

# CHEMICAL SUBSTANCES IN OUR HOMES

## RESEARCH RESULTS



# OPERATIVE APPROACH

- **FIRST STEP**

Samples will be selected from our students' families.

- **SECOND STEP**

Data will be collected and sorted out depending on the potential danger of the chosen chemical product and on the domestic place related to the environment from which the product has been taken (kitchen, bathroom, store room etc...)

# OPERATIVE APPROACH

- **THIRD STEP**

A statistical analysis of the information (with particular reference to the “danger” of each substance) will follow.

- **FOURTH STEP**

Look for possible substitutes of chemical products

# WHAT DID WE IN ANALYSE?

- For each chosen environment we in analyse three common-use products through which it's possible to show the presence of a potentially dangerous chemical product.

# KITCHEN

## Preparation and preserving of food

| <b>Product</b>  | <b>Chemical substance</b> | <b>Health risk</b>     |
|-----------------|---------------------------|------------------------|
| Coca cola light | Aspartame                 | Potentially carcinogen |
| Sausages        | Nitrites and Nitrates     | Carcinogen             |
| Jam             | Benzoic acid              | Carcinogen             |

# BATHROOM

Cosmetic and medicines

| <b>Product</b> | <b>Chemical substance</b> | <b>Health risk</b>     |
|----------------|---------------------------|------------------------|
| Deodorant      | Aluminium                 | Potentially carcinogen |
| Shampoo        | Sodium laureth sulfate    | Enzyme toxicity        |
| Makeup         | Formaldehyde              | Carcinogen             |

# STORE ROOM

## Cleaning Products

| Product               | Chemical substance         | Health risk           |
|-----------------------|----------------------------|-----------------------|
| Bleach                | Sodium hypochlorite        | Respiratory problems  |
| Polishing liquid      | Methylisothiazolinone      | Potentially cytotoxic |
| Clean furniture spray | Volatile organic compounds | Carcinogen            |



# BEDROOM

Textiles, cleanliness and conservation

| Product            | Chemical substance   | Health risk               |
|--------------------|----------------------|---------------------------|
| Carpets            | Flame retardant      | Interference in growth    |
| Wardrobe atomizers | Paradichloro-benzene | Carcinogen                |
| Insect repellents  | Diethyl-toluamide    | High degree of absorption |

# STRUCTURE OF THE HOUSE

## Building Materials

| Product         | Chemical substance      | Health risk                                       |
|-----------------|-------------------------|---|
| Windows         | PVC organotin compounds | Interference with the immune system               |
| Parquet varnish | Phthalates              | Interference with hormones production. Carcinogen |
| Painting walls  | Phthalates              | Interference with hormones production. Carcinogen |

# CHEMICAL SOURCES SUBSTITUTES

| <b>CHEMICAL SOURCES</b>  | <b>SUBSTITUTES</b>  |
|--------------------------|---|
| <b>Paints</b>            | <b>Use Low toxic water based paints (low VOC's), casein</b>                                     |
| <b>Synthetic Carpets</b> | <b>Try natural materials such as sisal, sea grass, coir, wool (untreated with lindate, etc)</b> |
| <b>Vinyl Flooring</b>    | <b>Install cork, linoleum</b>   |

# CHEMICAL SOURCES SUBSTITUTES

|                          |  |
|--------------------------|--|
| <b>Varnishes</b>         | <b>Use beeswax, linseed oil, unfinished wood</b>                                   |
| <b>Cleaning Products</b> | <b>Clean with water &amp; vinegar, lemon juice, baking soda, hydrogen peroxide</b> |
| <b>Fabric Softener</b>   | <b>Avoid using (due to amount of chemical emissions)</b>                           |

# CHEMICAL SOURCES SUBSTITUTES

|                                    |  |
|------------------------------------|--|
| <b>Plywood, Composition Boards</b> | <b>Use solid wood, Exterior plywood only</b>                           |
| <b>Room Deodorizers</b>            | <b>Use cloves, lavender, scented flowers. Open windows (!)</b>         |
| <b>Glue</b>                        | <b>Use wood glue instead of solvent - based glue. Ventilate house.</b> |

# CHEMICAL SOURCES SUBSTITUTES

**Synthetic Pesticides**

**Clean & vacuum regularly. Close off any openings in home. Avoid building materials around foundation that could attract insects**

**Laundry Detergents**

**Use biodegradable, unscented products.**

# CONCLUSIONS

- **Reduce Chemicals at Home**
  - Simple changes to what we buy and how we live can make a big difference in reducing the chemicals in our homes.
- **Buy differently**
  - Removing harmful chemicals from your home begins with the products you buy.
- **Read the labels**
  - Buy products labelled non-toxic, biodegradable, all-natural, and those that contain plant-based ingredients.
  - Look for the following signal words. Buy products that are the least harmful.
    - **Caution** – Mild/Moderate hazard
    - **Warning** – Moderate hazard
    - **Danger** – Extremely flammable, corrosive, or toxic
    - **Poison** – Highly Toxic
- **Buy only what you need**
  - It will save money and reduce the negative impact on you and on the environment.