

**SAN01\_MÒDUL07: OPERACIONS BÀSIQUES DE LABORATORI**  
**UF1 NF2 Activitat N°2 Basic Lab Equipment \_Darts roulette**

<b>Type of activity:</b> Quiz Game; darts-roulette	<b>Topic:</b> Knowing basic lab equipment, adding adjectives through a darts-roulette game.
<b>Grouping:</b> Small groups	<b>Resources:</b> TIC. 1. Student document: Numbered Spanish lab equipment. Quiz game rules 2. Student grammar support: adjectives 3. Teacher answer key: key words. Add adjectives to Lab equipment. To know more Adjectives. Roulette and adhesive darts. 4. Teacher grammar support - answer key 5. New terminology template 6. Bibliography.
<b>Timing:</b> 90'	<b>Outcomes:</b> At the end of the lesson, students will be able to master material and facilities of our laboratory and link the appropriate instruments with the main techniques.

The **aim** of this activity is to learn the names and characteristics of common lab equipment while reinforcing teamwork skills. This task will allow the students to get used to the functions and uses of scientific lab equipment intended for the preparation of pharmaceutical compounding.

**Directions**

Motivate the students by explaining the activity in today's dynamic lesson;

***Playing darts while improving your knowledge!***

1. Split the class into four or five groups with the same or similar number of students. Give the students a couple of minutes to choose an English name that will be their team name.
2. Provide each group with the student document (*Numbered Spanish lab equipment*). Then, each student should translate all lab equipment into English. Correct as a whole group after a few minutes by going through the lab equipment setup by the whiteboard.
3. After, the teacher explains the uses of the laboratory equipment while reinforcing the importance of the adjectives used to describe their functions. Assess for feedback.
4. The teacher projects the roulette on the whiteboard, explains the game's rules, and shows the adhesive darts. It's time to start the game!
5. Each team participant takes a turn throwing the adhesive darts onto the roulette. After, he/she must follow the roulette's instructions, and the teacher writes down the group's scores.
6. Pay attention to the grammar support focus on adjectives. Students under supervision of the teacher complete the exercises.
7. As a whole group, fill in the new terminology template during the course of the lesson for further feedback.

**1. STUDENT DOCUMENT: NUMBERED SPANISH LAB EQUIPMENT & RULES**

**Numbered Spanish Lab equipment**

1. <i>Pipeta Pasteur de plàstic.</i>	2. <i>Ampolla rentadora</i>
3. <i>Matràs Erlenmeyer</i>	4. <i>Ulleres de seguretat</i>
5. <i>Vas de precipitat</i>	6. <i>Pipetes graduades</i>
7. <i>Probeta</i>	8. <i>Pinces del support</i>
9. <i>Paper de filtre</i>	10. <i>Matràs aforat</i>
11. <i>Tub d'assaig</i>	12. <i>Auxiliars de pipeteig: Pera de goma</i>
13. <i>Escobillò</i>	14. <i>Gradeta per tubs d'assaig</i>
15. <i>Embut Buchner</i>	16. <i>Embut de plàstic</i>
17. <i>Balança analítica</i>	18. <i>Pinces de metall</i>
19. <i>Matràs de Kitasato</i>	20. <i>Morter i pistil de ceràmica</i>
21. <i>Espàula de metall</i>	22. <i>Bureta</i>
23. <i>Auxiliar de pipeteig: pi-pum</i>	24. <i>Micropipeta</i>
25. <i>Pipetes aforades</i>	26. <i>Balança digital</i>
27. <i>Agitador vòrtex</i>	28. <i>Espectrofotòmetre</i>
29. <i>Autoclau</i>	30. <i>Microscopi</i>
31. <i>Centrifuga</i>	32. <i>pH metre</i>
33. <i>Thermometer</i>	34. <i>Guants</i>
35. <i>Bany termostàtic</i>	36. <i>Contenedor biològic</i>

