UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

Issue 14

# STEC@UKZN "Lock Down"

## DEAR FAMILIES

Welcome to the fourteenth issue of the STEC@UKZN "Lock Down". Missed the first issues? Go to http://www.stec.ukzn.ac.za/lockdown_activities.aspx

*Join us every Thursday at 15.30 for the "Live experiment of the week".*
*For more information and to register contact us via email on: stec@ukzn.ac.za*

## WHAT ANIMAL AM I?

I have no legs but I am a mammal.
One member of my family has the largest brain on Earth (about 6 times the size of a human brain).
I sometimes have teeth and sometimes something that is called baleen.
We use sound to communicate amongst each other and some of us even sing.
You can usually see us from May till December in the Cape south coast, and as far north as KZN.
I feature in a book called Moby Dick.
Did I tell you that I live in the ocean?

## WHAT FRUIT OR VEGGIE AM I?

I am classified as a vegetable, but technically I am not a plant.
I can be found in forests around the world.
I am made up of around 90% water.
I do not necessarily need sunlight to grow.
I can be used for dyeing wool and other natural fibers.
Some of us can glow in the dark.
You can eat me, but some of us can also be poisonous.
I grow from spores and not seeds.
Typically I have a stem and a cap.

## *Hide and Seek*

Why not try one of the "old" classic games. Best part is, you can play it indoors and outdoors.

**You will need:**

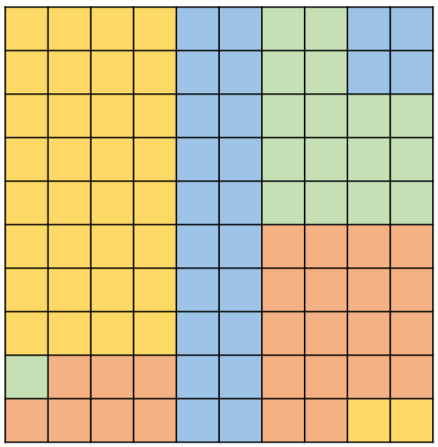
2 players (it works better with more than 3 players)
Some hiding places

**How to Play:**

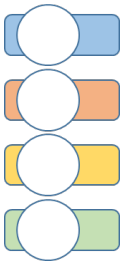
- One player (the seeker) closes his or her eyes for a brief period (often counting to 100) while the other players hide.
- The seeker then opens the eyes and tries to find the hiders.
- The first one found is the next seeker, and the last is the winner of the round.
- You can also try a different version where the hiders try to run back to "home base" while the seeker is away looking for them.
- If all of the hiders return safely, the seeker repeats as seeker in the next round.

Source: https://www.britannica.com/topic/hide-and-seek-game

## MATHEMATICS CHALLENGE



The diagram on the left represents a total of 350. Can you find the value of each color?



Source: https://static1.squarespace.com/static/54905286e4b050812345644c/t/5ebc176be6fff95b4f9f65ba/1589385072471/Hundreds_Chart.pdf

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## "ESSENTIAL GOODS" EXPERIMENT

### Make your own fossil

The word 'fossil' is a Latin word and literally means "obtained by digging". Fossils are our window into the past. They are the remains or traces of either plants or animals that died at least 10,000 years ago. They are usually preserved in sedimentary rocks.

**You will need:**

- Plant leaves, shells, or little plastic animals that you want to fossilise
- Some play dough or modelling clay
- 2 Styrofoam or paper cups
- ½ cup Plaster of Paris (from hardware store)
- ¼ cup water
- An old spoon

**What to Do:**

1. Flatten a ball of modeling clay until it is about 2 cm thick while making sure the top is smooth. Put the modeling clay inside a paper or Styrofoam cup with the smooth side facing up.

**This clay is like mud or sand that once a living organism fell on to.**

2. Press the object you want to "fossilise" into the modeling clay until it is partially buried.
3. Carefully remove the object from the modeling clay. An impression of the object should be left behind.

**The organism dissolved leaving only its imprint behind.**

4. Put about half a cup of Plaster of Paris into the empty cup. Add a quarter cup of water to the plaster. Use an old spoon and stir until the mixture is smooth. Leave it for around two minutes. You might want to mix a little bit of sand into the plaster for a sedimentary rock effect.
5. When the mixture has thickened pour it on top of the modeling clay into the other cup.

**The organism gets covered with sediments.**

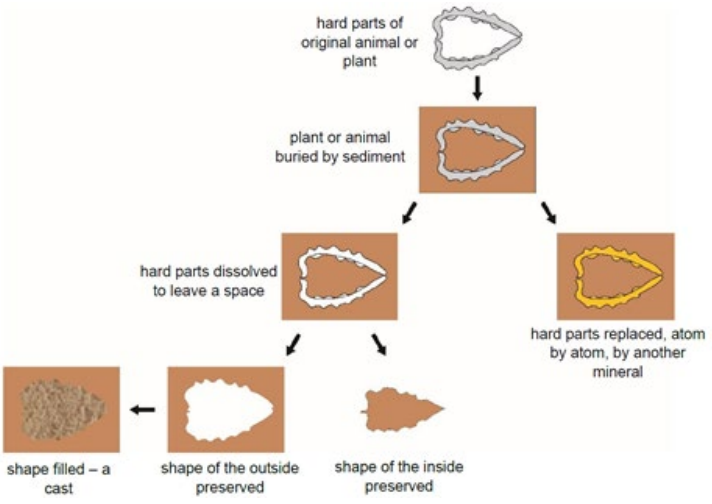
6. Leave the mixture until the plaster has dried (it usually takes about 30-45 min).

**Over time the sediments harden and form a sedimentary rock.**

7. When the plaster has fully dried, tear away the sides of the Styrofoam cup and take out the modeling clay and plaster.

**The "fossil" gets exposed and excavated.**

Fossils are the preserved remains of the hard parts of organisms such as shells or bones and very occasionally the soft organic parts (including skin, fur, feathers, etc). In some cases, the original materials have been replaced atom by atom by other minerals, which may or may not keep all the original features. Sometimes fossils have been dissolved away, leaving holes (moulds) in the surrounding rock. The moulds may have later been filled by other materials, forming casts of the original fossils.




Source: http://www.igeoscied.org/wp-content/uploads/2019/12/Geotextbook_Dec_2019.pdf

Solution:

What animal am I: Whale

What fruit or veggie am I: Mushroom

Mathematics Challenge:

84 = 24 x 3,5 87,5 = 25 x 3,5

119 = 34 x 3,5 59,5 = 17 x 3,5