

## Make a Critter

Could our solar system harbor other life forms? This is a question many scientists ponder. Two possible places in our solar system that may have or once have had conditions for life to exist are Mars and Jupiter's moon Europa.

Mars- Mars once had liquid water on it, as dried river channels show us. Mars no longer has liquid water. The Martian polar caps do contain water ice and there probably is ice under the surface. Mars has a very thin atmosphere that does not protect from solar radiation - but lots of bright Sunlight. Mars can be very windy (dust storms), and very cold (freezing temperatures on the warmest days).

Europa – a salty ocean lies beneath the icy surface. Europa may have deep-sea vents like on Earth. It is far from the Sun and has little Sunlight.

To exist, life needs liquid water, nutrients and a source of energy, and protection. While the ways that organisms get their nutrients, energy sources, and protection can be different, ALL life as we know it needs LIQUID WATER!

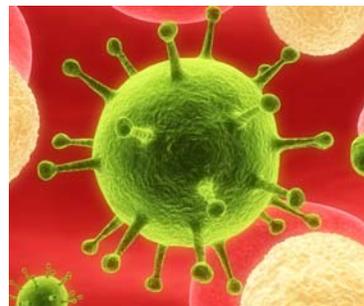
In this activity, your child will use various craft items and the background information to create an extremophile from one of these two places! You can help them by talking about the challenges and resources their organism may find on whichever planetary body they choose.

### What You Need:

- ☀ Various craft items such as Styrofoam balls, felt, foil, pipe cleaners, small milk cartons, empty small water bottles, colored card stock, old CDs, pom-poms, colored yarn, tape, glue, etc.
- ☀ Critter Card
- ☀ Colored pencils or markers

### What to Do:

- ☀ Create a extremophile out of various craft items. As your child makes his or her extremophile, have them share where the organism gets its food and water and how it is protected.
- ☀ Complete the critter card with your child and attach it to your child's extremophile.



A few examples of some real-life extremophiles appear below.



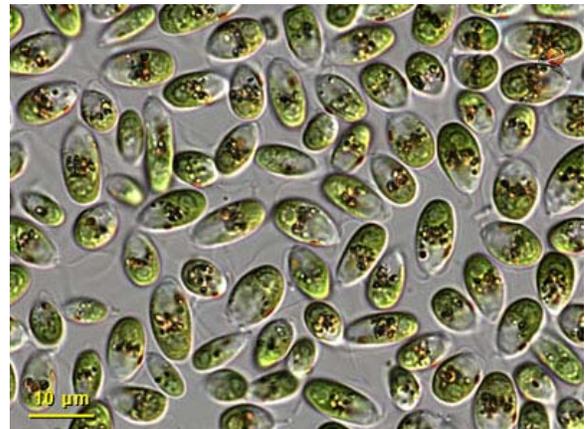
Microscopic tardigrades are found in freshwater environments (you can find them in pond scum, or water around lichens); they can survive everything from freezing temperatures to drying out for periods of time.



Seawhips in the deep ocean can survive extremely cold temperatures and high pressures.



Tubeworms at a deep sea vent can survive extremely hot water temperatures and high pressures.



Green algae that thrives in extremely salty water.

## Critter Card

I am a

I live on

I eat

I get water from

What protects me from space radiation and getting too hot or too cold is:

## Critter Card

I am a

I live on

I eat

I get water from

What protects me from space radiation and getting too hot or too cold is: