Hong Kah Secondary School

NSE Learning Journey Sharing

Involvement

National Science Experiment

1. Data Analysis

Visualisation (Noise)

- Click *Visualisation* on the side bar.
- Under DATA TYPE, select *noise*.

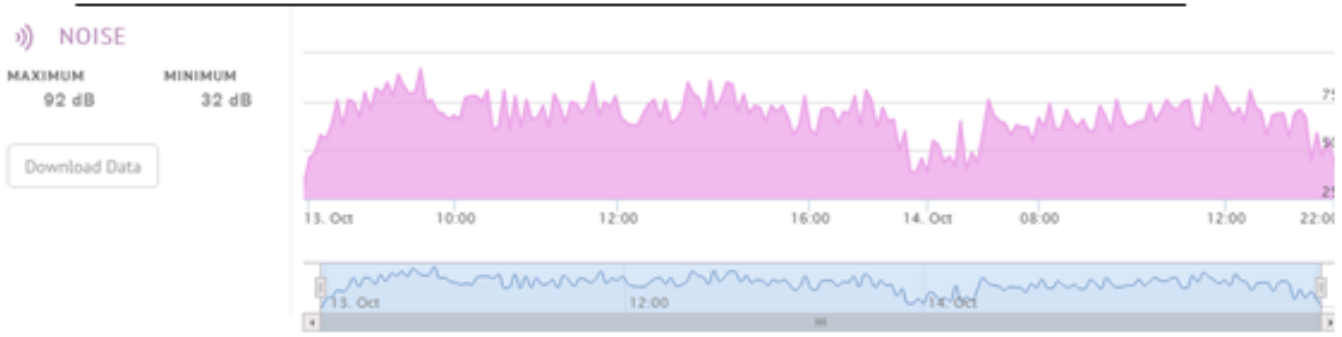
1. Circle the point on the graph that shows the **highest** and **lowest** noise level.
2. State the date and time of this point.

Highest: _____ Lowest: _____

3. What can you infer from this data about the environment which the student was in at that time?

_____

_____



2. Activity Involvement

Learning journey to Cloud Forest

Objectives

Applied Learning Programme

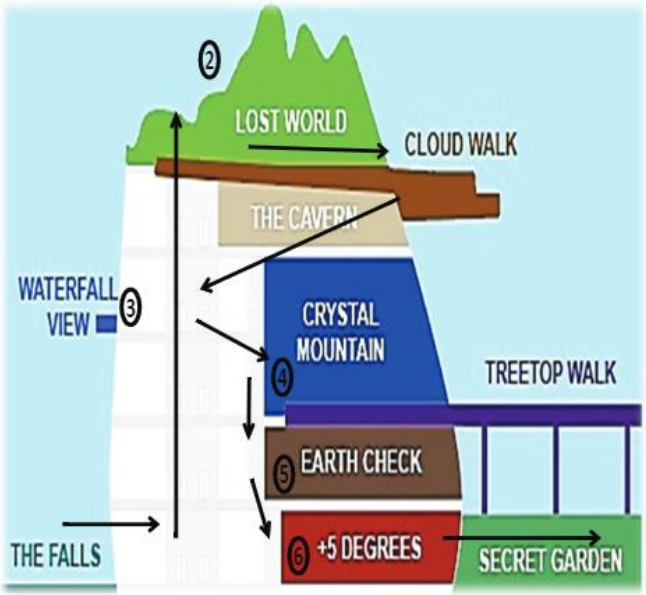
"Real World Learning through Electronics"

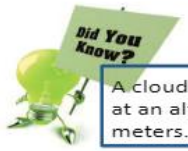
To create a meaningful learning journey incorporating NSE across disciplines.

Students would make use of data to infer about the environment.

Activity Materials

Getting Around. You are to spend only 10 minutes at each Station. You are not allowed to move out of the station until your teacher tells you so.





A cloud forest is a wet tropical mountain forest at an altitude usually between 1000 and 2500 meters.

Hong Kah Secondary School
National Science Experiment
Learning Journey to the Cloud Forest

Name:_____ Class:_____

Date:_____2015

Activity

Checkpoints

Temperature

Humidity

Using senses to describe the differences between the environment outside and inside the cloud forest

Station 1 :The Falls

Behold the spectacle of the tallest indoor man-made waterfall. Standing at 35metres the waterfall is part of a system that mimics an environment 1000 - 3000 metres above sea-level.

Take a moment, use your senses – see, smell and feel what its like to be on a mountain high above see level. Record your observations and hard data in the table below.

Senses	Use nouns and adjectives to describe the following senses:	Use your SENSG device to gather data for the following:
Feel		Temperature:
Smell		Humidity:

Use nouns and adjectives to describe the following senses:	
See	
Sketch an image of something that catches your attention, as soon as you entered the conservatory.	
See	

Activity Checkpoints

Pressure

Incorporating other disciplines

Informative facts about the cloud forest make activity meaningful.

Station 3: Raging Rapids. The waterfall is a feature of this conservatory ,it plays a vital function of supplying the many different species of plants with life giving water. Solve the following equation to find out just how much water is needed to sustain life here at the conservatory.

Log into your device and record your current height.

Height=_____m

(a) The speed at which water gushes out from the pipes at the top of the waterfall is 24m/s. If the speed is constant throughout, calculate the time taken for the water droplets to reach the ground.

