**SUBJECT: SCIENCE CLASS: 7**

**LESSON: COLOURS**

1. Teacher – student conversation about transparency, colours and energy. (5 minutes)

2. Worksheet about colours (attachment). Students work in groups of 3 or 4, take didactic accessories and do the experiments. (25 minutes)

3. Students with teacher`s help check the answers and define concepts: transparent matter, coloured matter, rainbow colours, wavelength, white light

4. Teacher explains how we see colours. (15 minutes)

Teacher`s support: interactive didactic material (bought by school)

**https://www.irokusplus.si/**

**Handout – Light and colours**

1. Light travels through different substances.

What you need: glass container with water, food colouring, milk, dropper, flashlight

Flash the light through the container, filled with water. What do you see?

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Add 2 drops of food colouring into the water and flash the light through the mixture. What do you see now?

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Than add 10 drops of milk into the water and flash again. What do you see? Describe what you have observed!

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When is water transparent?

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2. Diffraction of light

What you need: overhead projector, prism

Put the prism on the overhead projector and light through the prism. What do you see (on the ceiling)?

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Write down the colours in the right order!

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3. Colour peg top

What you need: peg top coloured in rainbow colours

Write down the colours on the peg top.

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Spin the peg top. What colour do you see on the peg top now?

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4. Light is an energy

What you need: 2 plastic bottles – one with white coloured water and one with black coloured water, 2 thermometers, stopwatch, flashlight

Put the thermometer into each bottle of water. Light both bottles with flashlight and measure the time. Each minute measure the temperature in both bottles. Write down the results.

|  |  |  |
| --- | --- | --- |
| time [s] | bottle with white waterT (water) [°C] | bottle with black waterT (water) [°C] |
| 0 |  |  |
| 60 |  |  |
| 120 |  |  |
| 180 |  |  |
| 240 |  |  |
| 300 |  |  |
| 360 |  |  |

Results:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

