Oxygen

Grade Level: 3rd
Competency: SCIENCE
3. Describe the characteristics, structures, life cycles, and environments of organisms.

Objectives:
b. Identify and describe the purpose of the digestive, nervous, skeletal, and muscular systems of the body. (DOK 1)

Content Strand: Life Science
Integrated Subject Area(s): Physical Education
Duration: 35 minutes
Materials: balloons, lung diagram
Description:

Put in “You’ve Gotta Move” DVD Oxygen Activity: Why do you need to breathe?
Did you know that every part of your body needs oxygen? Without oxygen you couldn’t move or breathe! So how do you get oxygen? From breathing in air which your blood circulates to all parts of the body.

How do you breathe?
You breathe with the help of your diaphragm and other muscles in your chest and stomach. (Hold up diagram) These muscles change the size and pressure inside your body so you have room to breathe. When your diaphragm pulls down, it not only leaves more space for the lungs to expand but also lowers the internal air pressure. Then you suck in air in an inhal. The air then inflates your lungs like a pair of balloons. (Hand out balloons) When your diaphragm relaxes, the cavity inside your body gets smaller again. Your muscles squeeze your rib cage and your lungs begin to contract as the air is pushed up and out your body in an exhale. Let’s see how it works!

Direct children to blow up the balloons and explain that this is what your lungs look like as you inhale, then have students let the air out of the balloons to “breathe out” the air. Repeat as necessary.

Assessment:
Teacher assesses students ability to follow directions, motor skills, and understanding of how the lungs work.
| Competencies and Objectives | 1. Demonstrate competency in motor skills and movement patterns needed to perform a variety of physical activities. (GM, FM)  
a. Begin to use locomotor* and nonlocomotor* skills to perform rhythmic activities. |
Oxygen

Grade Level 4th

Competency SCIENCE

3. Analyze the characteristics, structures, life cycles, and environments of organisms.

Objectives

a. Describe the cause and effect relationships that explain
b. Classify the organs and functions of the nervous, circulatory, and respiratory systems of the body.

Content Strand Life Science

Integrated Subject Area(s) Mathematics, Visual Arts

Duration 35 minutes

Materials calculator, poster board, markers/crayons

Description

Put in “You’ve Gotta Move” DVD Oxygen

Activity: All that money!!!
This is a healthy lungs activity. Introduce the activity by explaining how smoking affects breathing. Smoking a pack a day costs $1,200 per year or $100 a month! What else could you do with all that money! Have students list some of their favorite activities (going to the movies, playing video games) and calculate how many they could do with money wasted on cigarettes.

Activity: Why shouldn’t we smoke?
Have students brainstorm ideas and reasons not to smoke. Have students create posters explaining their reasons for not smoking.

Assessment Teacher assesses students’ ability to add, multiply, list ideas, and follow directions.

Integrated Subject Area(s) Mathematics

Competencies and Objectives

1. Understand relationships among numbers, use the four basic operations, compute fluently, and make reasonable estimates.

a. Add and subtract up to five-digit whole numbers with and without regrouping. (DOK 1)

b. Add and subtract decimals through hundredths. (DOK 1)

c. Explain two or more methods of multiplying whole numbers (one- and two digits) with justification. (DOK 2)
Oxygen

Know the differences between a variety of media and processes and use them to create works of art that communicate ideas. (CP)

a. Demonstrate ability to fulfill responsibilities in a cooperative manner within a group with little guidance from the teacher.

b. Know how to practice safety, recycling, and conservation in the use of tools, materials, and equipment while creating original works of art.

c. Demonstrate increased manipulative skills by performing a variety of tasks (e.g., cutting, gluing, arranging, constructing, sorting, tracing, rubbing, folding, bending, modeling, coloring, painting, drawing, scribbling, stitching, wrapping, weaving, tearing).

d. Know how to select media, tools, and techniques to communicate intended purpose and meaning.
You’ve Gotta Move Supplemental Lessons

Oxygen

Grade Level 5th
Competency SCIENCE

1. Develop and demonstrate an understanding of scientific inquiry using process skills.

   a. Form a hypothesis, predict outcomes, and conduct a fair investigation that includes manipulating variables and using experimental controls. (DOK 3)

Content Strand Inquiry
Integrated Subject Area(s) Health
Duration 35 minutes
Materials Computer with Internet Access, Cigarette Ingredients list
Description Put in “You’ve Gotta Move” DVD Oxygen

Activity: What’s in that?
Directions: This is an Healthy Breathing activity. Introduce the activity by explaining how smoking affects breathing. Hand out the Cigarette Ingredients list. Assign each student a chemical and have them use the internet to find out what each chemical does and other things they are used for (Ex. Acetone – nail polish remover) Use the children’s discoveries to start a discussion – then have students illustrate their findings.

