



Khaled bin Sultan
Living Oceans
Foundation

STANDARDS

- **CCSS:** RST.9-10.1, 2, 3, 4, 5, 7, 8, 9, 10; RST.11-12.1, 2, 3, 4, 7, 8, 9, 10; W.9-10.1, 2, 4, 7, 8, 9; W.11-12.1, 2, 4, 7, 8, 9; SL.9-10.1, 4, 6; SL.11-12.1, 4, 6
- **NGSS:** ESS 2.D, HS-LS4-4, HS-LS4-5, HS-LS2-6, HS-PS1-5, PS 1.B
- **OLP:** 2.B.7, 3.B.4, 5.B.1, 5.B.5, 5.C.23, 5.C.33, 5.C.34, 5.C.35

ONLINE CONTENTS

- [Coral Growth Quiz](#)

CORAL GROWTH

This lesson is a part of the *Coral Growth* unit, which explains how corals grow, and the shapes that they form. Below is a summary of what is included in the entire unit.

UNIT CONTENTS

A. [Background Information](#)

- How do Corals Grow?
- Growth Rates

B. Lessons

[Candy Coral](#)

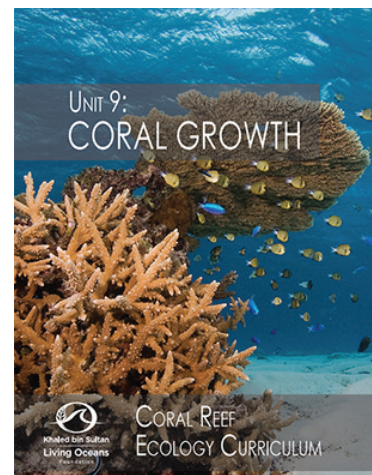
- A lab to simulate coral skeleton growth in different scenarios

[Which is the Superior Coral?](#)

- A debate over which coral growth form is the best

[Read it! Investigating the Reef Slope](#)

- A worksheet to accompany the [Investigating the Reef Slope](#) field blog



LESSON 2

WHICH IS THE SUPERIOR CORAL?

You are Team _____!

(Coral species name)

PART A:

INSTRUCTIONS: Coral Species Info Book

- Research the coral species on the card given to you by your teacher, finding the following information:
 - Growth form
 - Preferred habitat
 - Global distribution
 - Main anthropogenic threat(s) to the species
 - Fun facts
- Put that information into a Coral Species Info Book. The coral species card you receive from your instructor will serve as the front cover to your book. The information within your book should include your research findings and summarize why you believe your coral species is superior!

To make your book:

 - Fold 2 pieces of construction paper in half.
 - Staple along the fold, as close to the edge as possible.
 - Glue your coral species card on the front page.
 - Fill out each blank page of your book with your research information. You have 8 pages in total (back and front), with the cover being your first one where you glued your coral species card.
- Once all books are completed they will be passed around the room for the other groups to review. While you wait for this step, read the information below in *Part B: The Debate*. You will be debating against other groups to prove that your species is the best. Take the time to make sure ALL group members are completely knowledgeable about your species. When your group receives another group's book take notes so you will be better able to debate the superiority of your species against theirs during the debates.

Info Book Rubric

Category	4	3	2	1	Score
Included all sections	Included all five sections.	Included four sections.	Included three sections.	Included less than three sections.	
Accuracy	All content is accurate.	1-2 inaccuracies in the content.	3-5 inaccuracies in the content.	More than five inaccuracies in the content.	
Design	The book is neat and exciting to the eye.	The book is neat and pleasant to the eye.	The book is a little messy, but still pleasant to the eye.	The book is messy and not pleasant to the eye.	
TOTAL	Out of 12:				

PART B:

INSTRUCTIONS: The Debate

It's time for the class to debate whose coral species is truly superior! There will be three rounds of debates. The winners of each debate in the first round will face another winner in the second round, like a tournament bracket. The third round will have the final two winners debating each other. The champion of this last round will be the superior coral.

DEBATE RULES:

- **Be respectful!** Teams will lose points for any improper interruption or whispering while another team speaker is presenting.
- Be sure to take notes, but do not speak, while the other team is presenting their side.
- You must stay within the time constraints for each round.
- You may only use information that is in your *Coral Species Info Book*.

STUDENT ROLES:

Assign each member of your group one of the following roles:

Opening Argument Presenter (3 minutes):

Presents the main arguments of why their coral species is superior in an introductory statement. Backs up statement with evidence (facts).

Rebuttal Argument Presenter (2 minutes):

Answers the arguments of the other team. These presenters must take notes as the other team is presenting their arguments and respond to every argument, using specific information to disprove them. People who are in charge of the rebuttal need to be good at thinking on their feet or improvisation, as they will not have much time to prepare their exact presentation.

Closing Argument Presenter (3 minutes):

Presents the closing arguments for the team. Repeats the main reason why their coral is superior and the evidence for this, which may include a comparison to their competition.

PROGRESSION OF DEBATE:

- I. **Opening Argument:** Each group will start with their Opening Argument Presenter. (3 minutes per side)
- II. **Rebuttal Conference:** Teams discuss adjustments to their rebuttal arguments. (1 minute)
- III. **Rebuttal Argument:** Each Rebuttal Argument Presenter will answer the opening arguments of the other team. (2 minutes per side)
- IV. **Closing Conference:** Teams discuss adjustments to their closing statements. (1 minute)
- V. **Closing Argument:** Each Closing Argument Presenter will make their final comments. (3 minutes per side)
- VI. **Scoring:** Tallying of scores and announcement of debate winner.

DEBATE RUBRIC:

Category	4	3	2	1	Score for Group #_	Score for Group #_
Opening Argument	Viewpoints and responses were consistently clear and orderly. 5 or more relevant examples were given to support viewpoint.	Viewpoints were mostly ordered with clear statements. 3 to 4 relevant examples were given to support viewpoint.	Viewpoints have some clarity, but are mostly disorganized. Less than 3 relevant examples were given to support viewpoint.	Viewpoints are unclear or have no organization. No relevant examples were given to support viewpoint.		
Rebuttal	Viewpoints and responses were consistently clear and orderly. All of the other team's arguments were addressed.	Viewpoints were mostly ordered with clear statements. Most of the other team's arguments were addressed.	Viewpoints have some clarity, but are mostly disorganized. A few of the other team's arguments were addressed.	Viewpoints are unclear or have no organization. None of the other team's arguments were addressed.		
Closing Argument	Viewpoints and responses were consistently clear and orderly. Final opinion was assertive and backed up with multiple pieces of evidence.	Viewpoints were mostly ordered with clear statements. Final opinion was stated and backed up with some evidence.	Viewpoints have some clarity, but are mostly disorganized. Final opinion was mentioned and backed up with a piece of evidence.	Viewpoints are unclear or have no organization. Final opinion was not stated nor backed up with evidence.		
Time Allotments	Time speaking stayed within the designated debate time allotments.	Time speaking violated time allotments once.	Time speaking violated time allotments 2-3 times.	Time speaking violated time allotments every time.		
Penalty Points (Note: take points AWAY from total score)	-0 points Team was always quiet when other team was presenting and was never disrespectful.	-1 point 1-2 violations (not quiet or disrespectful)	-2 points 3-4 violations (not quiet or disrespectful)	-3 points 5+ violations (not quiet or disrespectful)		
TOTAL	Out of 16:					



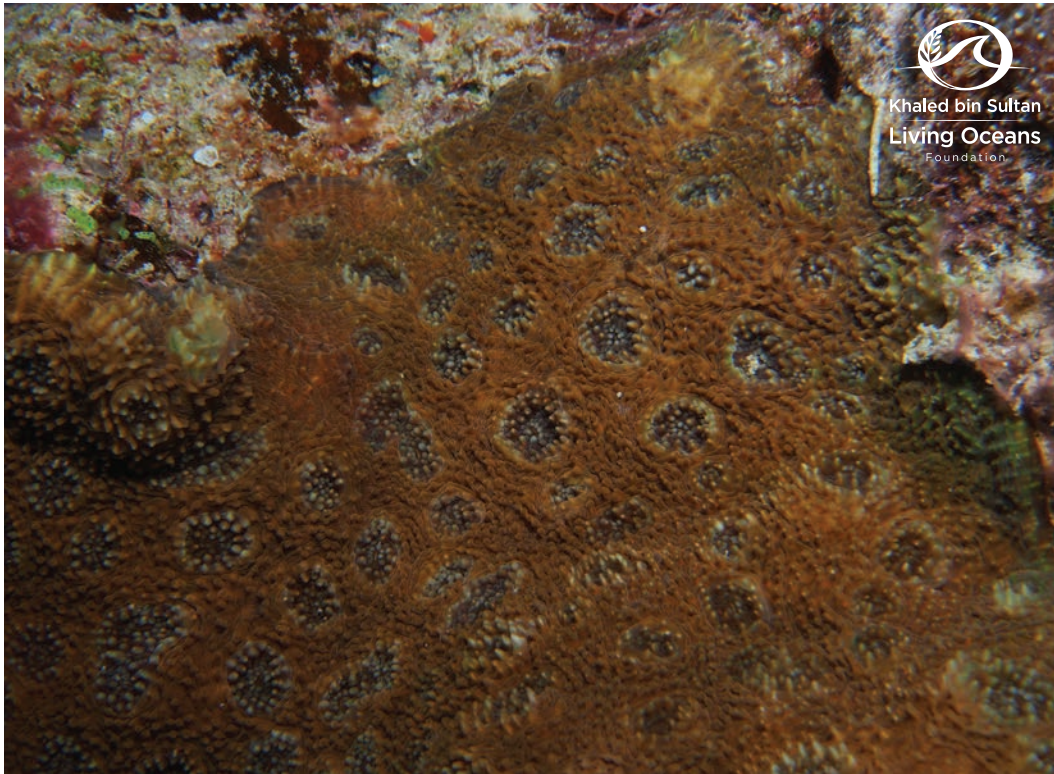
Group 1
Acropora palmata



Group 2
Pavona clavus



Group 3
Acanthastrea echinata



Group 4
Astreopora randalii



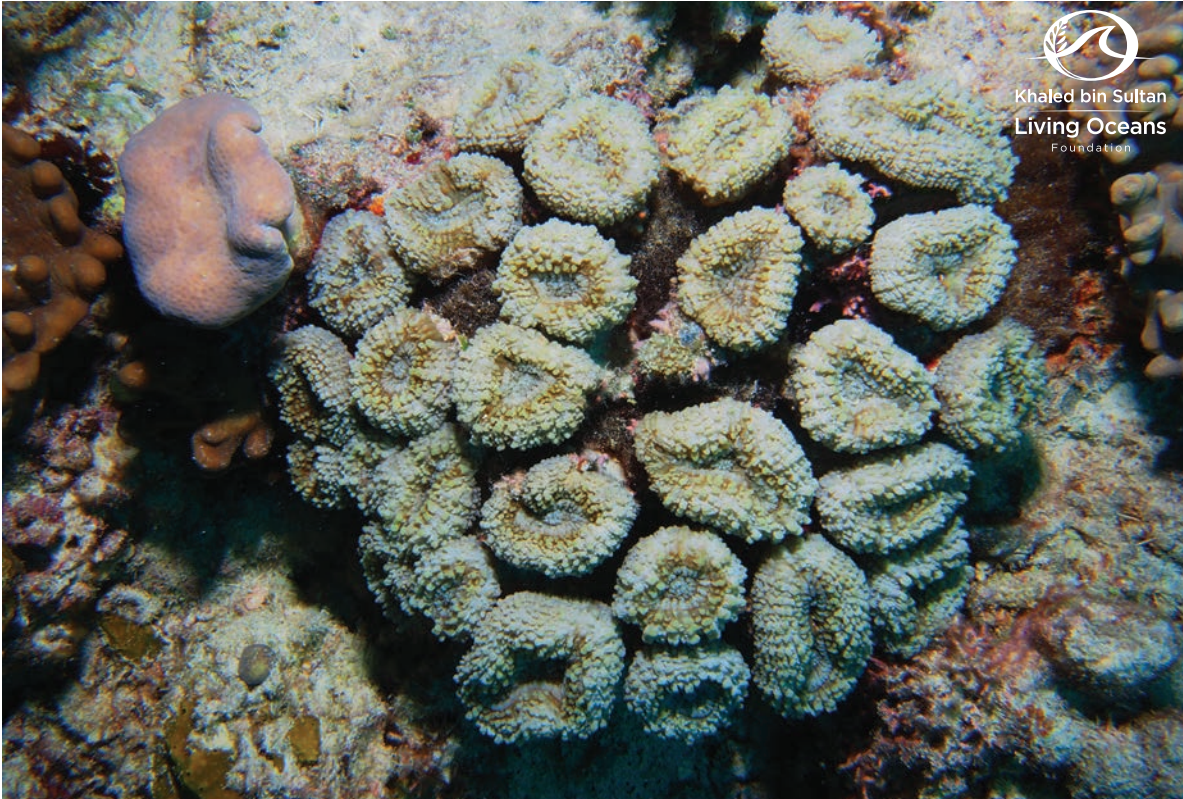
Group 5
Herpolitha limax



Group 6
Platygyra sinensis



Group 7
Lobophyllia corymbosa



Group 8
Merulina ampliata