(b) 540 m^3 of water is ejected out from the top of the waterfall every hour. What is the mass of water (in kg) absorbed by the lower marsh garden species in the conservatory in each second? 1 m^3 = 2406.53 kg

Once done, show your working to your teacher. You will then take a polaroid photo as a group. Paste your polaroid ---------->

Findings

Students' Work

Station 1 :The Falls

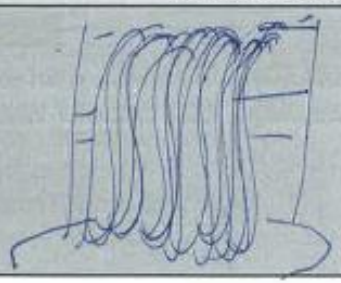
Behold the spectacle of the tallest indoor man-made waterfall. Standing at 35metres the waterfall is part of a system that mimics an environment 1000 - 3000 metres above sea-level.

Take a moment, use your senses – see, smell and feel what its like to be on a mountain high above see level. Record your observations and hard data in the table below.

Senses	Use nouns and adjectives to describe the following senses:	Use your SENSG device to gather data for the following:
Feel	cold refreshing	Temperature: 23°C
Smell	sweet scent fragrant	Humidity: 80%

Use nouns and adjectives to describe the following senses:	
See	A big waterfall

Sketch an image of something that catches your attention, as soon as you entered the conservatory.

See	

Findings

Students' Work

Station 3: Raging Rapids. The waterfall is a feature of this conservatory ,it plays a vital function of supplying the many different species of plants with life giving water. Solve the following equation to find out just how much water is needed to sustain life here at the conservatory.

Log into your device and record your current height.

Height= 35 m

(a) The speed at which water gushes out from the pipes at the top of the waterfall is 24m/s. If the speed is constant throughout, calculate the time taken for the water droplets to reach the ground.

$\frac{35}{24} \approx 1.46s$

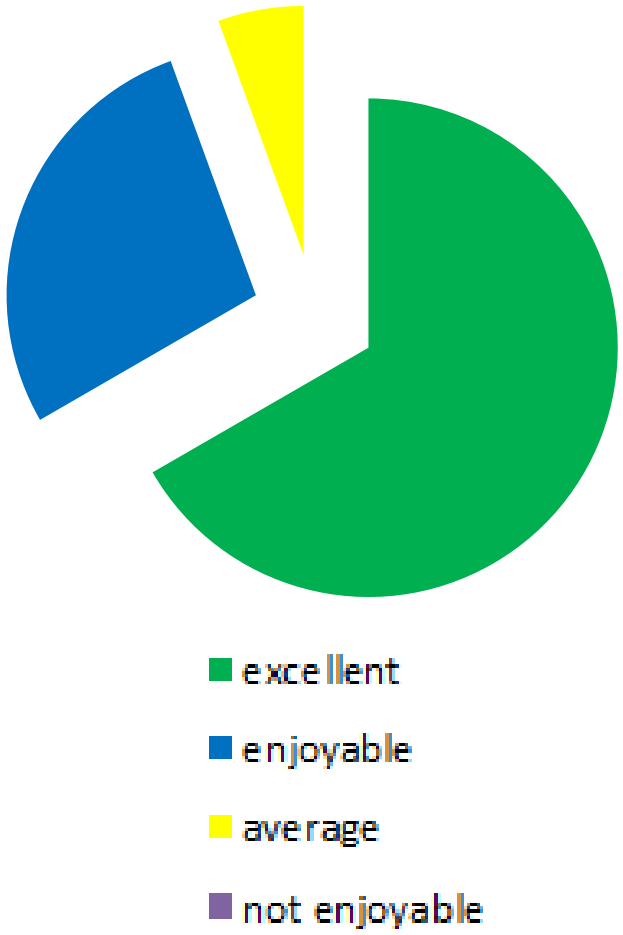
(b) 540 m^3 of water is ejected out from the top of the waterfall every hour. What is the mass of water (in kg) absorbed by the lower marsh garden species in the conservatory in each second? 1 m^3 = 2406.53 kg

$1m^3 = 2406.53\,kg$
$540m^3 = 1299526.2\,kg$
1 hour rep $1299526.6\,kg$
1 second rep $360.9795\,kg$

Once done, show your working to your teacher. You will then take a polaroid photo as a group. Paste your polaroid ---------->

Findings

Students' Reflections



Survey:

Please give us your feedback!

On a scale of 1 to 4 how would you rate this learning journey? Circle your answer.

1 (not enjoyable) 2 (average) 3 (enjoyable) 4(excellent)

Which station did you like most in the learning journey? Why?

I like learning about the plants in the lost world and understanding the temperature and humidity they need to grow well.

What was 1 thing that you did not enjoy? Why?

Mathematics calculation. It was difficult to think on the spot.

Challenges

Sensors are not real time

Wifi needed, students with no data

Anemometer

Wifi-adaptor

Future Plans

FOCUS

- ❑ Scale up to all secondary two students
- ❑ Partner with NE committee to infuse elements of tourism and social cohesion

ENGAGEMENT

- ❑ Differentiated learning journey worksheets
- ❑ New activities
- ❑ Using data to infer/solve problems

Thank You! ☺