Nevada County 4-H
Marine Biology & Oceanography
Proficiency Program

LEVEL II – PRODUCER

NAME: _____

CLUB: _____

PROJECT: _____

PRIMARY MEMBERS ARE NOT ELIBIGLE TO PARTICIPATE IN PROFICIENCY PROGRAMS.

1. Describe ten ways we can help keep our oceans, beaches, rivers and land as close to natural as possible.
   1. _____
   2. _____
   3. _____
   4. _____
   5. _____
   6. _____
   7. _____
   8. _____
   9 _____
   10. _____

2. Explain the importance of estuaries to marine life.

   _____
   _____
   _____
   _____

3. Name and describe four dangerous marine animals and explain why they may be dangerous.
   1. _____ _____
   2. _____ _____
   3. _____ _____
   4. _____ _____

4. Assemble a beach safety kit.

   _____ _____
   Project leader's signature *date*

5. Visit an established operation or expert in the field (such as a commercial fishing vessel, cannery, biologist, etc.) and learn what they do and how they do it.

   What I did: _____

   _____ _____
   Project leader's signature *date*

6. Describe the function of dunes.

_____

_____

_____

_____

7. Using your local news media, identify a policy issue related to your project and explain its significance to another person.

What I did: _____

_____ _____

Project leader's signature *date*

8. Explain El Nino and describe how it affects the seafood industry.

_____ _____

Project leader's signature *date*

9. Participate in a project related clean-up activity.

What I did: _____

_____ _____

Project leader's signature *date*

10. List five causes of boating accidents and explain how they can be avoided.
    1. _____ _____
    2. _____ _____
    3. _____ _____
    4. _____ _____
    5. _____ _____

11. Explain upwelling and its effect on climate and marine life.

_____

_____

_____

_____

12. Collect and identify three different phytoplankton and three different zooplankton and explain how they are different.

    <u>Phytoplankton</u>

    1. _____ _____
    2. _____ _____
    3. _____ _____

Zooplankton

1. _____ _____
2. _____ _____
3. _____ _____

13. Make a collage of photographs or drawings illustrating man's use of the marine environment and display it at a local fair, county 4-H event or similar public event.

_____ _____
Project leader's signature *date*

14. Prepare one food dish from fresh fish and one food dish from marine algae.

What I did: _____

_____ _____
Project leader's signature *date*

15. Name five types of fresh fish and/or shellfish produced by aquaculture.
    1. _____
    2. _____
    3. _____
    4. _____
    5. _____

16. Identify and describe three different types of fishing vessels and three different types of fish harvesting gear. Explain which vessel uses which gear to harvest which fish.

	This vessel	Uses this gear	To catch this fish
1.			
2.			
3.			

17. Identify three types of ropes and five knots used in the industry. Compare their relative strengths and where/how each might be used.

	Types of Ropes	Strengths	Use
1.			
2.			
3.			

	Types of Knots	Strengths	Use
1.			
2.			
3.			
4.			
5.			

18. Determine the age of three fish samples by collecting and analyzing their scales.
    1. _____ _____
    2. _____ _____
    3. _____ _____

19. Collect, press and mount three different algae and describe their physical characteristics.
    1. _____ _____
    2. _____ _____
    3. _____ _____

_____ _____
Project leader's signature *date*

Congratulations!
You have completed Level II of the Marine Biology & Oceanography Proficiency Program.

Name _____ Age _____

Club _____

Project _____

Project Leader's _____
Printed Name Signature

Date _____

County Coordinator's _____
Printed Name Signature

Date _____