

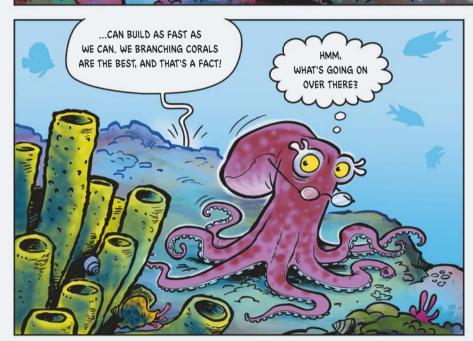


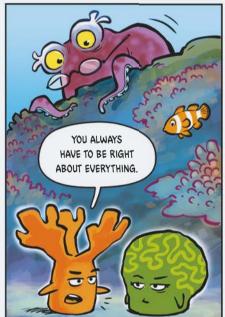
WHO IS THE BEST BUILDER? STORY: SINA LÖSCHKE, CARIN IANTZEN ILLUSTRATON: BERNHARD SPEH WWW. SECORE. ORG

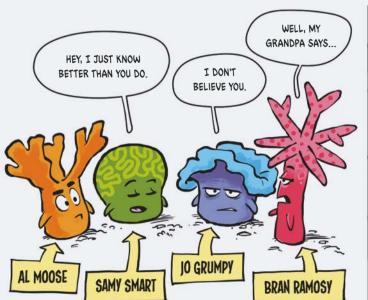
TOWABONGA REEF,
NEAR A SMALL
TROPICAL ISLAND

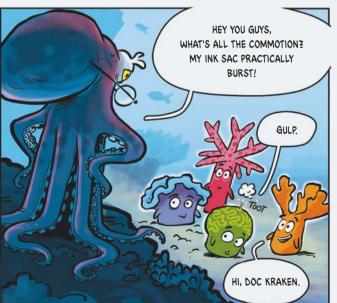
MY FAMILY MAKES THE
BIGGEST AND STRONGEST
CORAL TOWERS.

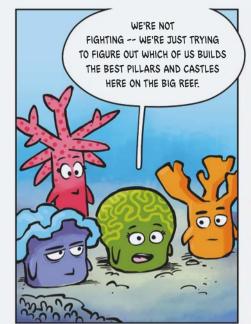
MAYBE, BUT
NONE OF YOU...

