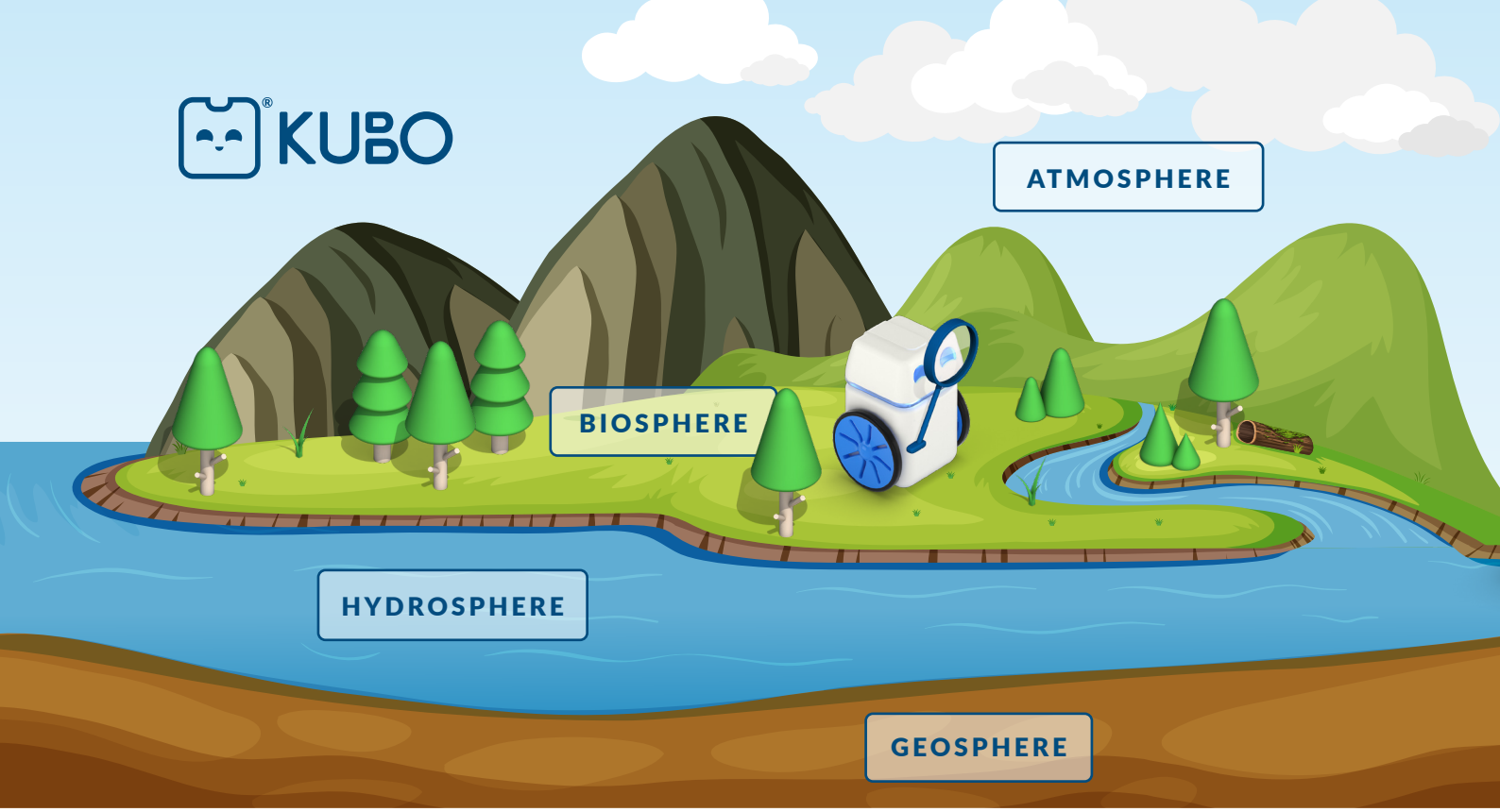

Earth's Systems

(PRIMARY FOCUS: SCIENCE/STEAM)

For students from approximately 8 to 10 years old.

SUMMARY

Using a labeled diagram of the Earth's systems of geosphere, biosphere, atmosphere, and hydrosphere, students design a route for KUBO to visit each of the systems. Three of the four routes can then be embedded into a function. Students provide correct information about each system including the interactions that happen within it. Using the KUBO Coding++ TagTiles®, a variable could represent one of the spheres, showing less than or more than an amount of matter or energy. If the children learn how energy and matter are transferred from each sphere, they can then use KUBO to model it with variables.

BEFOREHAND

Students should understand how to use KUBO Coding and Coding+ TagTiles. The KUBO Coding++ TagTiles can also be used for this activity.

RESOURCES FOR 2 STUDENTS

- 1 KUBO robot, fully charged
- 1 set of KUBO Coding TagTiles
- 1 set of KUBO Coding+ TagTiles
- Optional - 1 set of KUBO Coding++ TagTiles

CROSS-CURRICULAR LINKS

- Social Studies: Students compare these systems across the globe.
- ELA: Students compose a persuasive essay to lawmakers setting out why funding should be increased to protect a specific system.

EXTENSION ACTIVITIES

- Instead of a labeled diagram, students use an unlabeled diagram of the systems.
- Students do a similar activity for a review of other science topics such as the water cycle, food webs, and so on.
- Students draw a map about the Earth's systems using the diagram or diagrams provided. They use KUBO to show how those systems interact by moving matter and energy. They then model some of the environmental issues that can occur when these systems are out of balance.

SOLUTION EXAMPLE

KUBO charts a course to the hydrosphere, and students describe the interactions happening there. For example: "Here we see the interaction of marine life such as whales, fish, sharks, and coral helping to keep the ocean's ecosystem balanced." Students explain how this happens and incorporate concepts they've learned in class.

NOTES