Microbial Discovery Activity

Public Health Scavenger Hunt

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Intended Audience

K-4 X
5-8
9-12

Activity Characteristics

Classroom setting
Uses hands-on manipulatives X
Requires mathematical skills X
Can be performed individually X
Requires group work
Appropriate for special needs student X
Requires more than one class period
Introduction

Abstract
The Public Health Scavenger Hunt is a playful and creative investigation of basic public health concepts for small children. This activity leads them through a series of tasks including exploration and recognition of their surroundings, hygiene recognition, riddle and puzzle solving, and cardiovascular exercise. Students will gain an awareness of not only their surroundings, but also their body’s actions. By completing this activity, students will be able to recognize direct cause and effect relationships, and their creative visual skills will be put to the test.

Core Themes Addressed

<table>
<thead>
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<th>Theme</th>
<th>Indicators</th>
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<td>General Microscopy Concepts</td>
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<td>Microbial Cell Biology</td>
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<td>Microbial Genetics</td>
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<td>Microorganisms and Humans</td>
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<td>Microorganisms and the Environment</td>
<td>X</td>
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<td>Microbial Evolution and Diversity</td>
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<tr>
<td>Other - Common properties of life; Cellular components</td>
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Keywords
Public Health, Scavenger Hunt, Environment, Disease, Epidemiology

Learning Objectives
At the completion of this activity, learner will have:
- obtained a better understanding of how germs are spread
- used critical thinking skills
- demonstrated visual and descriptive acuity of the environment
- gained an awareness of their body

National Science Education Standards Addressed
- Unifying concepts- evidence, models, and explanation, change, constancy, and measurement.
- Science as inquiry- understanding scientific concepts, skills necessary to become independent inquires about the natural world.
- Physical Science-properties of objects and materials, position of objects.
- Life Science-Characteristics of organisms and environments
- Earth science-properties of earth materials
- Science in Personal and Social Perspectives-personal health
Student Prior Knowledge
None

Teacher Background Information
Public health refers to the study of a community and its states of well being, physically, mentally, and socially. The main divisions in the field include epidemiology, biostatistics, environmental, and occupational health, and policy and management. While the study of disease and prolonging life are major themes, prevention, program development, public hygiene, and education are also important topics.

In this activity, students will learn how to recognize their environment, and see how their actions may affect other’s health. They will use their problem solving skills, and feel the cause and effect of exercise on their own body’s health state.

Class Time
1 hour

Teacher Preparation Time
20 minutes
- Photocopy the attached Scavenger Hunt worksheets. Attach to a clipboard.
- Aliquot birdseed into plastic bags and place inside small paper sacks for each child/team.
- Investigate area near playground or on school premises where students may safely explore, collect, and investigate as described in the worksheet.

Materials and Equipment
- Small paper lunch sacks
- Plastic re-sealable sandwich bags
- Sack of bird seed
- Pencils
- Copies of the worksheet
- Clipboards
- Outside location such as a playground or park

Safety Precautions
- Students should be supervised at all times when outside the classroom.
- Students should be instructed not to touch hazards or run with sharp objects.
- Ideally this activity should be conducted on a grassy area.
Methods
1. Prepare all materials-Each student or team will need:
   - A small plastic bag containing approximately one cup of bird seed.
   - A photocopy of the worksheet attached to a clipboard
   - A small paper bag to place collected objects
   - A worksheet
   - A pencil to write answers on the Scavenger Hunt worksheet
2. Gather students inside the classroom. Explain the school rules for outside activities. If desired, divide class into small groups of 2-3 to work together.
3. Lead students to outside activity location and reinforce the rules of the activity.
   - Rules
     1. Stay with partner/team at all times. Always stay within the designated search area within sight of teacher.
     2. All rules that apply on the playground are enforced during this activity. Therefore, no running, throwing sand, etc.
     3. Answer all questions on the scavenger hunt to the best of your ability.
     4. Each student/team must do their own work.
     5. Once complete, return activity, clipboard, pencil, and paper sack with collected objects to the teacher.
4. Give each student/team a clipboard with an attached worksheet, pencil, plastic bag with birdseed, and paper sack. Explain to students that they will be using their critical thinking skills to solve riddles, and puzzles. Encourage them to be creative and aware of their surroundings. Explain that they will have 20 minutes to complete the activity.
5. Dismiss students to work, or guide groups through each question. This step will be determined by the maturity level and needs of the class.
6. Upon completion, collect all materials from the students and discuss findings.

Tips/Suggestions
- Prepare extra bags of birdseed for students who spill the content of the bags before end of activity.
- With large groups, scavenger hunt activities may be executed in “stations.” Guide students to each new activity and discuss each point rather than allowing total independence.
- Examples of
  Brown-sticks, dirt
  Green-grass
  Hard- rocks, tree bark
  Squishy-worms, flowers
  Flat-leaf
  Round- acorns, nuts, berries

Kids can get very creative. Feel free to adjust the adjectives to fit the needs of your environment.
Public Health Scavenger Hunt

1. ICKY! My Hands are DIRTY!
Find one of each of the following kinds of items that would make your hands dirty and place it in the bag. Everywhere you find you item, place some bird seed on the ground.

Brown  Green
HARD  SQUISHY
FLAT  ROUND

Now, answer the following question...
When my hands are dirty, where can I go to wash them when I am at the park?

Now, look back and see all the bird seed. WOW! It is spread everywhere!! Imagine if each little bird seed was a germ. When you do not wash your hands, germs spread and live EVERYWHERE you touch! Always remember to wash your hands so that you and your family stay healthy.

2. SCAMBLE!
Oops! These letters got all mixed up! Use each letter to create a word that will help keep everyone healthy! Write your answer on the line below.
HINT: It comes in bottles that should be recycled

R T A W E
3. **Find a Friend!**
Solve the riddle and find the following animals that live in the park. Sketch their picture in the box.

I’m a slimy little thing, green and brown,
I like to grribbit, I never frown,
I hop in the bayous on this side of town,
Eating insects while I jump all around.

Your turn! Jump up and down 10 times like your new animal friend. Place your hand on your chest near your heart. Do you feel it beating?

I’m a fluffy bird, small and white,
When you hear me quack, do not fright,
I like to eat bread, and waddle around
You find me in the water and on the ground.

**YOU’RE ALMOST FINISHED! NOW, RUN BACK TO THE TABLE TO TURN IN YOUR BAG!**
As you can see, you just got a lot of exercise running around this park! Exercise can be really fun and is an important part to being healthy. Remember to keep yourself healthy by eating right and
exercising everyday! To help keep all your new animal friends happy, remember to ALWAYS place your trash in a trash can and to recycle your glass, paper and plastic items.