

**Young Ecologist/Environmental Discovery/ Challenge:** North Dublin Rotary Club wishes to support the ideal of Environmental and Wildlife awareness through Science and invites schools and science teachers in particular, to promote the participation of their students in this Young Ecologist/Environmental Discovery Challenge . The **YEEDC** is a pilot project promoted by Dublin North Rotary and aimed particularly at Transition Year classes. It is also open to students in other educational institutions who wish to apply and compete.

The competition is intended to involve individual students in an active learning experience through a practical project, investigative research and practical presentation. Ideally, students would work on an individual basis, under the mentoring and guidance of a Science teacher. **The competition is open only to students between the ages of 16 and 18 years on June 30<sup>th</sup> 2013.** Each school will hold an internal competition to select a student to represent it in each category selected, one student representative per category.

**The project is divided into three parts.**

**The first** is a selection of questions which will provide a wide choice for the contestants. **The second** is a wildlife garden/campus project. **The third**, is a questionnaire where each student completes one section (of four) only

**PART ONE**

**Schools can enter students in each of the categories A, B, C.**

- A. Identify one major world environmental issue, and describe its associated problems; suggesting solutions; and identify the agencies which can best address the issue. (One typed page only to be submitted)
- B. Identify one major Irish environmental issue, and describe its associated problems; suggesting solutions: and identify the agencies which can best address the problems. (One typed page only)
- C. Write a speech which would be appropriate for delivery at the next Earth Summit. (One typed page only).

**Schools may enter students in each of 'D' and 'E';**

- D. Sketch a plan of an ideal wildlife garden, showing the elements, habitats, flowers, shrubs and trees -pointing out the different species, e.g. birds, butterflies, animals and other wildlife that will be attracted. This should be a sensory garden with good access and manoeuvrability for users in wheelchairs.
- E. Nominate a student's garden, with the student's agreement and the agreement of his/her guardians; which best demonstrates the elements of your ideal wildlife garden for examination by the assessors. In this case, the garden may be the garden of a transition year student or of any student in the school which best illustrates elements of an ideal wildlife garden.

YOUNG ECOLOGIST/ENVIRONMENTALIST DISCOVERY/ CHALLENGE (YEEDC)  
Dublin North Rotary Club 2013 (8/1/2013)

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<b><u>PRIZES:</u></b>	€
Winner category 'A'.....	100*
Winner category 'B'.....	100*
Winner category 'C'.....	100*
Winner of category 'D'.....	100*
Winner of category 'E'.....	100*
Questionnaire/overall winner.....	100*
Best overall student (considering all entries) .....	250+
Best school wildlife garden (Trophy to value of).....	150*
Best overall school –Perpetual trophy sponsored by Superquinn....	value €150
• * Prizes provided by Rotary North Dublin	
• + Prize provided by Forest Friends Ireland	

**PART TWO – ASSESSMENT OF SCHOOL CAMPUS AND COMPETITORS'**

**PRACTICAL PROJECTS.**

1. The competition sets out to promote practical insight into and knowledge of ecology/environment. To this end, competitors are encouraged to undertake specific “Wildlife Gardening” initiatives that are to be presented as practical projects. The school campus will be assessed by visiting assessors. **Each school will hold an internal competition to select a student to represent the school in each category selected, one student representative per category.** For each of the categories, 'A' 'B' 'C' 'D' and 'E', and for each of the options in the questionnaire, the internal competition will be organised by the school itself, for their transition year students, in order to select students to represent the school in those categories. Any student between the ages of 16 and 18 on the 30th. June 2013 is eligible to be entered for the challenge.

PART THREE –QUESTIONNAIRE

***Two points will be allocated for each correct answer for questions one to twenty two.  
A maximum of fifty points is available for question twenty three.  
School may select a student to represent it in one or more of the following four categories (options).***

