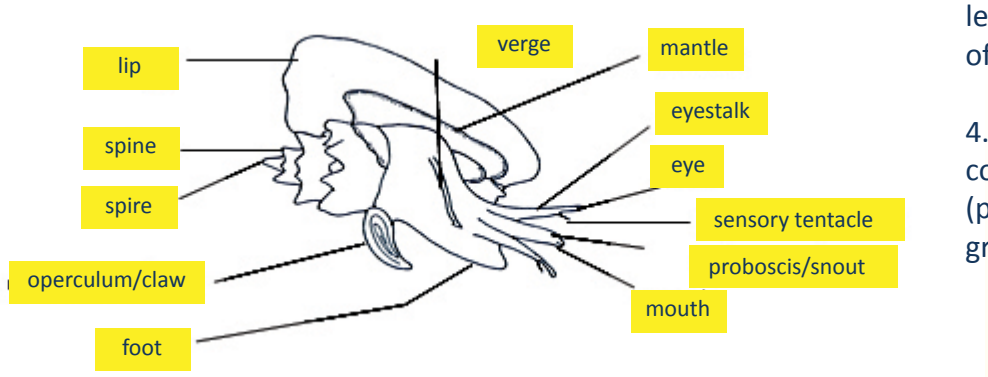
2. Discuss the significance of the lip with respect to sexual maturity, age of the conch and fisheries regulations. *Queen conch usually develop a flared lip by the time they are four years old. The lip thickens at a rate of approx. 5mm per year. On average, Queen conch are sexually mature when the lip is approximately 15mm thick. The older the conch the thicker the lip. Our fishery regulations prohibit the harvest of conch without a well-formed lip. The spines of the conch may become worn with age, but this does not indicate sexual maturity.*

3. Remove the conch from the shell. It is advisable to have them removed beforehand, but not cleaned, or to invite someone skilled at this task to the classroom. Show the conch's external anatomy - operculum, foot, mantle, eyestalk with sensory tentacle, and proboscis. Have students describe each part; colour, length etc. Discuss the function of the parts.




4. Determine the sex of the conch – males have a verge (penis) and females a genital groove.

5. Distribute an unlabeled diagram of the external anatomy of the Queen conch (page 14) and instruct students to label the diagram.

6. Students should also be able to briefly describe the function of the parts of the conch.

## EXTENSION ACTIVITIES:

**Science**
- Identify the internal organs of the conch: siphon, crystalline style, etc

**Art/Music**
- Make a conch horn: cut off the spire of an intact adult conch shell (that has not been cracked out), smooth opening with a file. A carving tool can be used to carve designs into the shell. Block any holes in the shell with hot glue.

**Art & Craft**
- Conch craft – using a few of the adult shells and opercula, have students make decorative or useful items.
- Visit a conch artisan to find out how conch shell jewelry is made.

**Food & Nutrition**
- Prepare conch dishes and investigate the nutritional value of conch.

**Health Science**
- Explore the nutrient composition of conch.
- Identify groups of people that have dietary restrictions that prohibit the eating of conch. Examine the factors that lead to conch poisoning.

**Chemistry**
- Conduct experiments using the calcium carbonate found in conch shells.
- Develop ways in which conch shells may be utilized in industry.

