

You need out your Warm Up & Agenda

Homework: Work on Calendar

Test Feb 12

$$\frac{17.5}{2}$$

Opening:

1. Find the area:

58.75⁵ 50 8.15 $\frac{b \cdot h}{2}$
 10cm 3.5cm $5 \cdot 3.5$

2. A circle has an circumference of 37.68.

What is the diameter?

$$C = 2\pi r$$

$$d = 12$$

$$C = \pi d$$

$$\frac{37.68}{3.14} = \frac{3.14d}{3.14}$$

$$12 = d$$

SURVIVAL OF THE FITTEST

What have you been studying in science lately?

>How does this relate to survival of the fittest?

Design an ecosystem to answer the question:

How does energy flow in an ecosystem to sustain the lives of organisms?

Purpose: To design and build a closed ecosystem to sustain the life of organisms

Building Materials: Pond water, distilled (fresh water) water, soil, sand, pebbles (small rocks), plant(s), and an invertebrate (fresh water shrimp or a cricket- at this time)

Back ground information: An ecosystem is a community of living things (biotic factors) that interact with nonliving things (abiotic factors) in a specific area. Abiotic factors such as temperature, sunlight, water, and minerals determine which species are able to survive in an ecosystem. Biotic factors, or populations of organisms in an ecosystem, can be classified by their function. Some producers, such as algae and green plants, make their food using sunlight through a process called photosynthesis. Consumers can be carnivores, herbivores, or omnivores. Decomposers, such as fungi and some bacteria, are consumers that break down dead plants and animals to recycle them into nutrients that other organisms can use.

Add in notes, questions, or ideas from the background information.

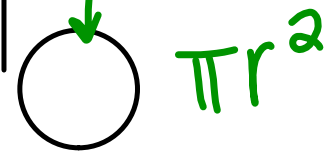
- Sunshine
- breathing
- food

Today you will be considering the abiotic factors in your ecosystem build. Your task is to create a preliminary (first step/rough draft) design of the amounts of each one you would expect to need in your 2 liter bottle ecosystem. Remember this is just the first step in the design process. As you learn and research more about the topic of ecology in your science class you will likely want to redesign before completing your actual build.

Using Volume to Create your Biome- STEAM Assignment I

The formula used for volume of any 3D shape is

$B \cdot h$
 $V = (\text{area of the base}) \times h$



Step 1: Finding the area of our base:

First, we need to find the shape of our base.

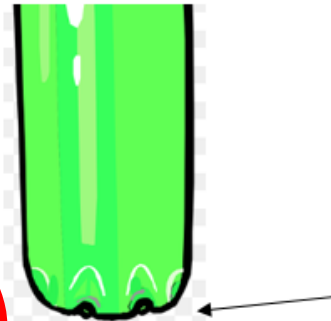
 ○

What is the formula to find the area of our base?

 πr^2 $\pi \cdot 6^2$

Measure your soda bottle to find your radius:

 $\pi \cdot 6 \cdot 6 = 113.04$



Step 2: Finding the volume of the soil/sand:

You need to measure the height of soil/sand you want:

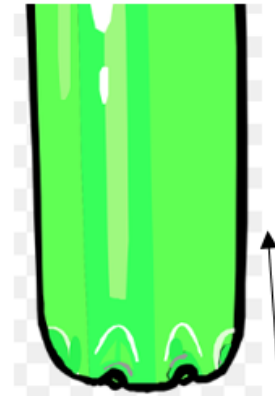
8 cm

Use your volume formula to find the volume of soil needed:

$$V = (\text{area of the base}) \times h$$
$$113.04 \times 8$$
$$1 \text{ cm}^3 = 1 \text{ ml}$$

So, how many milliliters of soil/sand is needed?

904.32 ml



Step 3: Finding the volume of the pebbles:

You need to measure the height of pebbles you want:

1 cm

Use your volume formula to find the volume of pebbles needed:

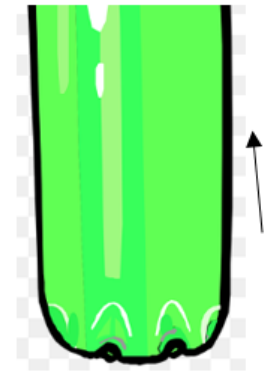
$$V = (\text{area of the base}) \times h$$

$$113.04 \times 1$$

$$1 \text{ cm}^3 = 1 \text{ ml}$$

So, how many milliliters of pebbles are needed?

113.04 ml





book) 189 (new book)

forms other colors
for a grade
in Africa

Sit Silently
and wait for
the news

non-
wireless