=18%</p>
TOTAL			1275€	<p>Total Productivity increase : 47% Retrieval of work stoppages : approximately 2300 €</p>

*The marking of the dimensions of the bags with metallic guidelines is a poka yoke.
After a few weeks of experimentation with the new organization, the worker will offer a new way of proceeding.*

IMPROVEMENTS