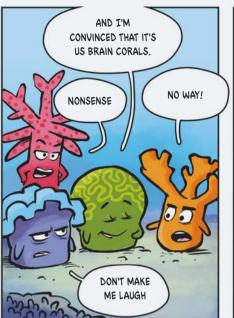




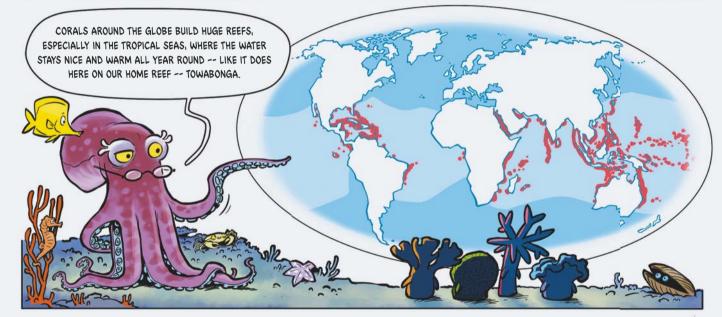


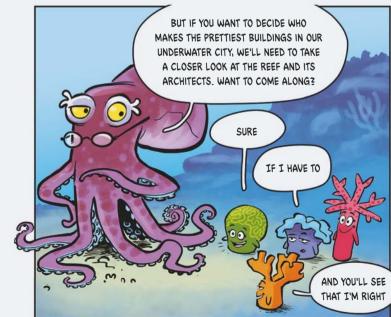


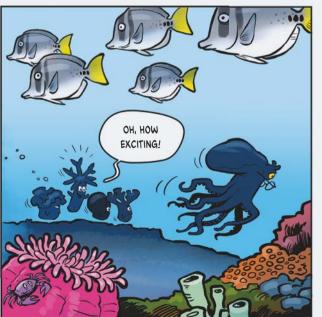


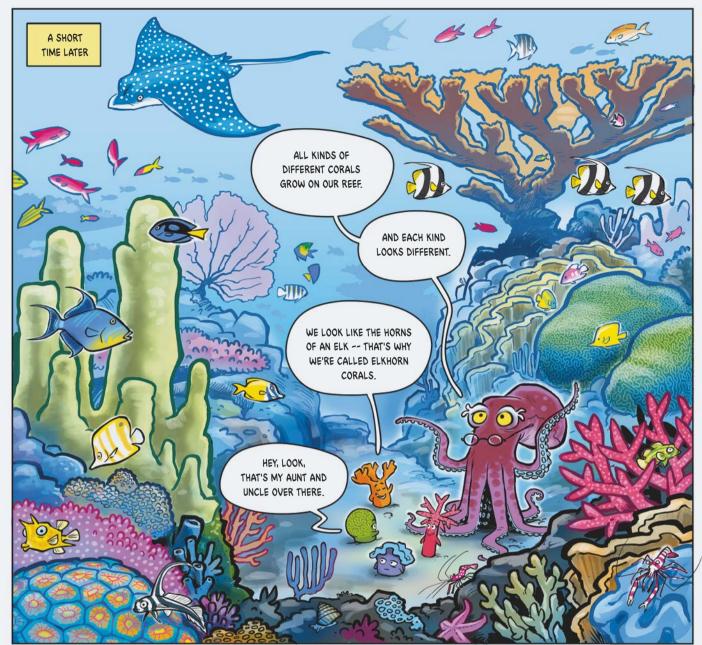


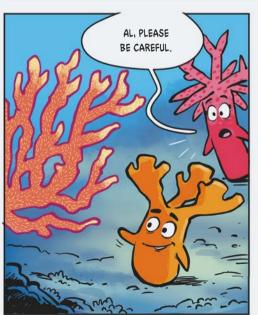


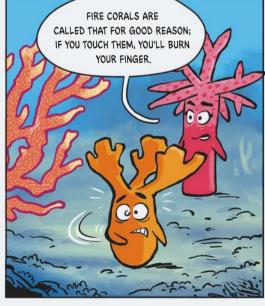




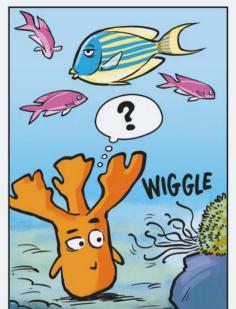






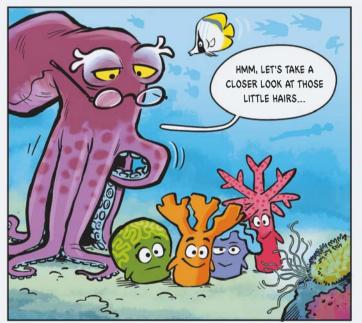






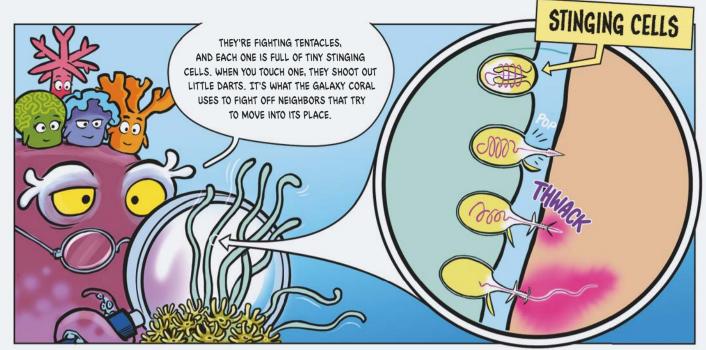






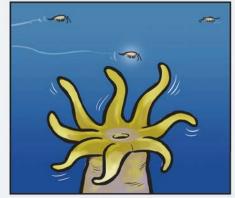


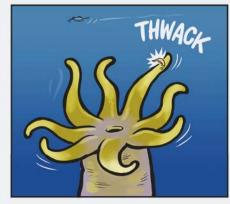




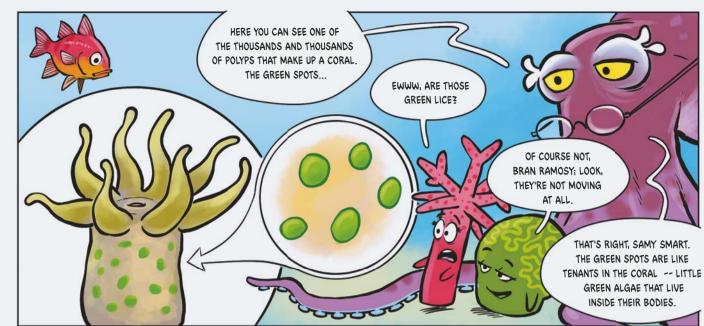






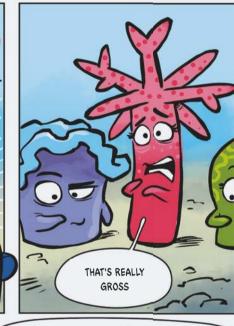


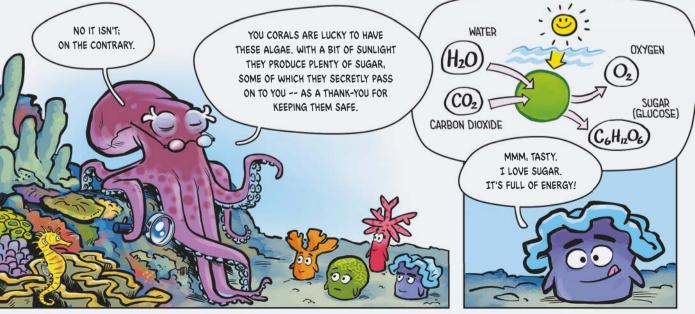


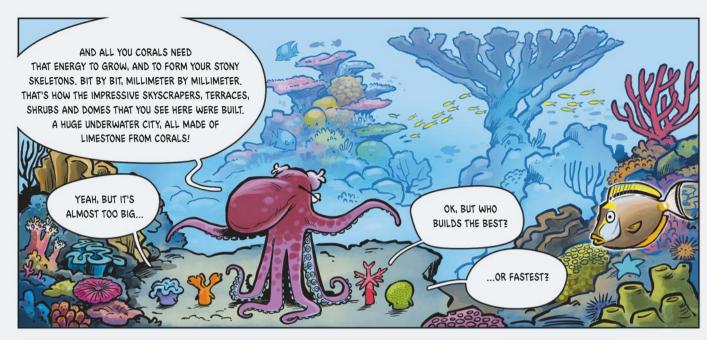


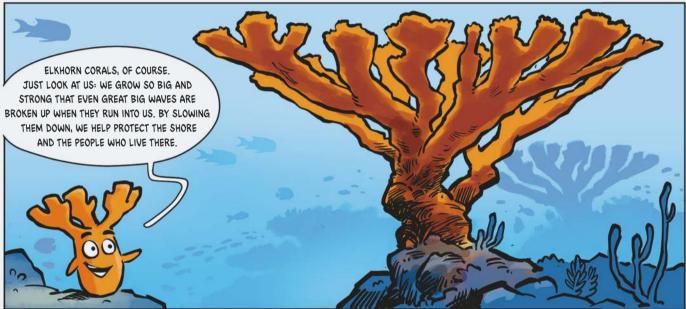


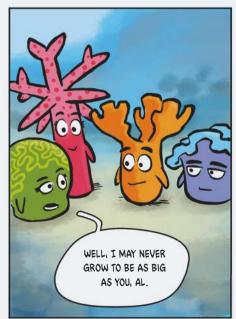




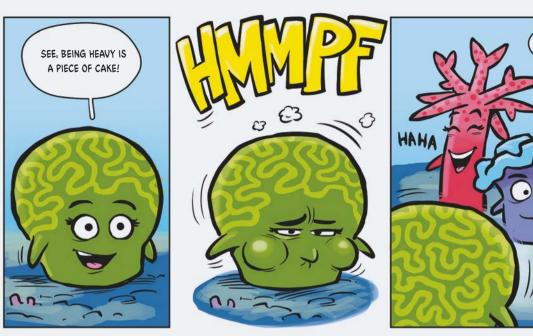


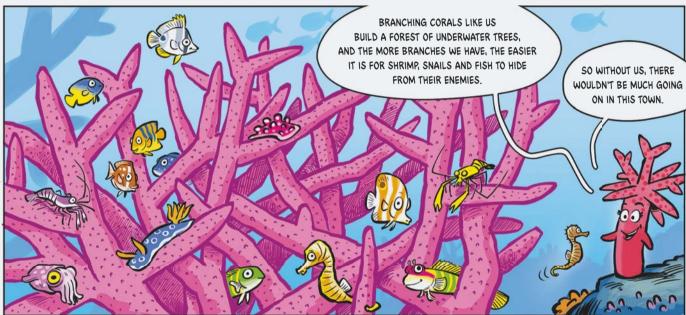


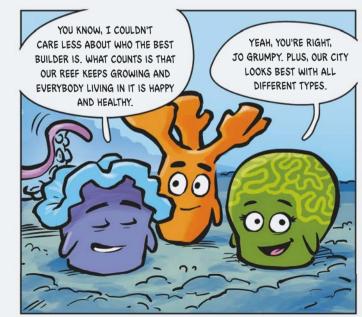


