



UKIT

Spark Starters: Animal Explorers

For use with UKIT Beginner builds:

Elephant, Snail, Snake,
Dinosaur, Octopus, Scorpion

or UKIT Intermediate builds:

Lucky Cat, Owl

Is your animal nocturnal or diurnal?

Create two separate parts to your code to show how your animal acts in the daytime in contrast to the nighttime.

What does your animal eat? How does it acquire food?

Build the food your animal eats with UKIT parts, or draw it on paper and cut it out.

Code your animal robot to show the behavior it uses to find food, hunt, or eat.

UKIT Intermediate

How does your animal sense its surroundings?

Add a sensor to your robot build to give your animal the ability to better sense its surroundings. Does it have the sense of touch (touch sensor)? Sight (infrared sensor)?

What does your animal need to survive?

Create a habitat for your animal with construction paper, cardboard, UKIT pieces, or whatever art supplies you have on hand. Remember to include shelter, a food source, water, space, and even a spot to raise young.

What special adaptations does your animal have?

For example, elephants have very large ears to help them regulate their temperature in a hot environment.

Enhance or add on adaptations to your animal using UKIT parts or the art supplies you have on hand. Think about how fur, scales, feathers, whiskers, stingers, claws, regrowing limbs, or changing colors all help animals to adapt.

Your animal has to move to a very cold habitat. How does it adapt?

Change your animal build and code to show how your animal might adapt to a change in its environment.

Create your own animal robot build.

Chicken? Sloth? Shark?

Choose your own animal to build. Start by deciding where the Main Control Box (MCB) will be in relation to the parts of the animal. Which direction will your motors need to move? Don't forget to add details like wings, teeth, fur, etc.

How does your animal communicate?

Adapt your animal build and code to maximize its ability to communicate with members of its own species. Does it communicate through sounds? Lights? Movements?

Create a communication sequence for these scenarios:

- Found food
- Help! Predator!
- Teaching its young

Imagine your animal has a job to help humans. What does it do?

Update your animal build and code to show how your animal could do a job that helps humans.

Your animal is available for adoption at a local shelter!

You want your animal to go to a good home that can provide well for its needs. Make a poster to showcase your animal for adoption. Include its name, physical characteristics, instructions for care, and behavioral traits.