Assessment Teacher will assess students’ research skills, presentation skills, ability to follow directions

Integrated Subject Area(s) Health
Competencies and Objectives 7. Students will demonstrate the ability to advocate for personal, family, and community health. (C, F, M, D)

   a. Identify responsibilities within the family.

   b. Develop strategies to encourage and influence others in making healthy choices (i.e., healthy food choices, abstaining from alcohol, tobacco, and illegal drug use).
Ingredients in Cigarettes

- Acetanisole
- Acetic Acid
- Acetoin
- Acetophenone
- 6-Acetoxyhydroxyethylglycine
- 2-Acetyl-3-ethylpyrazine
- 2-Acetyl-5-methylfuran
- Acetylpyrazine
- 2-Acetylpyridine
- 3-Acetylpyridine
- 2-Acetylthiazole
- Acetic Acid
- Acetonitrile
- Acetone
- Acetic Anhydride
- Acetic Acid, Anhydrous
- Acetic Acid, Monohydrate
- Acetic Acid, Trihydrate
- Acetic Acid, Tetrahydrate
- Acetone
- Acetophenone
- Acetophenone, Diethylhydrazine
- Acetic Acid, Monoethylester
- Acetic Acid, Ethylester
- Acetic Acid, Monoethylster
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Ingredients in Cigarettes

• Butyl Acetate
• Butyl Butyrate
• Butyl Butyryl Lactate
• Butyl Isovalerate
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Ingredients in Cigarettes

