



Lots of Science Library Books

Each *Lots of Science Library Book* is made up of 16 inside pages, plus a front and back cover. All the covers to the *Lots of Science Library Books* are located at the front of this section. The covers are followed by the inside pages of the books.

How to Photocopy the *Lots of Science Library Books*

As part of their *Great Science Adventure*, your students will create *Lots of Science Library Books*. The *Lots of Science Library Books* are provided as consumable pages which may be cut out of the *Great Science Adventures* book at the line on the top of each page. If, however, you wish to make photocopies for your students, you can do so by following the instructions below.

To photocopy the inside pages of the *Lots Of Science Library Books*:

1. Note that there is a "Star" above the line at the top of each *LSLB* sheet.
2. Locate the *LSLB* sheet that has a Star on it above page 16. Position this sheet on the glass of your photocopier so the side of the sheet which contains page 16 is facing down, and the Star above page 16 is in the left corner closest to you. Photocopy the page.
3. Turn the *LSLB* sheet over so that the side of the *LSLB* sheet containing page 6 is now face down. Position the sheet so the Star above page 6 is again in the left corner closest to you.
4. Insert the previously photocopied paper into the copier again, inserting it face down, with the Star at the end of the sheet that enters the copier last. Photocopy the page.
5. Repeat steps 1 through 4, above, for each *LSLB* sheet.

To photocopy the covers of the *Lots of Science Library Books*:

1. Insert "Cover Sheet A" in the photocopier with a Star positioned in the left corner closest to you, facing down. Photocopy the page.
2. Turn "Cover Sheet A" over so that the side you just photocopied is now facing you. Position the sheet so the Star is again in the left corner closest to you, facing down.
3. Insert the previously photocopied paper into the copier again, inserting it face down, with the Star entering the copier last. Photocopy the page.
4. Repeat steps 1 through 3, above, for "Cover Sheets" B, C, D, E, and F.

Note: The owner of this book has permission to photocopy the *Lots of Science Library Book* pages and covers for classroom use only.





temperature
depth
radiates

- *Sunlight Zone
- *Twilight Zone
- *Dark Zone
- *Abyss
- *Trenches

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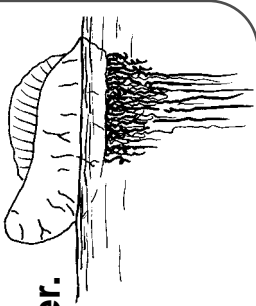
**How does the
ocean affect
weather?**



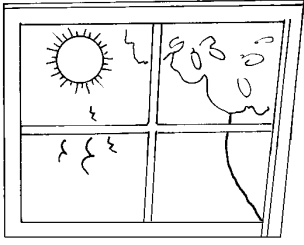


Wonderful Wonders in the Water

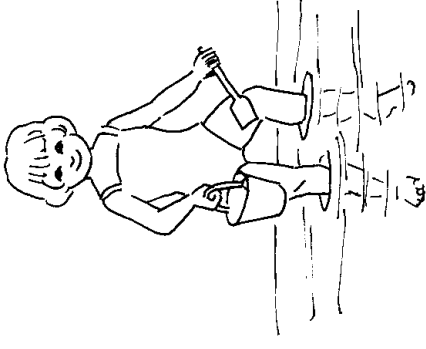
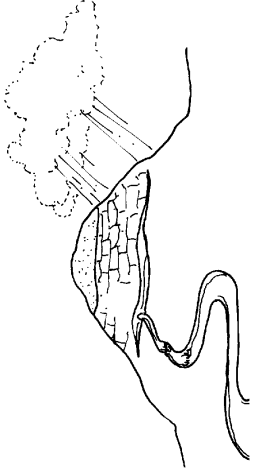
The Portuguese man-of-war has tentacles that can trail for almost 100 feet (30m). This huge animal is made up of almost 100,000 individual animals stuck together.



