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| Slide | Notes |
| 1 | None |
| 2 | The tidepools started to change.​  **What changes do you notice in the image on the right?** Possible answers: no sea stars, more barnacles and mussels, more shells, more clams, no bare rock​  **What do you notice about the rocks below the sea stars in the image on the left?** Possible answers: They are bare, they have fewer shells, they have fewer mussels, barnacles, or clams​  **Why do the sea stars keep the rocks bare? What does that tell you about the sea stars?** Possible answers: The sea stars eat the mussels, clams, or barnacles​  **If the sea stars are gone what happens to the tide pools?** Possible answers: They get covered in barnacles or mussels​  **What other organisms are missing in the image on the right?** Anemones, snails, crabs (tie back to biodiversity)​. Without the sea stars, barnacles and mussels take over more of the tide pool and crowd out other organisms​ |
| 3 | We wanted to know what happened to the sea stars.​  **What do you notice about the sea star on the left?** Regular color​  **How is it different from the sea star on the right?** Large white patches​  **What do you notice about its skin?** (Lesions and sores) It is more white, maybe it is a cut, or scrapes​ |
| 4 | Warn about impending grossness |
| 5 | **What do you notice about these sea stars?** Possible answers: Missing arms, Arms falling off, deflating, melting, disintegrating, arm crawling away​ |
| 6 | **Why do you think the sea stars are melting or falling apart?**​ They are sick. You might have to guide them to this answer. Sometimes the learners think something took a bite out of them.  **Could we be looking at a sickness or illness?**​yes  **What causes sickness or illness?**​ Viruses and bacteria  **How do we observe or find things that are really small?**​Possible answers: microscopes… Tell them that under a microscope many viruses and bacteria look the same. Tell them there are ways that we can find things that are smaller than microscope can see.  **What clues can we use to find small organisms?**​ They will guess poop and other silly things, but you are going to say that we learn together. |
| 7 | Scientists use something that all organisms have to find out if organisms are in a location.​  **What could this be?**​  All organisms have DNA.​  DNA are the instructions that make organisms.​  You and all organisms have DNA in each cell in your body.​  All organisms also leave DNA behind on surfaces that they touch.​  Give Jurassic Park metaphor​  **Who has seen Jurassic Park?**​ Some of them will have seen it.  **How did they get the DNA to make the dinosaurs?**​  Dinosaur blood from mosquitos in amber. That is an example of DNA in the environment​ |
| 8 | None |
| 9 | Add slide with the handout and have the answer ready!!​ |
| 10 | Answer: Complimentary Strand is TAAGCATGCGTT​ |
| 11 | Come back from activity |
| 12 | **If we are going to sample DNA with a Qtip** **swab, where should we sample DNA?**​ Discuss how we can get DNA by swabbing the sea stars’ skin and feet. |
| 13 | Plan the experiment with the learners  **Do we want to sample healthy and sick sea stars? yes/no**​  **Why did you answer yes or no?**​ We want to know what DNA is missing from the healthy sea stars so we want to sample both  **How many sea stars should we sample?**​Lots of both healthy and sick sea stars.  **How many healthy ones?**​Number must be more than 5, but the important thing is that the number for this answer and the next must be the same.  **How many sick ones?**​ Equal to number before. We are hoping to introduce them to balanced experimental design. |
| 14 | None |
| 15 | Read the slide.​  Add the handout slides​ |
| 16 | See Teacher handout for answer key too |

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|  | Matches | Mismatches |
| Pacific Purple Sea Urchin | 2 | 10 |
| Giant Green Anemone | 4 | 8 |
| California Mussel | 3 | 9 |
| Giant Kelp | 4 | 8 |
| Densovirus | 12 | 0 |