**ADDITIONAL RESOURCES:** DVD—The Conch's Life Story, Bahamian songs and literature, The Strombus gigas life story

## STUDENT WORKSHEET – External Anatomy of the Queen conch

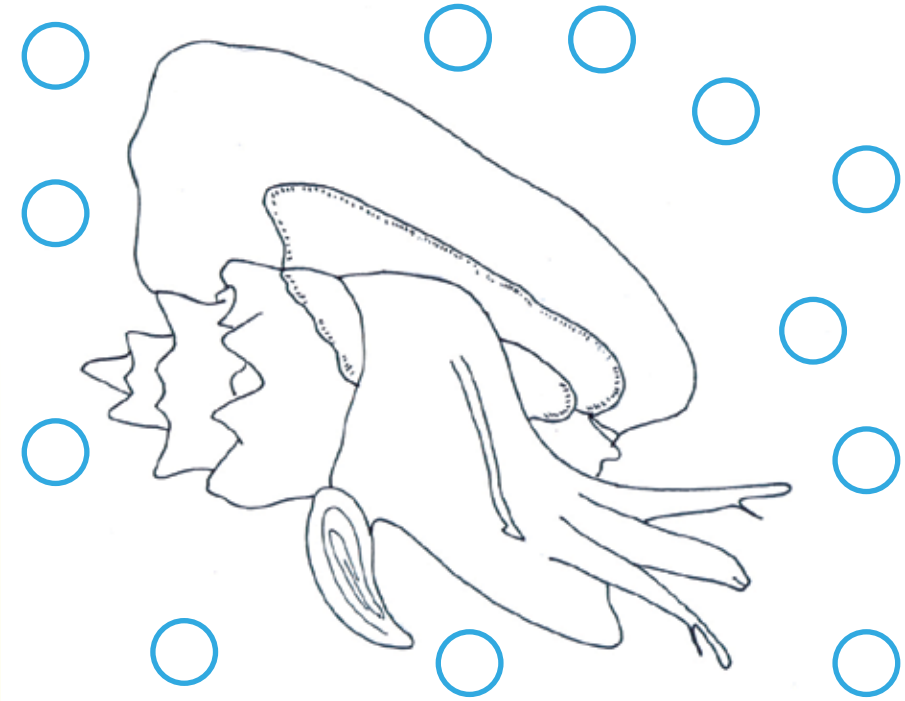
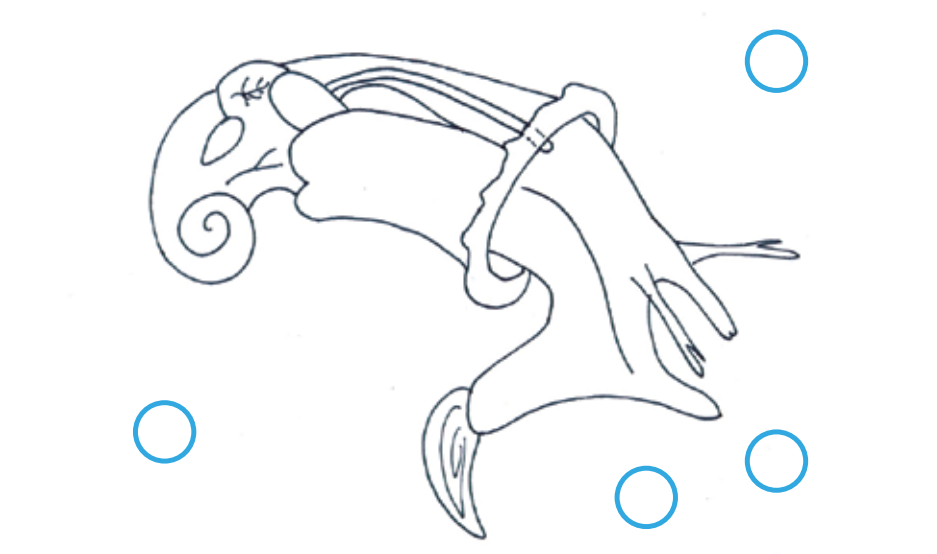


Diagram of the external anatomy of the male Queen Conch (with shell on word list): label the following structures:

1. **Lip**
2. **Spines**
3. **Spire**
4. **Operculum**
5. **Foot**
6. **Mantle**
7. **Verge**
8. **Eyestalk**
9. **Eye**
10. **Sensory tentacle**
11. **Proboscis**
12. **Mouth**

Write the number corresponding to the body part in the list inside of the circle, and draw a line to corresponding structure

## EXTENSION ACTIVITY: – Internal Anatomy of the Queen conch



Conduct research to label the internal anatomy of the Queen conch and state the function of each part. Word List

1. **Siphon**
2. **Crystalline style**
3. **Genital groove**
4. **Intestines**

Describe the function of each part.