ENVIRONMENTAL EDUCATION & AWARENESS PROGRAMME PLANNER

PROGRAMME TYPE (circle/cross): holiday programme X

DETAILS

Name of school/ group	**N/A HOLIDAY PROGRAMME: WET AND WILD WATER WARRIORS**				
No learners/ participants expected	**Max 20**	No learners/participants actual	N/A	Programme length/duration	**5 hours**
Location (reserve/site)	**On reserve**			Grade/age group	**Age 8 - 12**
Is this part of the work plan?	N/A			If no, motivate why the programme is needed	Water is a main awareness theme for CapeNature. The programme links to work done in the classroom and supports the curriculum.

CONTENT

Theme (circle/cross)	Water
Topics covered (e.g. water cycle/ importance of water)	**The water cycle, importance of water, water related ecosystems**
Know Curriculum link (for curriculum aligned programmes only) – note subject/strand/topics (if not listed in topics above)	**N/A**
Prior knowledge required (if applicable)	**N/A**
Do Skills practiced (cross/circle)	connect explain identify **label** list name (know)/ analyse assess categorise classify **compare** compile compose conduct construct create collect categorise link define describe **design** develop **draw** find **investigate** **listen** make plan present **read** **recognise** record report represent dance sing sort summarise trace use senses **write** count (do)/ argue commit discuss motivate promise relate choose decide explain an answer persuade propose tell **share** graph
Value Key message (e.g. we must save water)	Water is precious – we and all other living things need it to survive.

GENERAL LOGISTICS

	Responsible person	Done (tick)	Status
Invite *			
Venue			
Transport			
Booking confirmed			
WCED permission *			
Presentation equipment & camera			
Risk assessment done, confirmation and checklist sent			
Catering *			
Indemnity *			
Budget and cost centre			

Other:

Plan requested by: _____ (name)

_____ (date)

Plan approved by: _____ (name)

_____ (date)

*If applicable

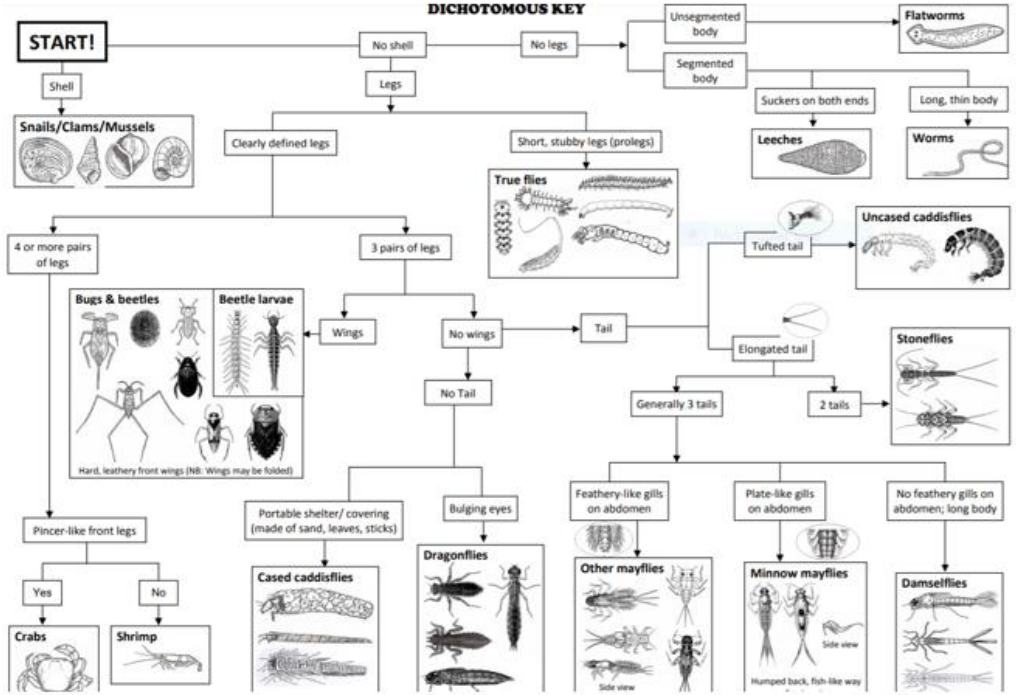
LESSON PLAN

Time	Location	Activity & explanation	Resources & person responsible for bringing/preparing the resource	Facilitating staff (if more than 1, indicate lead facilitator & timekeeper)
e.g. 08h00 or 20 min	e.g. EE centre or duck pond or entrance hiking otter hiking trail	E.g. Water phases Ice breaker – play water, water song and let learners dance to it. After briefly discuss the solid, liquid and gas stages of water.	e.g. water, water song (Natanya) whiteboard markers/ whiteboard or water cycle puzzle (Lucky)	e.g. Natanya Dreyer (lead facilitator), Clinton Windvogel & Graham Lewis assist
INTRODUCTION & ICEBREAKER				
60 min		Arrivals. Parents drop off children. While children wait, a video with a water theme can be played for learners to watch while they wait for the programme to start.	Optional laptop or TV and dvd (water themed like finding Nemo, Happy Feet, Finding Dory, Little Mermaid, The Reef, Moana, Shark Tale)	
5 min		Welcome the group and introduce the area/nature reserve that they find themselves in		
5 min		Introduce staff		
5 min		Give any house rules (any rules of engagement, bathrooms, conduct, safety briefing)		
5 min		Give a programme outline		
10 min		**Icebreaker and tuning in:** Know & value: Tell learners that we need water to survive. Water has many uses. Do: Learners write down on a raindrop shaped paper where they use water in their everyday life. They come up to the front and place the raindrop on the flipchart.	Paper cut out in the shape of a raindrop, crayons, coccis, pencils, pens, prestick, flipchart paper	
BODY/ ACTIVITIES (very large groups, split and rotate)				
30 min		**Water games - the water cycle** Know1: Let learners watch the billy blue video: what is the water cycle and why does it rain or a short presentation on water (6 min) Do1: Divide teams into groups. Place one water cycle poster outside an indoor venue. One member of each group may run outside to see what the poster must look like and help the rest of the group building it. Know2: Go through the labels and definitions on the water cycle. Words precipitation, accumulation, condensation and evaporation. Do2: After the puzzle is finished, learners must look at a drawing of the water cycle that is missing definitions and labels. Each group must place the labels and definitions at the correct places.	Billy Blue Hair video https://www.youtube.com/watch?v=52wY4r66OVc or an all about water presentation 5 water cycle posters, laminated and 4 x cut up into puzzle pieces 4 x flipchart pages with water cycle drawn on it with labels and definitions on cards, prestick	
15 min		Break/free exploration session		

30 min		**Clouds and Puddles** Game: Two teams (one the Clouds and the other the Puddles) stand about 10 metres apart facing each other. One team member from Clouds goes to the Puddles team who are all standing with their hands held out, palms down. The Cloud starts from the one end walking down the line of Puddles with his/her hand passing under the Puddles hands. The Cloud flicks a Puddle members' hand and starts to run back to his Cloud team. The Puddle has to chase and try to catch the Cloud member, If the Puddle catches the Cloud, he/she joins the Puddles team and the Puddle repeats the action with the Cloud team. If the Puddle could not catch the Cloud, the Cloud is safe back at his/her team. It is the Puddles turn to now repeat the action with the Clouds. Team with the most members win. OR Divide learners into teams and ask them to make up a war cry or song about Clouds and Puddles. Let each group present the song or war cry.		
60 min		**Wacky water arts and crafts** Art and crafts session: Let learners design a freshwater or salt water creature. Once done, let each learner come up to the front, introduce their animal and say why it lives in either the sea or in fresh water.   OR Let learners make a wetland ecosystem cycle bracelet. Yellow bead – sun, blue bead – water, brown bead soil, green bead – plants, dark green bead - frog, black bead – insect, orange bead – fish. Thread the colors in order and then repeat. OR Let learners make a water cycle lantern (cut and color)	Variety color papers and/or cardboard, glue, coccis, scissors (optional recycled material like boxes etc.) Yellow, blue, brown, green, dark green, black and orange beads. 2 – 3 of each color of bead per child. Stretch cord. Strips of blue paper board, printed sun yellow board, 4 words (evaporation, precipitation, collection, condensation)	

		  If you have time to spare have each learner share what they made and take a picture to be sent to parents after the programme.		
15 min		Break		
40 min		**Wonderful wetlands investigation** Know: Teach learners that 1) wetlands are places where soil is covered in water year round or part of the year 2) that wetlands are important as they clean water and provide a place for many plants and animals to live Do: Take learners out on a walk and to see a wetland in action. Ask learners to investigate the wetland and draw all plants and animals (also non-living things) that they see. Value: Briefly discuss the drawings emphasising that the wetland has an important role to play. Without it, we cannot survive. Ask them why each element they drew is important. OR Mini SASS http://www.minisass.org/en/downloads/ - age dependent, assess learners	Pen, paper, clipboards OR Mini SASS kit. Trays, butterfly nets, magnifying lenses, MINI SASS charts, whiteboard markers	
CONSOLIDATION & EVALUATION				
10 min		Do and reflect on know: At the end of the day ask the learners to give you one word describing something that they learned. Write each word on the flipchart. Read each word back in the form of a poem. Value: Remind learners about the importance of water	Flipchart paper, coccis	
5 min		Thank the venue, group leaders and relevant parties and emphasise the key message once more. While learners wait for parents they can play some more Clouds and Puddles or continue watching the dvd from the morning. Note : breaks can be extended to free play sessions if activities are shorter than planned		