- 2-trans, 4-trans-Decadienal
- delta-Decalactone
- gamma-Decalactone
- Decanoic Acid
- 1-Decanol
- 2-Decanol
- Dehydromethofurolactone
- 2,3-Diethylpyrazine
- Dihydro Anethole
- 5,7-Dihydro-2-Methylthieno(3,4-D)Pyrimidine
- Dill Seed Oil and Extract
- meta-Dimethoxybenzene
- para-Dimethoxybenzene
- 2,6-Dimethoxyphenol
- Dimethyl Succinate
- 3,4-Dimethyl-1,2-Cyclopentanedione
- 3,5-Dimethyl-1,2-Cyclopentanedione
- 3,7-Dimethyl-1,3,5-Octatriene
- 4,5-Dimethyl-3-Hydroxy-2,5-Dihydrofuran-2-One
- 6,10-Dimethyl-5,9-Undecadien-2-One
- 3,7-Dimethyl-6-Octenoic Acid
- alpha,para-Dimethylbenzyl Alcohol
- alpha,alpha-Dimethylphenethyl Acetate
- alpha,alpha-Dimethylphenethyl Butyrate
- alpha,alpha-Dimethylphenethyl Hexanoate
- alpha,para-Dimethylbenzyl Alcohol
- alpha-alpha-Dimethylphenethyl Acetate
- dl-Methionine
- Methoprene
- 2-Methoxy-4-Methylphenol
- para-Methoxybenzaldehyde
- 1-(para-Methoxyphenyl)-1-Penten-3-One
- 4-(para-Methoxyphenyl)-2-Butanone
- 1-(para-Methoxyphenyl)-2-Propanone
- Methoxy pyrazine
- Methyl 2-Furoate
- Methyl 2-Octanoate
- Methyl 2-Pyrrolid Ketone
- Methyl Anisate
- Methyl Anthranilate
- Methyl Benzoate
- Methyl Cinnamate
- Methyl Dihydrojasmonate
- Methyl Ester of Rosin, Partially Hydrogenated
- Methyl Isovalerate
- Methyl Linolate (49%)
- Methyl Linolate (52%) Mixture
- Methyl Naphthyl Ketone
- Methyl Nicotinate
- Methyl Phenylacetate
- Methyl Salicylate
- Methyl Sulfide
- Methyl-alpha-Ionone
- Methyl-trans-2-Butenoic Acid
- Methylacetate
- dl-Methionine
- Megaprene
- 2-Methoxy-4-Methylphenyl
- para-Methoxybenzaldehyde
- 1-(para-Methoxyphenyl)-1-Penten-3-One
- 4-(para-Methoxyphenyl)-2-Butanone
- 1-(para-Methoxyphenyl)-2-Propanone
- Methoxy pyrazine
- Thyme Oil, White and Red
- Thymol
- Tobacco Extracts
- Tochopherols (mixed)
- Tolu Balsam Gum and Extract
- Toluldehydes
- para-Tolyl 3-Methylbutyrate
- para-Tolyl Acetaldehyde
- para-Tolyl Acetate
- para-Tolyl Isobutyrate
- para-Tolyl Phenylacetate
- Triacetin
- 2-Tridecanone
- 2-Tridecanone
- Triethyl Citrate
- 3,5,5-Trimethyl-1-Hexanol
- para,alpha,alpha-Trimethylbenzyl Alcohol
- 4-(2,6,6-Trimethylcyclohex-1-Enyl)But-2-En-4-One
- 2,6,6-Trimethylcyclohex-2-Ene-1,4-Dione
- 2,6,6-Trimethylcyclohexa-1,3-Dienyl Methan
- 4-(2,6,6-Trimethylcyclohexa-1,3-Dienyl)But-2-En-4-One
- 2,2,6-Trimethylcyclohexanone
- 2,3,5-Trimeethylpyrazine
- 1-Tyrosine
- delta-Undecalactone
- gamma-Undecalactone
- Undecanal
- 2-Undecanone, 1
- Urea
- Valencene
- Valeraldehyde
- Valerian Root Extract, Oil and Powder
- Valeric Acid
- gamma-Valerolactone
- Valine
- Vanilla Extract And Oleoresin
- Vanillin
- Veratraldehyde
- Vetiver Oil
- Vinegar
- Violet Leaf Absolute
- Walnut Hull Extract
- Water
- Wheat Extract And Flour
- Wild Cherry Bark Extract
- Wine and Wine Sherry
- Xanthan Gum
- 3,4-Xylenol
- Yeast

- Thyme Oil, White and Red
- Thymol
- Tobacco Extracts
- Tochopherols (mixed)
- Tolu Balsam Gum and Extract
- Toluldehydes
-para-Tolyl 3-Methylbutyrate
-para-Tolyl Acetaldehyde
-para-Tolyl Acetate
-para-Tolyl Isobutyrate
-para-Tolyl Phenylacetate
-Triacetin
-2-Tridecanone
-2-Tridecanone
-Triethyl Citrate
-3,5,5-Trimethyl-1-Hexanol
-para,alpha,alpha-Trimethylbenzyl Alcohol
-4-(2,6,6-Trimethylcyclohex-1-Enyl)But-2-En-4-One
-2,6,6-Trimethylcyclohex-2-Ene-1,4-Dione
-2,6,6-Trimethylcyclohexa-1,3-Dienyl Methan
-4-(2,6,6-Trimethylcyclohexa-1,3-Dienyl)But-2-En-4-One
-2,2,6-Trimethylcyclohexanone
-2,3,5-Trimeethylpyrazine
-1-Tyrosine
delta-Undecalactone
gamma-Undecalactone
Undecanal
2-Undecanone, 1
- Urea
- Valencene
- Valeraldehyde
- Valerian Root Extract, Oil and Powder
- Valeric Acid
- gamma-Valerolactone
- Valine
- Vanilla Extract And Oleoresin
- Vanillin
- Veratraldehyde
- Vetiver Oil
- Vinegar
- Violet Leaf Absolute
- Walnut Hull Extract
- Water
- Wheat Extract And Flour
- Wild Cherry Bark Extract
- Wine and Wine Sherry
- Xanthan Gum
- 3,4-Xylenol
- Yeast