



## Let's Go Tide Pooling

### **Tide Pool Overview**

Tide pools are depressions in coastal rock formations that retain seawater after the tide goes out. Tide pool water undergoes changes as it sits in the pool. Salinity concentration, oxygen content, and temperature all vary over the course of a day in the life of a tide pool. While tide pools can provide a protected habitat for marine life such as algae, invertebrates and fish, they can also be very challenging environments to survive in. Organisms that utilize tide pools as habitats have specific adaptations that allow them to survive.

Adapting to life in a tide pool:

- Adaptations: Genetic traits, passed from generation to generation, that help an organism survive.
- Biotic Factors: Living organisms such as plants, animals, and algae.
- Abiotic Factors: Non-living factors such as, salinity, sunlight, temperature, tides, and wave action.

### **Learning Objectives**

By going tide pooling, you will be able to:

- Observe biotic and abiotic factors in their natural environment.
- Identify adaptations organisms in the rocky intertidal zone, and in tide pools specifically, must have in order to survive in this environment.

### **Tips and Safety Precautions**

- Plan your tide pool visit to coincide with a low tide. A negative tide is best.
- Don't turn your back on the ocean.
- Protect yourself from the sun (hat, sunscreen, sunglasses, etc.).
- Take precaution on slippery and uneven surfaces.
- Bring a field journal and a camera to record your observations.
- Follow all posted rules and guidelines at your location.
- Be curious and observant, and have fun!

### **Marine Wildlife Viewing Guidelines**

1. Keep a reasonable amount of distance between you and wildlife. Wildlife can be sensitive to human disturbance, and if cornered, they can harm you, or leave the area (their home), making them susceptible to predation and other harm. Do not obstruct the travel path of any animals.
2. Do not touch or handle marine life. This can injure the animal, or you. Many marine organisms have a protective coating that can be rubbed off when touched. Do not remove any animals from their location.
3. Do not feed animals.
4. If you see trash, pick it up and throw it away!

Source: NOAA National Marine Sanctuaries Ocean Etiquette

## **Tide Pooling Activity**

### **Materials**

- [Tide chart](#)
- [iNaturalist](#) for organism identification (smart phone required)
- Field journal and pen/pencil.
- Internet access for additional research, identification of organisms, and phenomena observed.

### **Tide Pooling**

Record the following in your field journal.

1. Location
2. Temperature and weather conditions
3. Description of habitat
4. Organisms observed
5. Other observations

### **Post Tide-Pooling Discussion Questions**

1. Choose three organisms you observed in the field and discuss the specific challenges they face living in tide pools (or the rocky intertidal in general), and how they are adapted to survive those challenges.
2. Did you observe any predator prey interactions? If so, describe them. If not, what type of predator prey interactions might you expect in this type of marine environment?
3. What are the benefits and challenges with tide pools often being accessible by humans?

### **Resources and Extensions**

- Tide pool [locations](#) in San Diego County
- From home, you can add to your field journal by finishing your drawings and researching your observations.
- Revisit the tide pool you went to and observe the similarities and differences you observe over time.
- Visit different tide pools and compare and contrast your observations.