**OPTION 1. TREES/FORESTS/PLANTS**

1. Name three native Irish trees that produce berries?
2. Name two native Irish cherry trees?
3. Name Ireland’s national tree?
4. Which native Irish tree has the most biodiversity?
5. Are native Irish trees mainly deciduous or coniferous?
6. Are native Irish trees mainly hardwood or softwood?
7. The Giant Sequoias (*Sequoiadendron giganteum*), is the world’s biggest tree. Who was Sequoia? What is the English name of this tree?
8. Name the world’s oldest tree? How old is it.....Where was it found?
9. Approximately how much of our oxygen do the rainforests provide?  
a) 10%.....b) 30%.....c) 50%.....d) 70%.....
10. Rainforests are the richest areas of biodiversity in the world? A) Yes.....B) no.....
11. What is the second richest source of biodiversity on the planet?
12. Name the four levels in a rainforest.....
13. Name all the parts of a typical flower and provide a hand sketch indicating them.
14. A mature tree provides enough oxygen for how many people?
15. A mature tree stores how much carbon?
16. What is the common name for the tree Syringa?
17. What is the English name for the tree Populus Tremula?
18. What is the English name for Taxus baccata ‘Fastigiata’?.....
19. What is the common name for Pelargonium?.....
20. Is Verbena a flower, a shrub or a tree?.....
21. What is another name for Gorse?.....
22. What is another name for ‘wild woodbine’?.....
23. **ENDANGERED SPECIES:** Name any one of the most endangered species (it can be animal, bird, fish, butterfly, etc). Give reasons as to why you have selected it. Describe its preferred habitat. Identify the threats to its survival, and make suggestions as to how to secure its survival. Identify a role for you in the process (not more than two typed pages).

**OPTION 2. ANIMALS**

***Two points will be allocated for each correct answer for questions one to twenty two.  
A maximum of fifty points is available for question twenty three.***

1. Name six native Irish mammals.....
2. How many insects on average would a single bat eat in one night?  
a) 100.....b)500.....c)1,000.....d)2,000.....e)5,000.....
3. Why are frogs and hedgehogs good friends of the gardener?
4. There is only one Irish native frog and toad, true.....or false.....?
5. What is a crustacean?
6. Define a tarsier/'bush baby' .....
7. What is a marsupial?
8. Define a lemur?
9. What is a newt?.....
10. Name the Native Irish newt?.....
11. What is an amphibian?.....
12. Name the three native Irish amphibian species?.....
13. Name Ireland's two native reptiles?.....
14. What is the world's largest living animal?.....
15. What is the world's largest living fish?.....
16. Fish feel pain and suffer stress just like mammals and birds, true.....or false.....?
17. Name the only fish that swims upright?.....
18. Electric eels and electric rays have enough electricity to kill a horse, true.....or false.....?
19. An estimated one third of male fish in British waters are changing sex due to pollution in human sewage, true.....or false.....?
20. Name the most poisonous fish.....?
21. Name the fastest fish.....?
22. Wolves and swans tend to mate for life, true..... or false.....?
23. ***ENDANGERED SPECIES:*** *Name any one of the most endangered species (it can be animal, bird, fish, butterfly, etc). Give reasons as to why you have selected it. Describe its preferred habitat. Identify the threats to its survival, and make suggestions as to how to secure its survival. Identify a role for you in the process. ( not more than two typed pages).*

**OPTION 3. -Includes a) butterflies and b) birds**

***Two points will be allocated for each correct answer for questions one to twenty two.  
A maximum of fifty points is available for question twenty three.***

**A) BUTTERFLIES**

1. Name four native Irish butterflies?.....
2. Name four butterflies whose caterpillars feed on the common nettle?
3. Name two native Irish woodland butterflies.
4. Name the four stages of development of a butterfly.
5. A species can be classified under the headings, 'Kingdom', 'Phylum', 'Class', 'Order', 'Family', 'Subfamily', 'Tribe', 'Genus', 'Subgenus', true or false.....?
6. What distance does the monarch butterfly migrate..... And from where to where.....?

**b) BIRDS**

7. What colours has a golden finch?.....
8. What is the smallest native Irish bird.....
9. What is a raptor?.....
10. What is the average life of a robin? A) less than one year.....B) 1-2 years.....C) 2-3 years.....D) 3-4 years.....
11. Where do puffins nest?.....
12. What colour are puffins?.....
13. Which of the following are wading birds? Pintail....Teal.... Pochard.... Gadwall.... Curlew.... Goosander...Redshank....Dunlin....Oystercatcher....Merganser....Shovelled.... (tick)
14. Name three species of native Irish owls?
15. Name two native Irish eagles?
16. Swallows can migrate a distance of .....Kilometres?
17. What bird spends most of its life in the air?.....
18. An Arctic *Tern will* travel about ..... million *km in its lifetime?*
19. In one year an Arctic Tern can cover .....Kilometres?
20. How many kilometres was the Bar-tailed Godwit (E7) flight?.....
21. How many million birds are shot flying over Cyprus each year?.....
22. Of about ..... billion migrating birds passing through the Mediterranean area each year, .....**million** are shot or trapped?
23. **ENDANGERED SPECIES:** Name any one of the most endangered species (it can be animal, bird, fish, butterfly, etc). Give reasons as to why you have selected it. Describe its preferred habitat. Identify the threats to its survival; make suggestions as to how to secure its survival. *Identify a role for you in the process. ( not more than two typed pages).*

