

# *European School Karlsruhe Open Day 2021*

## *ESKAR Grundschule Laboratory Project*

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# Lab project ESKAR: Goals and organization

## *F**u**n*      *w**i**t**h*      *S**c**i**e**n**c**e*

Introduce Practical Science: Basic principles  
Having fun with Science!!!!



- 2x 1.5 hours each year: From year 1 to year 5.
- Maximum 14 children per group
- Custom equipped laboratory (thanks to JRC-ITU)



# Year 1

## Lesson 1

### Senses: Taste

- Sweet, Salty, Bitter, Sour.
- Tongue map
- Smell and sight help sense of taste



## Lesson 2

### States of matter

- Solids, liquids Gas.
- Ice, Water, Steam
- Chocolate

# Year 2

## Lesson 1 Solubility

- Sugar crystals under microscope
- How much sugar can dissolve in water?



## Lesson 2 Density

- What makes solids float or sink?
- Dissolving sugar changes water density.
- Temperature changes water density
- Liquids with different density don't mix



# Year 3

## Lesson 1 Skeleton

- Function?
- Compare skeletons of different animals
- Bones are hollow: So are they weak?



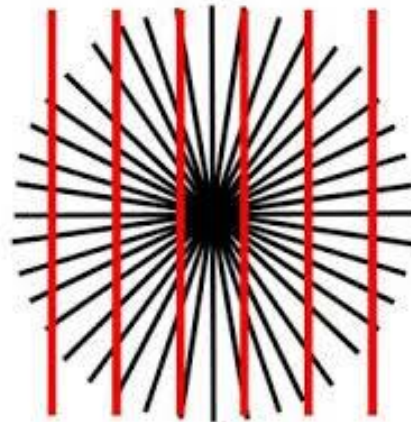
## Lesson 2 Separation

- How to purify water?
- Separating and sorting money.
- Chromatography – separating colours

# Year 4

## Lesson 1 Digestion

- Why is it important?
- How does the digestive tract structure help its function?
- Make an artificial digestive system!!



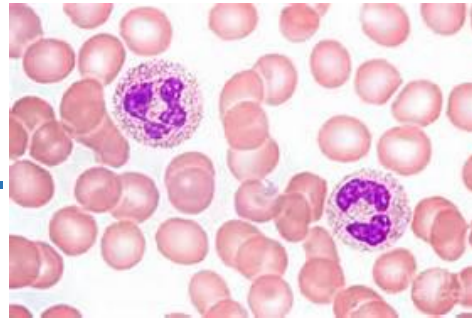
## Lesson 2 Vision and illusion

- How the eye and vision work
- How optical illusions trick our brain

# Year 5

## Lesson 1 Circulation

- How circulation works.
- How the heart works
- What are cells?
- What is blood?



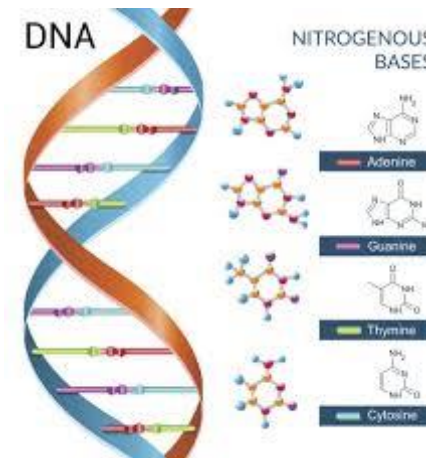
## Lesson 2 Respiration

- What is respiration?
- Why do we need oxygen
- Why carbon dioxide is toxic
- How the lungs work



## Lesson 3 DNA

- The anatomy of cells
- What is DNA?
- Introduce Genetics
- Extract DNA from a banana



# What have we learned?



## *F u n   w i t h   S c i e n c e*

- Most children enjoy science!
- Best formula: More practical less theory
- Children can understand more complex principles than you might expect for their age..
- Great team work with teachers and ESKAR
- Really rewarding for us as scientists

