

Unit 1: Interactions and Ecosystems *End of Unit Project*

You must choose **1** of these projects and complete it **alone**

Description of Project Goals

1. To design a **3D model**, which identifies different forms of **Symbiosis**
2. To design an environmental interaction **Game**
3. To design and construct a **Puzzle** which tests knowledge about **Food Chains and Food Webs**.

Background:

3D Model

The purpose of this choice is to reinforce the concepts of **Symbiotic** interactions between and among the various species within a particular ecosystem



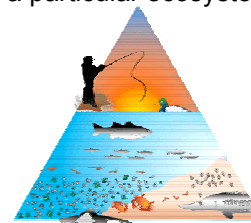
Game

The purpose of this choice is to reinforce the concept of niches of various species within a particular ecosystem



Puzzle

The purpose of this choice is to reinforce the concepts of **Food Chains, Webs and Pyramids** among the various species within a particular ecosystem



Specifications:

Model of Symbiosis

Design and build:

... a 3D model which illustrates the three different types of symbiotic relationships that exist between two species in an environment:

- Commensalism
- Mutualism
- Parasitism

SF 14-15
SIA 16-19

Materials: Choice of materials is up to you.

Size Restrictions: Model must not exceed the size of 3 identical shoeboxes attached together.

Model Components:

- 3D model should appear realistic.
- Labels should indicate each type of symbiotic relationship that is experienced by each species in the environment you have placed it in
- Each environment (shoebox) should reflect the setting where the specific symbiotic relationship occurs.

Interaction 'Niche' Game

Ref page: SF 40

You can be very **creative** in this project.

The type of game you design is up to you.

Rules should include:

- **SPECIES** (Each player should be a particular species in the environment as they play the game)
- **NICHES** (As the game is played the niches of various species is identified and the players can gain or lose their place in the game by securing their niche or avoiding the niche of another species)
- **INTERACTIONS** (Throughout the game there should be interactions which occur that enable the players to learn about niches and their ultimate survival in the environment they live in)

Win-Win will allow all the players in the game to win by learning about their niche and the niche of other species that they interact with in the environment they share.

Ecosystem Puzzle

Design and build:

... a puzzle with 100 interlocking pieces

Materials: heavy duty cardboard

Size Restrictions: 1 m²

Puzzle Components:

Puzzle should display an example of

- **Food Chain**
SF 42
SIA 35-38
- **Food Web**
SF 43
SIA 39-42
- **Food Pyramid**
SF 43
SIA 44-46

There are many other examples of the components from other sources. You are not restricted to only those examples in the textbooks

Finished picture should illustrate what the puzzle will look like when it is completed.

Evaluation:

Model **60%**

Presentation: 40%
(What you appear to know about what you are presenting)

Self-Evaluation	Peer Evaluation	Teacher Analysis
10%	10%	20%