Mini SASS



SITE INFORMATION TABLE	
River name:	Date (dd/mm/yr):
Site name:	Collector's name:
GPS co-ord Lat(S): Long(E):	School/organisation:
Site description:	Notes:
pH: Water temp: °C Dissolved oxygen: mg/l Water clarity:	

GPS co-ordinates as degrees, minutes, seconds (e.g. 29°30'25" S / 30°45'10" E) OR as decimal degrees (e.g. 29.50694°S / 30.75277°E) If you don't have a GPS, upload your results at www.minisass.org, find your site on the map, click to upload your result and the co-ordinates are saved for you!

Scoring

1. On the table, circle the sensitivity scores of the identified organisms.
2. Add up all of the sensitivity scores.
3. Divide the total of the sensitivity scores by the number of groups identified.
4. The result is the **average score**, which can be interpreted into an ecological category given below.

Interpret the miniSASS score:

Although an ideal sample site has rocky, sandy, and vegetation habitats, not all habitats are always present at a site. If your river had no rocky habitats that were sampled, use the **sandy type** category to interpret your scores.

GROUPS	SENSITIVITY SCORE
Flat worms	3
Worms	2
Leeches	2
Crabs or shrimps	6
Stoneflies	17
Minnow mayflies	5
Other mayflies	11
Damselflies	4
Dragonflies	6
Bugs or beetles	5
Caddisflies (cased & uncased)	9
True flies	2
Snails	4
TOTAL SCORE	
NUMBER OF GROUPS	
AVERAGE SCORE (miniSASS Score)	

Average Score = Total Score ÷ Number of groups

Ecological category (Condition)	River Category: Sandy Type	River Category: Rocky Type
NATURAL CONDITION (Unchanged/untouched – Blue)	> 6.9	> 7.2
GOOD CONDITION (Few modifications – Green)	5.9 to 6.8	6.2 to 7.2
FAIR CONDITION (Some modifications – Orange)	5.4 to 5.8	5.7 to 6.1
POOR CONDITION (Lots of modifications – Red)	4.8 to 5.3	5.3 to 5.6
VERY POOR CONDITION (Critically modified – Purple)	< 4.8	< 5.3

Now, upload your results at www.miniSASS.org or use the

www.minisass.org
Version 3.0 – September 2015

miniSASS is used to monitor the health of a river and measure the general quality of the water in that river. It uses the make-up of macro-invertebrates (small animals) living in rivers and is based on the sensitivity of the various animals to water quality.

NOTE: miniSASS does NOT measure the contamination of the water by bacteria and viruses and thus does not tell us if the river water is fit to drink.

Equipment list

- Net (see www.minisass.org)
- white container / tray / ice-cream box
- magnifying glass
- pencil
- shoes/gumboots
- hand wash / soap

Method

The best sites have rocks in moving water (**rocky type** rivers). Not all sites have rocks, but may be largely sandy (**sandy type** rivers).

1. Whilst holding a small net in the current, **disturb** the stones, vegetation, sand etc. with your feet or hands.
2. You can also lift stones out of the current and gently **pick** organisms off with your fingers or forceps.
3. Do this for about **5 minutes** whilst **ranging across the river to different habitats** (biotopes).
4. Rinse the net and turn the contents into a plastic tray. **Identify** each group of organisms using the identification guide (see insert: start with the dichotomous key, then use the identification guide for more information).
5. Fill in the site information and **mark** the identified organisms off on the scoring sheet (back page).
6. **Add up** the sensitivity scores and determine the **average score**.
7. Interpret your miniSASS score.
8. Remember: **WASH** your hands when done!

https://www.youtube.com/channel/UCub24hwrLiSZWR9C24uTbaQ

Don't have a net? Make your own – it is easy!

Take any piece of wire, for example an old clothes hanger, and bend it into the shape of a net. Then tie the netting (which can be any porous material) to the wire

Acknowledgement

Primary Science Programme (PSP), , www.psp.org.za