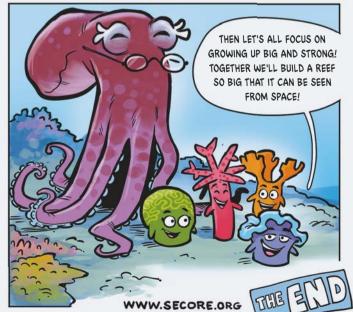












LOOK OUT, SHE'S GONNA ROLL OVER.

...OR EXPLODE!

HARD FACTS

DO KRAKEN'S COUSINS OCTOPUSES ARE AMAZINGLY SMART ANIMALS WHO BELONG TO THE MOLLUSCAN CLASS CEPHALOPODS. THEY ARE ABLE TO CHANGE THEIR SKIN COLOR AND TEXTURE TO CAMOUFLAGE WITHIN THEIR SURROUN-DINGS. THE COMMON OCTOPUS OWNS EIGHT TENTACLES, EACH UP TO A METER LONG AND LINED WITH TWO ROWS OF SUCTION CUPS. HE SKILLFULLY APPLIES THESE TEN-TACLES, AND CAN EVEN USE THEM TO WIELD TOOLS SUCH AS STICKS. WHILE USING HIS PARROT-LIKE BEAK, HE LIKES TO CRACK OPEN SCALLOPS AND OTHER SHELL BEARING ANIMALS.



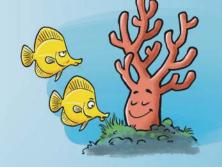
ELKHORN CORALS GROW IN THE SUNLIGHT SHALLOW WATERS OF THE CARIBBEAN. THEY SHIELD THE COAST BY ABSOR-BING WAVE ENERGY WITH THEIR 'ANTLERS' SOME DECADES AGO, THEY FORMED A PROTECTION BELT ALONG THE COASTLINE. TODAY, THERE ARE OFTEN ONLY ALONG THE COASTLINE TODAY, THEKE AKE OFTEN ONLY
