

Amaze Your Brain *at Home!*

EXPERIMENTS

ALL
AGES

Create a **CREATURE**

Do you have a favorite planet or moon? Investigate the conditions of an extreme environment in space and imagine a creature with adaptations that would allow it to survive there.

Watch the "Out of This World" video to learn more about extreme life on Earth. . . and maybe even beyond!

An **adaptation** is a physical trait or a behavior that helps a living thing – like a plant, animal, or microorganism – survive in its environment. There are different types of adaptations:

- **Physical adaptations** affect how a living thing looks or works, like how a fish has gills to swim under water or how a polar bear has blubber to help it stay warm.
- **Behavioral adaptations** affect how a living thing acts, like how some birds migrate to find food or how some bears hibernate to conserve energy during the winter.

An **extremophile** is an organism that has adaptations allowing it to survive in an extreme environment, like somewhere very hot, cold or acidic. Scientists study extremophiles on Earth to imagine what life might be like elsewhere in the universe, and to make predictions about where to look for it. What adaptations might a living thing need to survive in one of the extreme environments beyond our planet?



Artist's rendition of Saturn's icy moon Enceladus



Surface of Mars

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MATERIALS

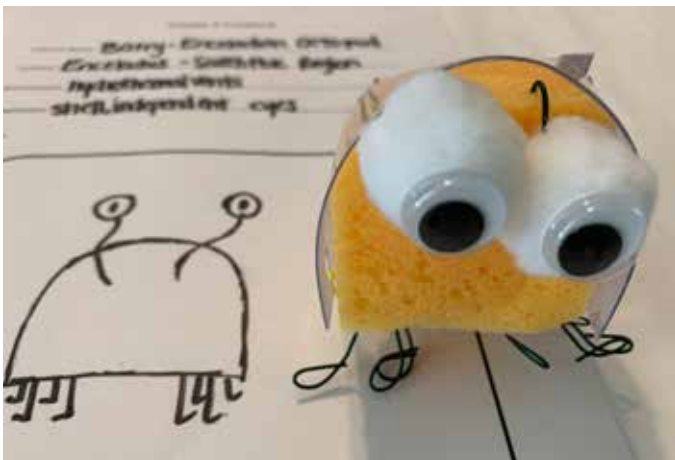
- Printed "Create a Creature" worksheet or scratch paper
- Access to the internet or other learning resources
- Optional: recycled materials to create a 3D model

INSTRUCTIONS

1. Choose a location in space, like a planet or a moon. What is the environment like? Is it hot or cold? Is it wet or dry? You can learn about the planets and moons in our solar system at <https://solarsystem.nasa.gov/>
2. Imagine a creature that might be able to live in the environment you chose. What adaptations would your creature need to be able to survive there? For inspiration, you can learn about animals and their adaptations at <https://kids.nationalgeographic.com/animals/>
3. Fill out the "Create a Creature" worksheet or use scratch paper to help you design your new living thing. Be sure to draw your creature living in its environment!

Try This!

Use recycled materials you have at home to make a 3D model of your creature.



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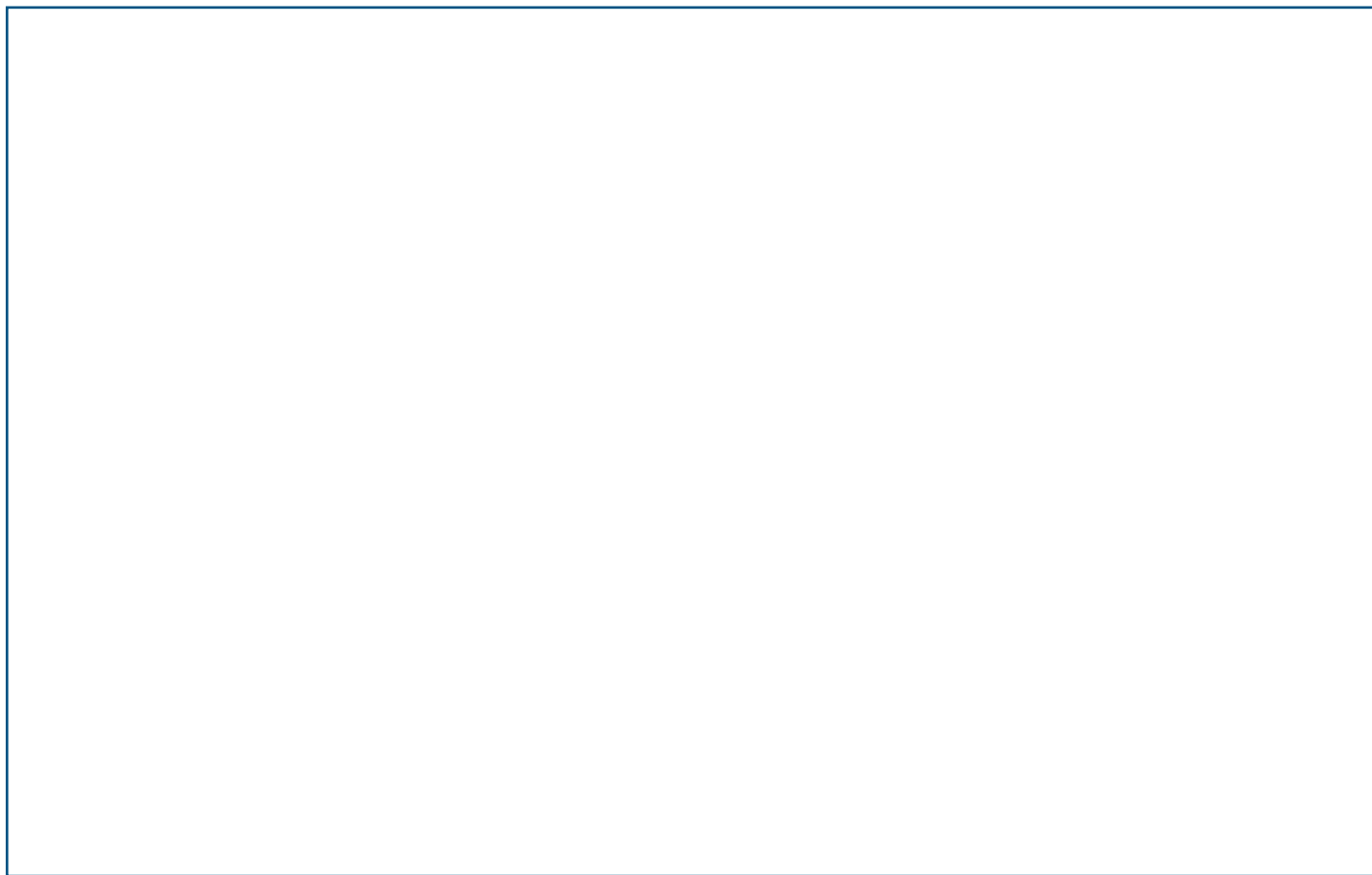
CREATURE NAME _____

LOCATION _____

ENVIRONMENT _____

ADAPTATIONS _____

SKETCH



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