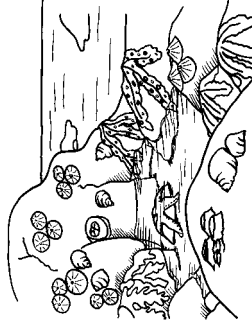
The weather is a part of our everyday lives. We plan events and determine the clothes we wear according to the weather.



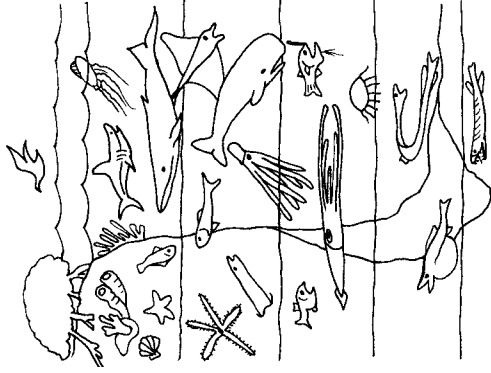
Storm surges occur when waters rise underneath hurricanes. If a storm surge reaches land during high tide, it can bring devastating coastal floods. Such a surge occurred in Bangladesh in 1970, killing about 500,000 people.



Earth's tropical oceans hold heat, while the polar waters remain cold all year. Land, however, quickly warms up or cools off depending on the seasons.



Heat from the Sun turns water in the oceans, lakes, rivers, and ground into water vapor. Water vapor rises into the atmosphere through evaporation. As water vapor meets cooler air, condensation occurs. The cool air cannot hold the water vapor, and water vapor turns back into water droplets as precipitation.



Earth's tropical oceans hold heat, while the polar waters remain cold all year. Land, however, quickly warms up or cools off depending on the seasons.



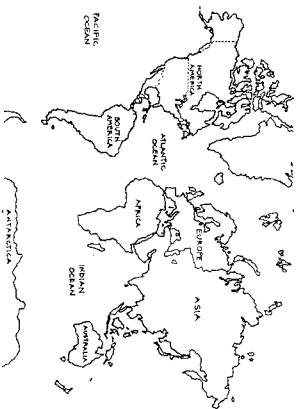


When you return to the beach the same evening, the sand may feel cold. However, the ocean temperature remains fairly stable during the day and night.



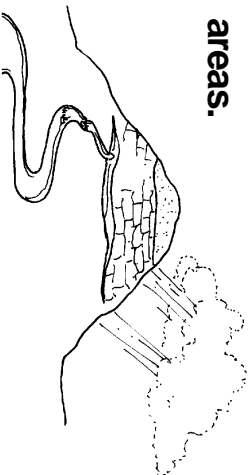
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The fairly consistent temperatures of the ocean moderates the temperatures on land.



8 Lots of Science Library Book #12

Trade winds, winds blowing almost constantly in one direction, are more regular over oceans than over land. As trade winds move over warm, tropical waters, they pick up moisture and bring heavy rainfall to mountainous areas.



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The effect of the ocean on weather is more obvious in coastal areas, but the ocean also influences all areas of land. Compared to the other planets in our solar system, Earth maintains a fairly consistent temperature, largely due to the ocean.

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The ocean plays a key role in Earth's atmosphere and weather. The ocean is so vast and holds such a large volume of water that ocean temperatures change slowly.



2 Lots of Science Library Book #12

Temperatures of land masses may vary from very hot to very cold. Ocean temperatures remain fairly consistent. If you walk along the beach on a sunny day, the sand may feel warm while the ocean water may feel cool.

4 Lots of Science Library Book #12

Earthquakes under the ocean may cause devastating waves, called tsunamis.



Tsunamis move as fast as a jet plane and can reach 100 ft (30 m) high when entering coastal waters. In 2004 in Indonesia, thousands of people were killed by a tsunami.

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Hurricanes are severe tropical storms that form in the southern Atlantic Ocean, Caribbean Sea, Gulf of Mexico, and eastern Pacific Ocean. Hurricanes gather heat and energy through contact with warm ocean waters and evaporation from the ocean.



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