SINGLE ELKHORN COLONIES LEFT AND THE SPECIES CAN BE FOUND ON THE RED LIST OF ENDANGERED SPECIES CAN DO YOU THINK THEIR 'ANTLERS' LOOK LIKE THE



STONY CORALS BUILD UP THE PERFS STONY AND SOFT CORALS, AS WELL AS SEA FANS AND WHIPS. SOFT CORALS, LIKE TREE CO-RALS, ARE OFTEN COLORFUL AND HAVE TINY LIMESTONE NO-DULES WITHIN THEIR BODY. THEIR BODY IS BASICALLY A BULGING TUBE, STABILIZED BY WATER PRESSURE. SEA FANS AND WHIPS HAVE A FLEXIBLE, HORNY SKELETON, WHICH ALLOWS THEM TO SWAY WITH THE CURRENT OR SWELL. OFTEN A FEATHER STAR SITS ON TOP OF A SEA FAN. TAKING ADVANTAGE OF ITS EXPOSED SPOT TO CATCH MICROORGANISMS OUT OF THE WATER FLOWING PAST FOR A TASTY MEAL. IT'S ONLY THE STONY CORALS WHO BUILD UP A ROCK-LIKE SKELETON MADE OF CALCIUM CAR-BONATE. THE DEAD PART BELOW THE LIVING CORAL FORMS THE REEF'S FRAMEWORK. THIS REEF SUBSTRUCTURE IS INTERVEINED BY CREVICES AND A KIND OF CAVE SYSTEM, POPULATED BY SPONGES AND OTHER

ANIMALS.