**OPTION 4. GENERAL**

***Two points will be allocated for each correct answer for questions one to twenty two.  
A maximum of fifty points is available for question twenty three.***

1. What is a painted lady? a) human.....b) bird..... c) ladybird.....d) butterfly.....?
2. How much of our oxygen supply comes from the oceans? A)10%.....B)30%.....C) 50%.....D)70%.....
3. Where was 'Lesula' (Cercopithecus lomamiensis) discovered?.....?
4. What is a teasel? a) bird.....b) plant ..... c) wild animal.....?
5. Why are bees so important.....?
6. Name six plants that provide nectar for bees and butterflies.....?
7. Approximately how many birds did the Exxon Valdez oil disaster kill.....?
8. Where was the greatest oil escape through fire or spill.....?
9. How much oil was released in that fire/spill .....
10. What is 'monoculture' .....and give an example in Irish forestry.....?
11. What is an invasive species .....and give an example in the Irish situation.....?
12. Is a pine marten a bird..... or an animal.....?
13. What is the name of a badger's home?.....
14. What is the name of a fox's home?.....
15. What is the name of an otter's home?.....

16. Symbiosis is a close ecological relationship between the individuals of two (or more) different species. Sometimes a symbiotic relationship benefits both species, sometimes one species benefits at the other's expense, and in other cases neither species benefits. Ecologists use a different term for each type of symbiotic relationship: Say who benefits in each of these different types of symbiosis?

Mutualism.....Commensalism.....

Parasitism.....Competition.....

Neutralism.....

17. What does *Ericaceous* .....and *alkaline*.....mean?
18. Name a plant or tree that prefers *ericaceous soil*?
19. Half of the world's oxygen comes from *tiny ocean plants – called?* .....
20. What is a *baleen whale*?.....
21. What is a *yellow bittern*? a) fish....b) flower....c) horse.....d) bird.....e).tree..... f) butterfly.....

22. Is a speckled wood; a) tree.....b) bird..... c) reptile.....d) butterfly.....e) fish.....?
23. **ENDANGERED SPECIES:** Name any one of the most endangered species (it can be animal, bird, fish, butterfly, etc). Give reasons as to why you have selected it. Describe its preferred habitat. Identify the threats to its survival, and make suggestions as to how to secure its survival. Identify a role for you in the process. (not more than two typed pages).

#### COMPETITION RULES:

2. The competition is open to all transition year students between the age of sixteen and eighteen on the 30<sup>th</sup> June 2013.
3. Two points will be allocated for each correct answer in the **questionnaire** for questions one to twenty two and up to fifty points for question twenty three.
4. There is no entry fee.
5. Each participating school will run its own internal competition to select a student to represent it in each of the categories selected and in each of the questionnaire option(s) selected -one student entry per category.
6. The competition will be run in partnership with sponsors, including Forest Friends Ireland, [www.forestfriends.ie](http://www.forestfriends.ie).
7. Forest Friends have agreed to assist with the judging of the challenge/competition.
8. The decisions of the judges are final.
9. All the winning students will be eligible to compete to take part in a youth exchange with Rotary Ferndown, a Rotary club located in England. Students will be selected following an interview process and liaison with the schools involved. There will be a limited number of places available. School and parental involvement will be necessary.
10. Schools may decide the number of individual categories in which they wish to compete. All entrants will be judged on an individual basis, on their merits, regardless of the number of categories entered for by the school.

The YEEDC is a pilot project of Dublin North Rotary designed mainly for transition year students. At its initial stage, it is part of the environmental educational programme of Dublin North Rotary. Following on the pilot project, it is hoped that it will be rolled out on a Rotary district, all Ireland, basis. Other Rotary clubs are welcome to use the format to suit their own needs and Dublin North Rotary welcomes feedback and comment which would help develop the concept further.

