# Tracking Endangered Fish
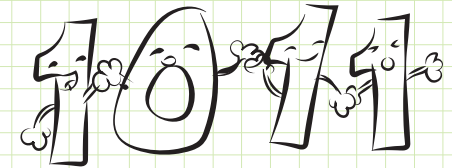## Using the Patterns or Binary Code
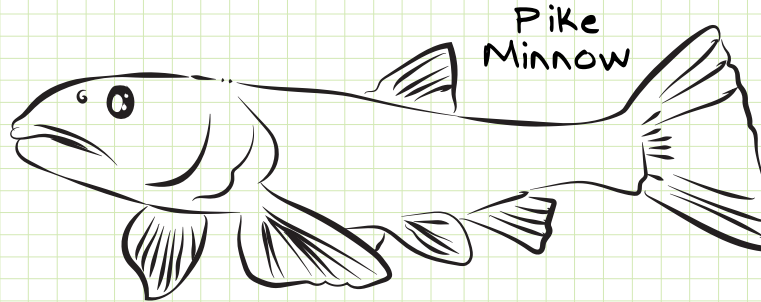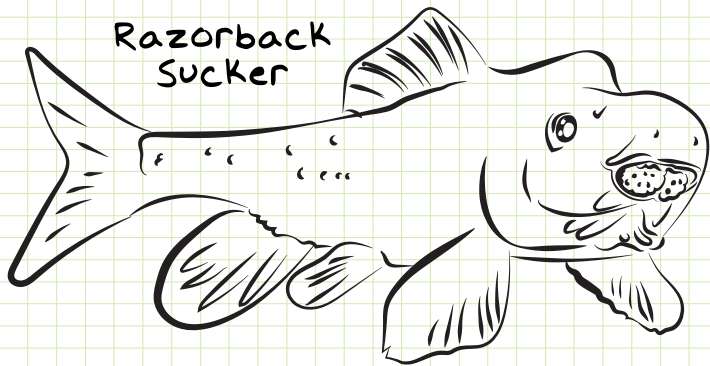
### STEMTaught®

Name:

Razorback Sucker

Pike Minnow

1011

The Razorback Sucker and the Pike minnow are endangered fish living in the San Juan River in the lands of the Navajo, which are the Native American people of the four corners area of the USA. Ecologists concerned with protecting these species of fish track their movements by tagging the fish with radio tags. Binary patterns in the radio tags help them identify where the fish are and how they move and live.

Binary patterns are unique patterns made of only two things, like a 1 and a 0. You could make a binary pattern out of anything, letters, numbers or even fruit or cereal. You can make binary patterns out of two letters to make funny words and sounds.

## Make binary patterns
### Make as many patterns as you can using the letters "m" and "o"

**Using one letter per pattern**

Example :  O

___

*You can make 2 unique patterns*

**Using two letters per pattern**

Example : OO    ___ ___

___ ___

*You can make 4 unique patterns*

**Using three letters per pattern**

___ ___ ___    ___ ___ ___

___ ___ ___    ___ ___ ___

___ ___ ___    ___ ___ ___

___ ___ ___    ___ ___ ___

**Using three letters per pattern**

___ ___ ___    ___ ___ ___

___ ___ ___    ___ ___ ___

___ ___ ___    ___ ___ ___

___ ___ ___    ___ ___ ___

___ ___ ___    ___ ___ ___