CORAL REEFS ARE THE GREATEST STRUCTURES THAT HAVE BEEN BUILT BY LIVING BEINGS ON EARTH. YOU CAN EVEN SEE THEM FROM SPACE! FROM THE FOSSIL RECORD WE KNOW THAT CORAL REEFS HAVE EXISTED FOR OVER 400 MILLION YE-ARS. THE ANCIENT CORALS WHO POPULATED THE REEFS BACK THEN ARE CALLED RUGOSA AND TABULATA AND HAD A DIFFERENT BUT STILL CALCAREOUS SKELETON LIKE THE CORALS TODAY. STONY CORALS AS WE KNOW THEM APPEARED AROUND THE TIME OF THE FIRST DINOSAURS, MODERN CORAL REEFS HAVE EXISTED FOR THE PAST 60 MILLION YEARS. AT PRESENT, CORAL REEFS ARE THREATENED: THE MAIN REASONS ARE CLI-MATE CHANGE, POLLUTION AND OVERFISHING.

DO YOUR OWN RESEARCH:

- WHAT'S YOUR FAVORITE CORAL SPECIES?
- 2. WHERE IS THE CORAL TRIANGLE AND WHAT IS SO SPECIAL ABOUT IT?
- 3. WHICH ANIMALS ARE NATIVE TO CORAL REEFS?
- 4. WHAT IS A BASKET STAR?
- 5. WHICH ANIMALS DRILL THEIR TUBES RIGHT INTO THE CORAL SKELETON?
- 6. WHAT IS THE CEMENT OF CORAL REEFS?
- INFO AND SOLVING AT WWW.SECORE.ORG. RUBRIC EDUCATION

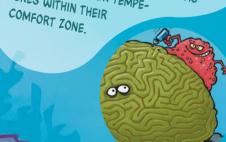
SCHEDULED OFFSPRING FOR WELL-STUDIED CORAL SPECIES, SCIENTISTS MAY BE ABLE TO PREDICT THE TIMING OF CORAL

SPAWNING ALMOST TO THE TIMING OF COKAL

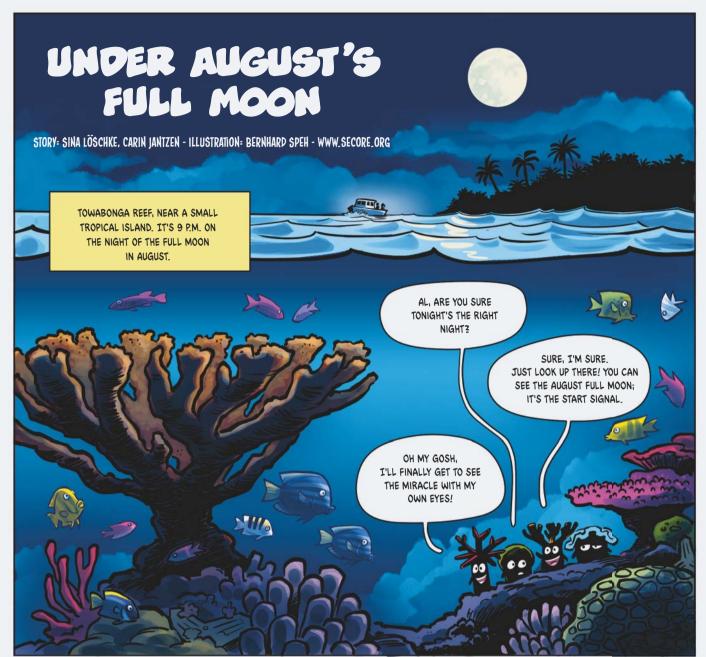
THE MINUTE TO SYNCHRO-NIZE THEIR SPAWNING, CORALS ARE GUIDED BY THE NIZE THEIR SPAWNING, CORALS ARE GUIDED BY THE LUNAR CYCLE TO SET THE DAY, AND THE TIME AFTER SUNSET TO SET THE DAY, AND THE TIME AFTER

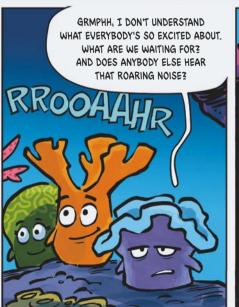
SUNSET TO SET THE EXACT HOUR. FOR INSTANCE, THE ELKHORN CORALS ON CURAÇÃO USUALLY START THEIR RENDEZVOUS AT 9:15PM ON THE DOT AND HALF AN HOUR.