#### Judges:

1. John Haughton, Dublin North Rotary
2. Dermot Deering, Forest Friends Ireland [dermotdeering@gmail.com](mailto:dermotdeering@gmail.com)
3. Kevin Dennis of Dennis Garden Design [www.dennisgardendesign.com](http://www.dennisgardendesign.com)  
Email [kevin@dennisgardendesign.com](mailto:kevin@dennisgardendesign.com)

**ASSESSMENT PROCEEDURE FOR ASSIGNMENTS ‘A’, ‘B’ and ‘C’**

A maximum of fifty points can be allocated for each option. Schools may put forward a student representative in each of the categories.

***The table below** sets out the headings under which the campus, ‘F’, as well as ‘D’ and ‘E’ will be judged and how the assessments will be made. Schools may put forward a student representative in each of the categories ‘D’ and ‘E’.*

**Assessment by the assessors of assignments ‘D’ ‘E’ and ‘F’**

**Note:** The following matrix shows the range of points for each category. For example if the school has an extensive hedgerow with a very large variety of native plants, shrubs and trees, providing for great biodiversity that would gain the maximum number of points, whereas a small hedgerow with a single variety of plant with little or no biodiversity would score only one point.

	Max. Number of points (5)				
Pond.....	1	2	3	4	5
Berry producing plants.....	1	2	3	4	5
Seed producing plants.....	1	2	3	4	5
Wild uncultivated area in garden.....	1	2	3	4	5
Bird boxes.....	1	2	3	4	5
Bird feeders.....	1	2	3	4	5
Bat boxes.....	1	2	3	4	5
Hedgehog hibernation home.....	1	2	3	4	5
Nectar producing plants.....	1	2	3	4	5
Herb garden.....	1	2	3	4	5
Composting facility.....	1	2	3	4	5
Wormery.....	1	2	3	4	5
Rainwater capture.....	1	2	3	4	5
Logs/deadwood area.....	1	2	3	4	5
Dry stone wall.....	1	2	3	4	5
Rockery.....	1	2	3	4	5

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Hedgerow.....	1	2	3	4	5
Woodland area.....	1	2	3	4	5
<b><u>Total possible points.....</u></b>					<b><u>90</u></b>

**Project costs: FINANCE/SPONSORSHIP:**

€1,000 to be provided by Rotary North Dublin

Breakdown of costs:	€
Individual winners in categories, 'A','B','C','D' and 'E' and questionnaire (6X100).....	600
Best school wildlife garden/campus.....	150
<i>Overall individual winner.....sponsored by Forest Friends Ireland.....</i>	<i>250</i>
Advertising.....	150
Launch Receptions.....	100

Additional sponsorships to augment the prize fund and cover the cost of the student exchange will be welcomed.

**PROMOTION AND TIME SCALES:**

1. **Press Launch:** There will be a reception and Press Launch to be held of the 8<sup>th</sup>. January 2013.
2. Advertising will be taken out in local newspapers. Local and national media will be circulated with the details of the competition.
3. Closing date for completed applications April 12<sup>th</sup> 2013.
4. Awards May 2013.

**Young Ecologist/Environmental Discovery Challenge Application Form:**

On behalf of (name of school).....

I wish to make application to participate in the Young Ecologist/Environmental Discovery/Challenge. Our school wishes to enter a student in the following categories. Please tick one, more or all of the following categories:

**A**                      **B**                      **C**                      **D**                      **E**

**Note:** For the categories selected, the school agrees to hold competitions between transition year students and to select a student to represent the school. All the entrants will be assessed by the judging panel made up of a representative of Rotary, a representative of Forest Friends and an independent environmentalist who is not a member of either.

*QUESTIONNAIRE: Our school will hold internal competition(s) and to enter a student in the following categories of the questionnaire. Please tick one more or all of the options:*

Option 1              Option 2              Option 3              Option 4

School name.....Address.....

Phone.....email.....

Nominated teacher as contact person for the project.....

Email.....Phone.....

(Principal/nominee.) Name.....Signature.....Date.....

**NOTE To qualify for the competition, students must be between the ages of sixteen and eighteen on June 30<sup>th</sup> 2013. Closing date for completed applications April 12<sup>th</sup> 2013**

The Young Ecologist/Environmental Discovery/Challenge (YEEDC) has been designed by John Haughton for Dublin North Rotary. Dublin North Rotary reserves copyright except for Rotary Clubs.

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