

Pilot country: Viet Nam

Topic of the lesson: General features and roles of mollusks

Subject: Biology

ICH Element: Shell inlay craftsmanship

ESD Theme: Respect for environment

Grade: 7

1. Objectives

1.1. Knowledge

- Analyze the diversity of molluscs.
- Present several common characteristics of molluscs.
- Analyze the economic and art values of molluscs.
- Discuss mollusc farming and the traditional shell-inlay craft villages that depend on molluscs.

1.2. Skills

- Observe and analyze drawings/photos.
- Analyze, compare, and generalize.
- Solve a practical problem via teamwork and give presentations.

1.3. Attitude

- Students enjoy the learning about the subject.
- Students become aware of the need to conserve molluscs, so as to safeguard cultural heritage and jobs in the mollusc-growing and pearl-shell handicrafts industries.
- Students learn how to use natural materials to make handicrafts.

2. Preparation

2.1. Teacher

- Pictures, photos, a documentary film about molluscs and traditional crafts related to molluscs.
- Computer, projector, PowerPoint presentation.
- Digital overhead projector.
- Collect materials and information through books and the internet.
- Conduct fieldwork to collect data, objects and photos for the lesson.
- Make a short video about the craft village for the lesson.
- Collect materials required for students to try preparing shells for inlaying work.

2.2. Students

- Read the lesson content beforehand; Draw table 1 on page 72 into notebook.
- Collect documents including pictures/photos about the roles of molluscs and traditional handicrafts related to molluscs.
- Collect stories and shell-inlay objects within families and villages.
- Write, draw or take photographs of the handicrafts and handicraft villages.

3. Lesson content

- Revisit previous lesson: List names and characteristics of molluscs (3 minutes).

Knowledge	Teacher's Activities	Students' Activities
Activity 1: Understanding the common characteristics of phylum mollusca (7 minutes)		
<p>1. General characteristics</p> <p>1.1. The diversity of molluscs</p> <ul style="list-style-type: none"> ▪ Very large number of species ▪ Size ▪ Habitat ▪ Behaviours <p>1.2. Common characteristics of molluscs</p> <ul style="list-style-type: none"> ▪ Soft body ▪ Not segmented ▪ Calcium carbonate shell ▪ Developed mantle cavity ▪ Complete digestive tract 	<ul style="list-style-type: none"> ▪ Hang up large pictures of mollusc species. Ask students to observe the pictures together with textbook information, and to give comments about the sizes, habitats and behaviours of molluscs. ▪ Invite some students to present what they have observed. ▪ Give comments and evaluate presentations. Provide key knowledge. ▪ Show Figure 21 on projector. Request students do exercises on pages 71 and 72 in the textbook. ▪ Give comments and reinforce knowledge and facts (Molluscs are diverse in terms of size, habitat and behaviour, while sharing many common characteristics.) 	<ul style="list-style-type: none"> ▪ Observe the pictures, read textbook, and discuss in group to find answers. ▪ Representative of groups give answers; other students listen, give comments or add information. ▪ Take notes. ▪ Discussing in groups to find answers. ▪ Taking notes.
Activity 2: Understanding the uses of phylum mollusca (15 minutes)		
<p>2. Roles</p> <p>2.1. Benefits</p> <ul style="list-style-type: none"> ▪ They clean the aquatic environment ▪ They are food for humans and for terrestrial and aquatic animals. ▪ Their shells can be used as materials for making jewellery and decorations. ▪ The farming of molluscs and the production of handicrafts are significant sources of employment, livelihoods and 	<ul style="list-style-type: none"> ▪ Ask the representatives of each group to give a presentation of the report his/her group has prepared in advance. ▪ Encourage students to give feedback to each other. ▪ Give comments and evaluate student presentations; Provide students key knowledge. ▪ Ask students to complete Table 2 on page 72 of the textbook. ▪ Ask some students to give the answers for Table 2. ▪ Give comments and key 	<ul style="list-style-type: none"> ▪ Group 1 and Group 2 report on the roles of molluscs. ▪ Group 3 and Group 4 report on traditional crafts related to molluscs. ▪ The representatives of each group give presentations, others listen and give comments or add information. ▪ Take notes. ▪ Give comments or add information on the answers for

<p>income, and contribute to development.</p> <p>2.2. Disadvantages</p> <ul style="list-style-type: none"> ▪ They damage some crops. ▪ They can be sources of bacterial diseases. ▪ They destroy wooden structures under water (the hulls of boats, etc). 	<p>knowledge.</p> <p>Molluscs provide many traditional handicrafts with important materials. How are these materials used?</p> <p>→ Part 3</p>	<p>Table 2.</p> <ul style="list-style-type: none"> ▪ Each student to correct his/her answers for Table 2. ▪ Take notes.
<p>Activity 3: Students to experience traditional craft using mollusc shells (18 minutes)</p>		
<ul style="list-style-type: none"> ▪ Knowledge expansion ▪ Molluscs provide important materials for many traditional handicrafts such as shell-inlay, jewellery and ornaments, as well as medicines and food. 	<ul style="list-style-type: none"> ▪ Show a video about a shell-inlaying village. ▪ Divide the class into four groups of 8 to 10 students and give instructions: <ul style="list-style-type: none"> ○ Group 1 and Group 2: Try one step in the process of inlaying mollusc shells. ○ Group 3: Decorate the shells. ○ Group 4: Make decorations or toys from the shells. ▪ Give the groups time and space to display their products. ▪ Give overall assessment and key knowledge: ▪ Molluscs have multiple benefits, but if people do not protect the water environment and if people overexploit molluscs, their number will decrease (e.g. The water of Nhuệ River is so polluted that very few shellfish can live in the river. Villagers from Chuôn Ngọ have to buy shells from China even though they are not as good and beautiful as those from the Nhuệ River). Screen a short video about children along coast playing games with oyster and clam shells. 	<ul style="list-style-type: none"> ▪ Watch the video and memorize information. ▪ Participate in the activities. ▪ A representative of each group gives a presentation of the group's products and display. ▪ Take notes.



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4. Review and evaluation:

- Read the memo at the end of lesson in textbook.
- Answer all questions at the end of the lesson in the textbook.

Lesson Plan prepared by:

- **Nguyễn Hoàng Quyên**, Biology Teacher, Lê Quý Đôn Secondary School, Cầu Giấy District, Hà Nội, Việt Nam
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Advisors:

- **Trần Thị Thu Thủy**, Head of Education Department, Viet Nam Museum of Ethnology
- **Lê Tùng Lâm**, Educator, Education Department, Viet Nam Museum of Ethnology
- **Vũ Phương Nga**, Researcher, Department of International Studies, Viet Nam Museum of Ethnology