FRIENDS AND FOES CORALS TO THRIVE, SOME INDISPENSABLE HELPERS ARE NEE-DED. FISH AND SEA URCHINS GRAZING ON ALGAE PREVENT SLOW GROWING CORALS FROM BEING OVERRUN BY ALGAE MATS. THIS IS ESPECIALLY IMPORTANT WHEN ENHANCED NUTRIENT LEVELS PROMOTE ALGAE GROWTH. SPONGES MAY GROW FAST AS WELL AND THERE ARE SPONGES THAT BORE INTO A CORAL'S SKELETON. ONCE THEY ARE ON TRACK, THOSE SPONGES MAY UNDERMINE A WHOLE CORAL COLONY TO STAND A CHANCE AGAINST THOSE NASTY DRILLERS, CORALS NEED TO BE IN THE RIGHT CONDITIONS, SUCH AS CLEAR WATER AND SEAWATER TEMPE-RATURES WITHIN THEIR









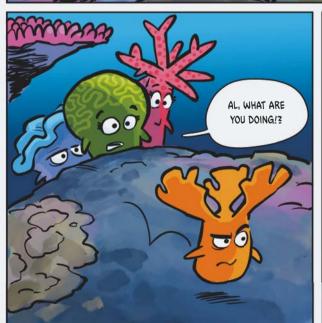