### Quiz game rules

1. **Each number** corresponds to one of the *36 lab's equipment*. If the participant can identify the lab equipment where the adhesive dart adheres, name it and add adjectives to describe the lab equipment, his/her team will win **10 points**.
2. **Green number (0 or 00): Face to face**. The participating (A) challenges a member of the other team (B) to have a personal competition:
  - The teacher shows one of the 36 lab equipment to (B) and he/she must name it and add adjectives to describe it. If success it, the teacher asks (A) other lab equipment.
  - The first participant falls one of the asked lab equipment, loose *face to face*. The winner will win **20 points** for his/her team.
3. **White hexagon: Ask and steal**. The student (C) chooses a member (D) of the other team and asks him/her the name and an adjective to describe it. An incorrect answer given by (D) means that (C) steals, **20 points** from (D)'s team, but if (D) gives the correct answer, (D)'s team doesn't give any point to (C)s team
4. **Red circle: Identify and name 5 objects selected by the other team**. **25 points** for the player if all the answer has been answered in 30 seconds.
5. **Black ring: Face to face group**. Same as face to face, but everybody participate. The winner team will have **25 points** more in their score.

## 2. STUDENT GRAMMAR SUPPORT: ADJECTIVES

The aim of this grammar session is to review content and grammar, identifying adjectives to describe or give information about nouns.

- The good news is that the form of **adjectives does not change**; it does not matter if the noun being modified is male or female, singular or plural, subject or object.
- Some adjectives give us factual information about the non - age, size, color... (fact adjectives - can't be argued with). Some adjectives show what somebody thinks about something or somebody - nice, horrid, beautiful... (opinion adjectives - not everyone may agree).

In order to practice and know more about adjectives, are proposed **four activities** in relation with adjectives and with the lab material made of:

### Activities

#### I. Choose the correct adjective in each phrase.

1. Yesterday she heard \_\_\_\_\_ news. (to surprise)
2. The \_\_\_\_\_ tools must be returned by five o'clock. (to rent)
3. The \_\_\_\_\_ rabbit stayed perfectly still. (to frighten)
4. We had a \_\_\_\_\_ experience. (to frighten)
5. The play is \_\_\_\_\_. (to entertain)

#### II. Here there is all the adjectives referents to colours, read and fill the gap with the correct one in the next exercise.

- |               |             |                  |
|---------------|-------------|------------------|
| • Azure       | • Lavender  | • Multi-coloured |
| • Grey        | • Lilac     | • Turquoise      |
| • Pinkish     | • Cream     | • Drab           |
| • Black       | • Beige     | • Mustard        |
| • Green       | • Rosy      | • Violet         |
| • Purple      | • Brown     | • Dull           |
| • Blue        | • Light     | • Orange         |
| • Indigo      | • Scarlet   | • White          |
| • Red         | • Crimson   | • Gold           |
| • Teal        | • Magenta   | • Pink           |
| • Bright      | • Silver    | • Yellow         |
| • Mauve       | • Dark      | • Ivory          |
| • Transparent | • Brilliant | • Metallic       |

1. In the fall, leaves turn \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
2. The sky is \_\_\_\_\_ and the clouds are \_\_\_\_\_ - what a beautiful day.
3. Little \_\_\_\_\_ dress is an eternal fashion classic.
4. I like subtle colours, like beige, \_\_\_\_\_ and \_\_\_\_\_.
5. At Mardi Gras, it's all about \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
6. Biological waste containers at Guineueta's labs are \_\_\_\_\_.
7. Pasteur pipettes could be made for glass or plastic, but in both cases are \_\_\_\_\_.

**III. Translate into English the lab equipment and try to put one of these adjectives in each one.**

Accurate, adaptable, adjustable, advanced-technology, absorbent
based, basic, biological
careful, chemical, clinical, common, conventional
electronic, flexible, holey
individual, huge-mouth
large, little, lengthened
narrow-mouth, non-volumetric
scientific, small, transparent

Ex: Plastic Pasteur pipette adjectives → ***flexible, little and transparent.***

**IV: All lab equipment is made of wood, glass, ceramics, plastic or metal. What material does the basic lab equipment made?**

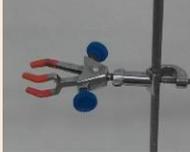
Ex: Erlenmeyer flask It's made of → ***glass***

**3. TEACHER ANSWER KEY**

The **key words** in this unit are:

<a href="#">Add adjective to</a>	Face to face
White hexagon	Red circle
Black ring	Roulette darts

**Add adjectives to Basic lab equipment.  
It's made of...**

<p>1. Plastic Pasteur pipette.</p> <p><i>Flexible, little and transparent.</i></p> <p><i>It's made of plastic</i></p>		<p>2. Wash bottle</p> <p><i>Flexible and transparent.</i></p> <p><i>It's made of plastic</i></p>	
<p>3. Erlenmeyer flask</p> <p><i>Non-volumetric, transparent and narrow mouth.</i></p> <p><i>It's made of glass</i></p>		<p>4. Safety goggles</p> <p><i>Transparent.</i></p> <p><i>It's made of plastic</i></p>	
<p>5. Beaker</p> <p><i>Rigid, transparent, Non-volumetric, huge mouth.</i></p> <p><i>It's made of glass</i></p>		<p>6. Graduated pipette</p> <p><i>Accurate, volumetric, transparent and lengthened.</i></p> <p><i>It's made of glass</i></p>	
<p>7. Graduated cylinder</p> <p><i>Volumetric and transparent.</i></p> <p><i>It's made of glass</i></p>		<p>8. Utility clamp</p> <p><i>Adaptable.</i></p> <p><i>It's made of iron</i></p>	

<p>9. Filter paper</p> <p><i>Absorbent and flexible.</i></p> <p><i>It's made of paper</i></p>		<p>10. Volumetric flask</p> <p><i>Accurate, volumetric and transparent.</i></p> <p><i>It's made of glass</i></p>	
<p>11. Test tube</p> <p><i>Transparent and lengthened.</i></p> <p><i>It's made of glass or plastic</i></p>		<p>12. Pipette bulb</p> <p><i>Flexible and adaptable.</i></p> <p><i>It's made of plastic</i></p>	
<p>13. Wire brush or test tube brush</p> <p><i>Flexible</i></p> <p><i>It's made of metal and plastic</i></p>		<p>14. Test tube-rack</p> <p><i>Rigid</i></p> <p><i>It's made of metal</i></p>	
<p>15. Buchner funnel</p> <p><i>Rigid and holey.</i></p> <p><i>It's made of ceramics</i></p>		<p>16. Plastic funnel</p> <p><i>Huge mouth.</i></p> <p><i>It's made of plastic</i></p>	
<p>17. Digital balance</p> <p><i>Accurate.</i></p> <p><i>It's made of metal</i></p>		<p>18. Metal forceps</p> <p><i>Adaptable.</i></p> <p><i>It's made of metal</i></p>	
<p>19. Kitasato flask</p> <p><i>Non-volumetric.</i></p> <p><i>It's made of glass</i></p>		<p>20. Ceramic mortar and pestle</p> <p><i>Rigid.</i></p> <p><i>It's made of ceramics</i></p>	
<p>21. Metal spatula</p> <p><i>Rigid.</i></p> <p><i>It's made of metal</i></p>		<p>22. Glass burette</p> <p><i>Volumetric and lengthened.</i></p> <p><i>It's made of glass</i></p>	

