WHAT IS AIR?

WHERE CAN WE FIND IT?______________________________

CAN YOU SEE IT?____________________________________

CAN YOU FEEL IT?___________________________________

DOES AIR OCCUPY SPACE???___________________________

DOES IT HAVE WEIGHT?________________________________

DOES IT HAVE DEFINITE VOLUME?________________________

WHAT IS THE AIR MADE OF?____________________________

WHAT IS EVAPORATION?________________________________

WHAT IS CONDESATION?________________________________

3rd YEAR PRIMARY EDUCATION
YEAR 2013/2014
DOES AIR OCCUPY SPACE?

STUDENT:

3rd YEAR PRIMARY EDUCATION
DOES THE AIR HAVE WEIGHT?

STUDENT:

3rd Year  Primary Education
Conclusions

You need for the experiments: plastic cups, water, napkins, ping pong balls, a ruler, string and balloons.

• The experiments have shown us that air occupies space and it weighs.

• Air is made up of things we can not see. So they have to be very very small, tiny indeep. They are called molecules.
WHAT IS THE AIR MADE UP OF?

Fichas Gases Primaria.
CBM 'NTRA. SRA. DE LOS ÁNGELES' EL ESPARRAGAL (MURCIA)
Autoras: Ascensión López Espín / Ana Cristina Rubín Torrado / Nuria Castellanos Serna / Mariola Sanz Rodríguez.
Publicado en septiembre de 2014 en CIENCIA EN EL AULA- EL CSIC EN LA ESCUELA [http://www.csicenlaescuela.csic.es/]
GASES IN MOVEMENT

• Molecules are like ping pong balls.
GASES PROPERTIES

<table>
<thead>
<tr>
<th>THEY DO NOT HAVE DEFINITE VOLUME. IF THERE IS NOT A CONTAINER, GASES WILL TAKE ALL THE SPACE.</th>
<th>THEY DO NOT HAVE DEFINITE VOLUME OR SHAPE. THEY WILL TAKE THE SHAPE OF THE CONTAINER</th>
</tr>
</thead>
</table>

STUDENT: __________________________________________________________

3RD YEAR PRIMARY EDUCATION

Fichas Gases Primaria.
CBM 'NTRA. SRA. DE LOS ÁNGELES' EL ESPARRAGAL (MURCIA)
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GASES PROPERTIES

**CAN BE COMPRESSED AND EXPANDED**

**GASES HAVE WEIGHT**

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**STUDENT:**

3RD YEAR PRIMARY EDUCATION
Conclusions

• You need for the experiments: syringes, empty coke cans, balloons, straws, bottle of water.

• Gases don’t have definite shape and definite volume.

• Temperature and pressure have influence in gases.
More experiments
WHAT IS THE AIR MADE UP?

GASES

Approximate composition of the air

- Nitrogen: 79%
- Oxygen: 20%
- Other gases: 1%

NB "Other gases" includes carbon dioxide (0.03%) and small proportions of other gases including argon and water vapour.

STUDENT: ________________________________

3RD YEAR PRIMARY EDUCATION
OXYGEN / CARBON DIOXIDE

HOW CAN WE PROVE THAT THESE GASES ARE IN THE AIR?

STUDENT: ______________________________________

3RD YEAR PRIMARY EDUCATION

Fichas Gases Primaria.
CBM ‘NTRA. SRA. DE LOS ÁNGELES’ EL ESPARRAGAL (MURCIA)
Autoras: Ascensión López Espín / Ana Cristina Rubín Torrado / Nuria Castellanos Sema / Mariola Sanz Rodríguez
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Conclusions

- Air is made of different gases, mainly nitrogen and oxygen. Other gases are water vapour or carbon-dioxide.
- Some of them are heavier than others.
HOW CAN WATER TRAVEL THROUGH THE AIR?

EVAPORATION

STUDENT: ____________________________

3RD YEAR PRIMARY EDUCATION

Fichas Gases Primaria.
CBM ‘NTRA. SRA. DE LOS ÁNGELES’ EL ESPARRAGAL (MURCIA)
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OTHER EXPERIMENT

EVAPORATION

WHY IT HAS EVAPORATED QUICKER THAN THE OTHER?

TEMPERATURE

Fichas Gases Primaria.
CBM 'NTRA. SRA. DE LOS ÁNGELES' EL ESPARRAGAL (MURCIA)
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HOW CAN WATER TRAVEL THROUGH THE AIR?

CONDENSATION

STUDENT:

3RD YEAR PRIMARY EDUCATION
Conclusions

• Water vapour travels through the air by means of evaporation and condensation.
• Evaporation is when water changes its state from liquid to gas.
• Condensation is when water vapor changes its state from gas to liquid.
• Temperature influences in these changes of state.
RECAP

• Air is everywhere
• You can’t see it but you can feel it.
• Air occupies space.
• Air weighs.
• Air has not definite volume and shape.
• Air is made of gases. Gases are made of molecules.
• Air is made up of oxygen, nitrogen, carbon dioxide, water vapour and other gases.
• Evaporation occurs when a liquid changes its state to form a gas or vapor.
• Condensation occurs when a vapor or gas changes its state to form a liquid.