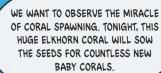


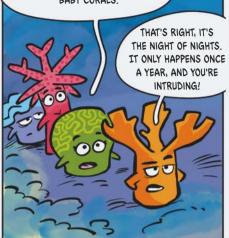




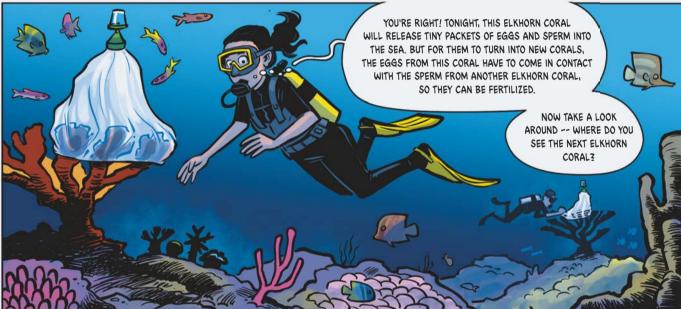


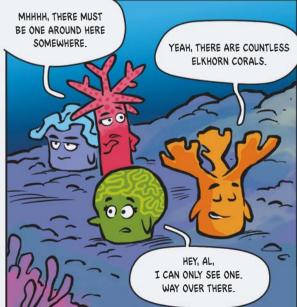












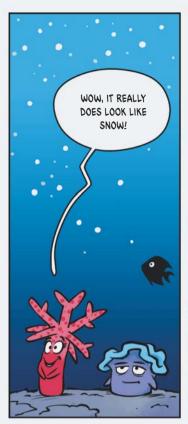








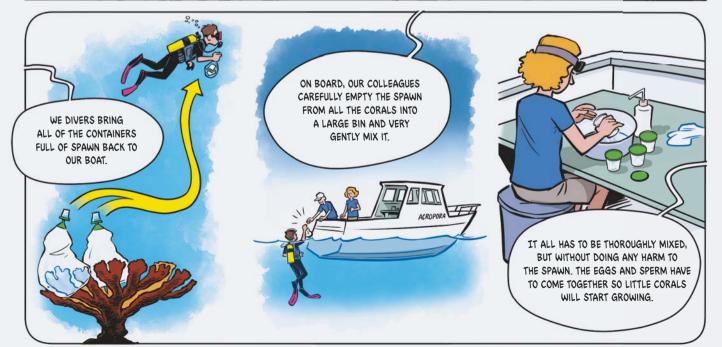


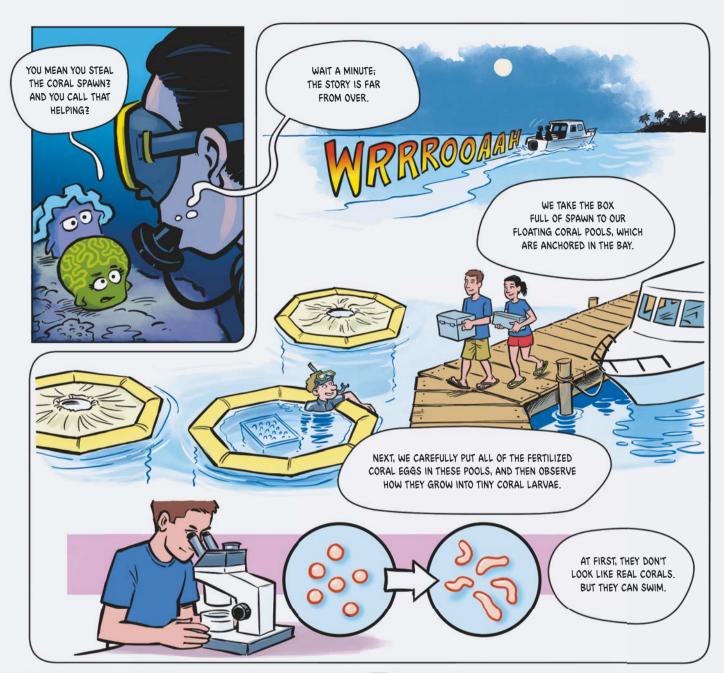


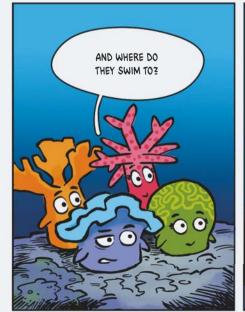




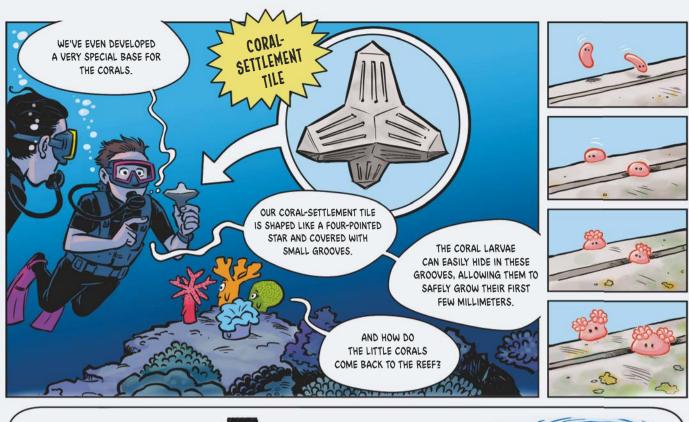


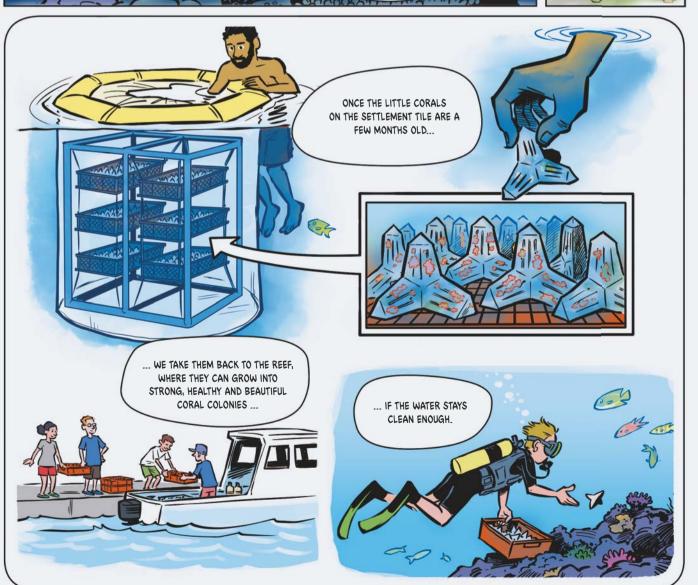






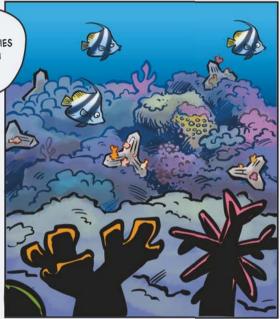


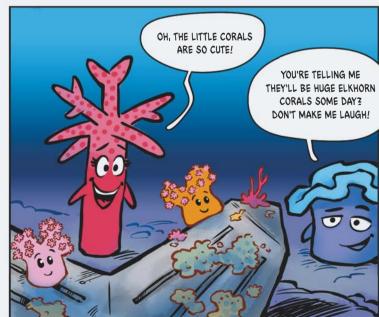










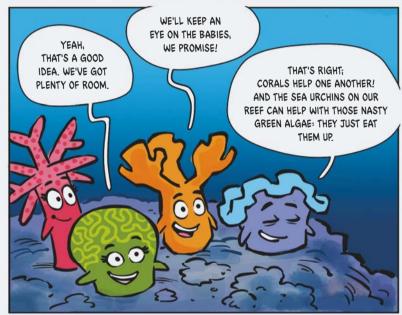