<p>23. Plastic pipette pump</p> <p><i>Narrow mouth and adaptable.</i></p> <p><i>It's made of plastic</i></p>		<p>24. Micropipette</p> <p><i>Accurate.</i></p> <p><i>It's made of plastic</i></p>	
<p>25. Volumetric pipette</p> <p><i>Volumetric and accurate.</i></p> <p><i>It's made of glass</i></p>		<p>26. Balance</p> <p><i>Conventional.</i></p> <p><i>It's made of metal and plastic</i></p>	
<p>27. Vortex agitator</p> <p><i>Electronic.</i></p> <p><i>It's made of plastic and metal</i></p>		<p>28. Spectrophotometer</p> <p><i>Advanced-technology.</i></p> <p><i>It's made of plastic</i></p>	
<p>29. Autoclave</p> <p><i>Electronic.</i></p> <p><i>It's made of metal and plastic</i></p>		<p>30. Compound microscope</p> <p><i>Scientific.</i></p> <p><i>It's made of plastic</i></p>	
<p>31. Centrifuge</p> <p><i>Advanced-technology and electronic.</i></p> <p><i>It's made of plastic and metal</i></p>		<p>32. pH metre</p> <p><i>Advanced-technology and electronic.</i></p> <p><i>It's made of plastic, accurate</i></p>	
<p>33. Thermometer</p> <p><i>Accurate.</i></p> <p><i>It's made of glass</i></p>		<p>34. Gloves</p> <p><i>Flexible and adaptable.</i></p> <p><i>It's made of latex or nitrile</i></p>	

35. Thermostatic bath

*Electronic.  
It's made of metal*



36. Biological waste container

*Conventional  
It's made of plastic*



### TO KNOW MORE

If you want to know more about adjectives check



**Ginger: Forming adjectives**  
**ESOL Courses**  
**List of adjectives**

**Roulette to be projected into  
the whiteboard and adhesive  
darts**





#### 4. TEACHER GRAMMAR SUPPORT - ANSWER KEY

Solutions students' grammar support: adjectives

**I. Choose the correct adjective in each phrase.**

##### **Adjectives answers**

1. Surprising 2. Rented 3. Frightened 4. Frightening 5. Entertaining

**II. Here there are all the adjectives referents to colours, read and fill the gap with the correct one in the next exercise.**

##### **Key colours answers**

1. **Yellow, orange, gold**
2. **Blue, white**
3. **Black**
4. **Cream, ivory**
5. **Yellow, purple, green**
6. **Yellow**
7. **Transparent**

**III. Translate into English the lab equipment and looking for at least one adjective to describe the lab equipment.**

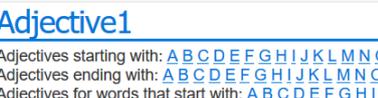
**IV. What material does it make the basic lab equipment?**

**Answered on point 3:** teacher answer key: lab equipment; add adjectives to basic lab equipment.



## 6. BIBLIOGRAPHY

Supplementary documentation considered: catalogues, articles, instructions, photographs, audios, and videos, pages of reference websites, documents, graphics, and links to similar documents

Imatge	Dades
	<b>Nom:</b> wordreference <b>Autoria:</b> <b>Llicència:</b> <b>URL:</b> <a href="http://www.wordreference.com/es/">http://www.wordreference.com/es/</a>
	<b>Nom:</b> Oxforddictionaries <b>Autoria:</b> <b>Llicència:</b> <b>URL:</b> <a href="https://es.oxforddictionaries.com/">https://es.oxforddictionaries.com/</a>
	<b>Nom:</b> Ginger. Grammar rules <b>Autoria:</b> <b>Llicència:</b> <b>https:</b> <a href="http://www.gingersoftware.com/content/grammar-rules/adjectives/forming-adjectives/">http://www.gingersoftware.com/content/grammar-rules/adjectives/forming-adjectives/</a>
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	<b>Nom:</b> adjective1 <b>Autoria:</b> <b>Llicència:</b> <b>https:</b> <a href="http://adjective1.com/end-e/">http://adjective1.com/end-e/</a>
	<b>Nom:</b> Jessica Lu, Bachelor of Arts (Cell Biology), Columbia University <b>Autoria:</b> Audio and grammar correction <b>Llicència:</b> <b>URL:</b> <a href="https://www.linkedin.com/in/jessica-lu-89b15348">https://www.linkedin.com/in/jessica-lu-89b15348</a>