IT TAKES AT LEAST FOUR YEARS FOR THE PLANTED CORALS TO REACH THE SIZE OF A FOOTBALL AND TO BE OLD ENOUGH TO HAVE BABIES OF THEIR OWN. BUT IF, A FEW YEARS FROM NOW, WE ONCE AGAIN HAVE PLENTY OF SPAWNING CORALS HERE ON THE REEF THEN THE CHANCES ARE GOOD THAT WE'LL SEE A LOT MORE CORAL BABIES AROUND HERE.





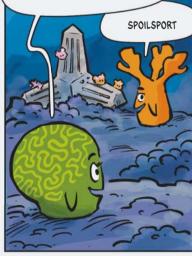


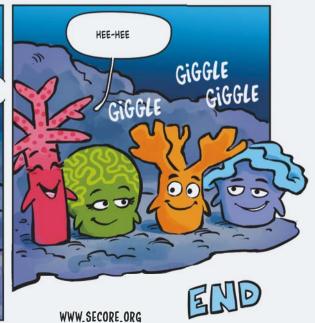


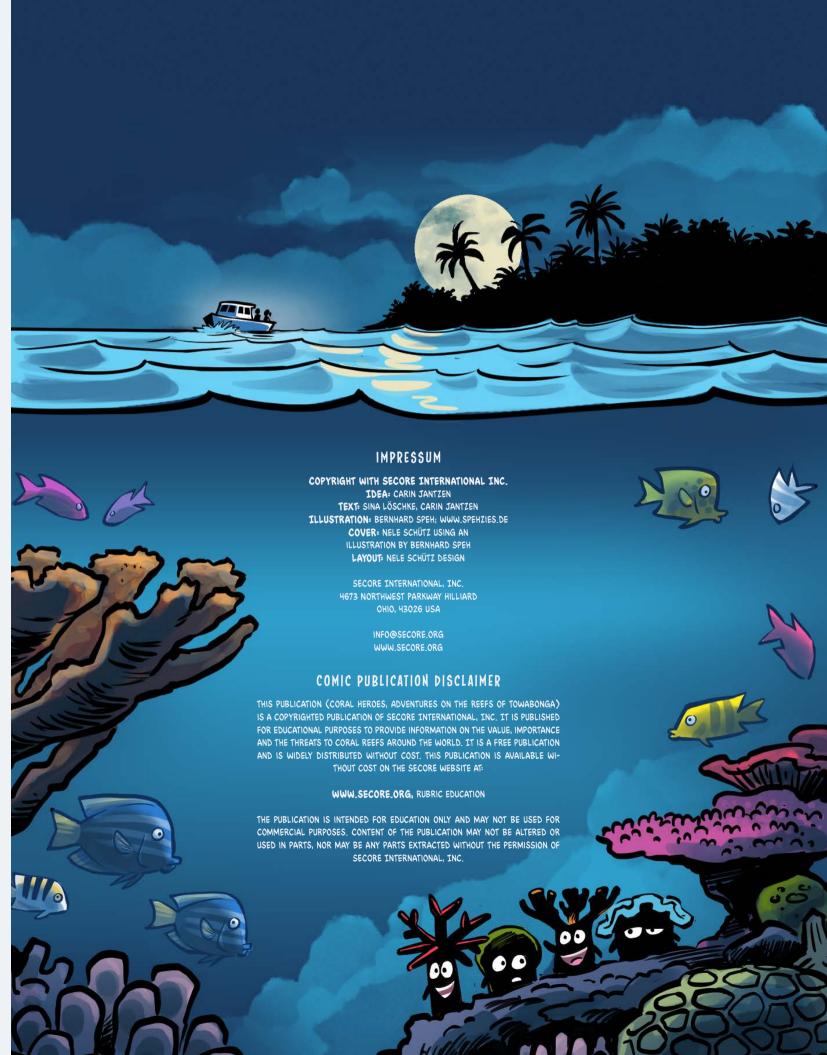




AL, STOP MESSING WITH
THE LITTLE GUY. IF I REMEMBER
RIGHT, THREE YEARS AGO YOU
WERE JUST AS SMALL.







SECORE'S LEAD PARTNER:











CORAL HEROES EDUCATION PARTNER:



