Curriculum Sample Template
Max. 8 Pages

Grade Level	4	**Content Area**	**Science**
Course Title (grades 9-12 Only)			
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	Students should be able to: Describe how plants and animals cause change in their environment. Describe how environmental factors (e.g., soil composition, range of temperature, quantity and quality of light or water) in the ecosystem may affect a member organism's ability to grow, reproduce, and thrive. Identify adaptations of plants and animals that allow them to live in specific environments. Describe ways that species adapt when introduced into new environments. Students will apply this knowledge to understand the concepts of the new lesson.		
Alignment to Program of Instruction *Briefly outline methods of instruction found in this sequence of lessons that align to the Program of Instruction described in A.3.*	• Direct Instruction: Direct Instruction includes features which support the other instructional elements, such as the ability grouping through the multi-age multi-grade classroom. Students are grouped and re-grouped based on their rate of progress through the program. Frequent assessment is imbedded in direct instruction where curriculum-based assessments help place students in ability groups and identify students who require additional intervention. • Hands-On Project-Based Methods: Hands-On Project-Based Methods with tangible hands-on materials will be applied to relate the curriculum and standards to real life and make them functional. • Cooperative Learning Groups: Students of different abilities will work together in small groups of 2-5 children. They will be taught to learn from one another and share ideas and responsibilities. *Students who are on IEPs may receive modifications or accommodations as stated or may need a slower pace of instruction with more repetition. Students may be given supplementary curriculum and various modalities to assist in grasping the concepts such as visuals, manipulatives, or a task-analysis that will break down the steps needed to assist in comprehension and application of the concept. This also may include those students who may have a difficult time grasping the concepts who are not on IEPs.		

Standard Number and Description *List the Number* and the full description for the Required Standard or Science Performance Objective listed in section A.6.*	Grade: 4.4.4.1 Strand: 4 – Life Science Concept: 4 – Diversity, Adaptation and Behavior PO: #1 - Recognize that successful characteristics of populations are inherited traits that are favorable in a particular environment.
Materials/Resources Needed	*Fish Adaptations Guide: Body Shape* – Examples of some of the different body designs that fish may have (1 page) *Fish Adaptations Guide: Coloration* – Examples of some of the different body colorations that fish may have (1 page) *Fish Adaptations Guide: Mouth Design* – Examples of some of the different mouth designs that fish may have (1 page)

* ***Standard Number****: For English Language Arts (Reading and Writing), use Grade, Strand, Standard (e.g., 3.RI.2). For K-8 Math, use Grade, Domain, Standard (e.g., 6.EE.7). For HS Math, use Conceptual Category-Domain, Standard (e.g., A-REI.6). For Science, use Grade, Strand, Concept, PO (e.g., 4.1.3.1).*

Lesson (add as needed)	**Instructional Strategies**	**Student Activities**
1	1. Ask two or three students to come to the front of the class and draw a picture of a fish. It is best if the students do not see each other's drawings. 2. When all of the drawings are finished, ask the class if they are the same fish. If they say that they are, then you will need to indicate differences between the drawings. 3. Ask the students how we know that they are different fish. Make a list of differences. Ask the students why they think there are so many differences between fish.	2-3 students will come to the white board and draw a fish. Students will raise their hands and tell ways the fish are different. Students will then raise their hand and tell why they think they are different.
2	4. Inform the students that we are now going to look at three of these differences in detail: body coloration, body shape, and mouth design. In small groups, you will have the opportunity to look at a few different types within each of these categories	Students will sit together in a group. Students will discuss in their small groups why they think the fish look the way they do.

	and try to determine how they would be beneficial to a fish. 5. Assign the students to groups and hand out a set of the Fish Adaptation Guides to each group. 6. Instruct the students that they will have about 10 minutes to look at each of the different adaptations and come up with some advantages that each one has. Why would a fish want to look like that? 7. Give the students about 10 minutes to work. 8. When all of the groups have had enough time to finish, discuss their answers. Write down each adaptation on the board and some of the benefits that the students have identified.	A representative from each group will tell the class an adaptation and some benefits that they have identified.
3	9. Inform the students that they are now going to go on a pretend adventure. They have been traveling along a river in Arizona when they see a fish. They look through their field guides and realize that it has not been discovered yet. Since it is a new species, it must be documented. However, their camera is broken. They must draw a picture of the fish. In addition, they need to describe the fish in detail. They should include what type of water it lives in (fresh, salt, lakes, rivers, etc.), what it eats, what eats it, and anything else they can think of. Since they are the discoverers of the fish, they have the right to name it. They must come up with a descriptive scientific name in proper format (*Genus species*) as well as the common name that most people will call it.	Students will then work independently drawing their own fish and describe the fish in detail.

	10. Give the students plenty of time to complete their drawings and descriptions. 11. When they have finished, have each student share their discoveries with the class.	
4	12. Show the students some pictures of actual native Arizona fish. Have them try to find the adaptations described in class and identify the habitat that these fish live in. Arizona Game and Fish Department © 2006 azgfd.gov/focuswild	
Summative Assessments	Summative Assessments: • Have the students identify adaptations in non-aquatic animals to see if they can determine their purpose.	Summative Assessments : • Have the students identify adaptations in 3 non-aquatic animals to see if they can determine their purpose.
Mastery Level	Mastery level is 80% of total points. 8 points out of 10.	

Summative Assessment Items: *Attach here.* For each summative assessment item, include an answer key or scoring rubric describing how points are to be awarded.

Summative Assessment 1:
Total points 10
Mastery = 8

Animal_____

Adaptations/Characteristics	Purpose/Why favorable?	Points
1)		/2
2)		/2
3)		/2
4)		/2
5)		/2
		/10

Summative Assessment 2:
Total points 10
Mastery = 8

Animal_____

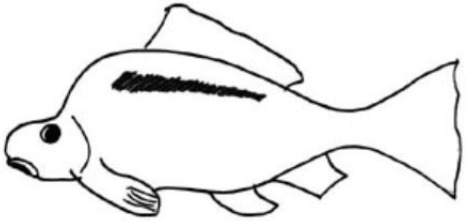
Adaptations/Characteristics	Purpose/Why favorable?	Points
1)		/2
2)		/2
3)		/2
4)		/2
5)		/2
		/10

Summative Assessment 3:
Total points 10
Mastery = 8

Animal_____

Adaptations/Characteristics	Purpose/Why favorable?	Points
1)		/2
2)		/2
3)		/2
4)		/2
5)		/2
		/10

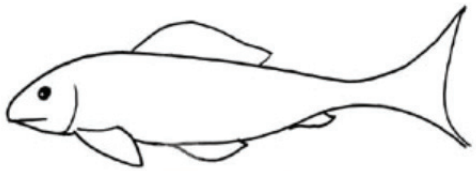
BODY SHAPE



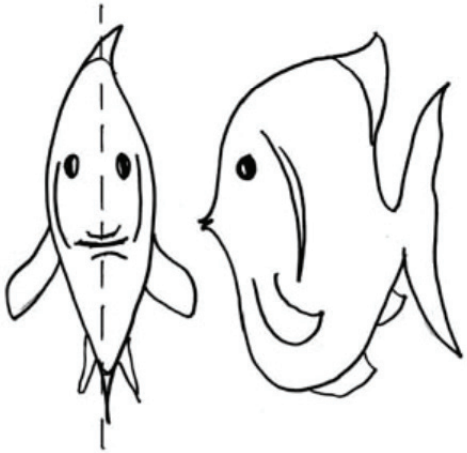
Hump-backed

Flat Bellied

Horizontal



Torpedo



Vertical

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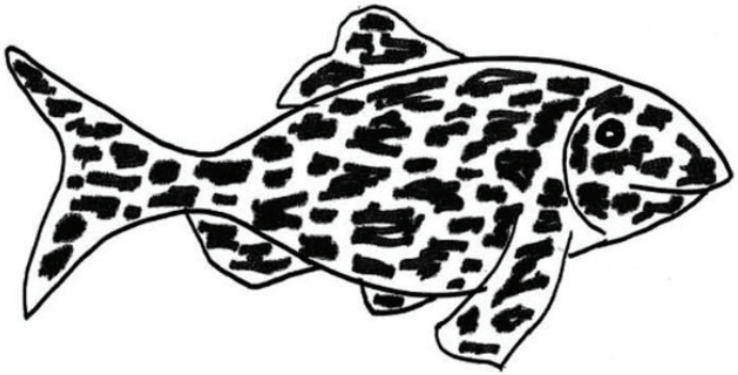
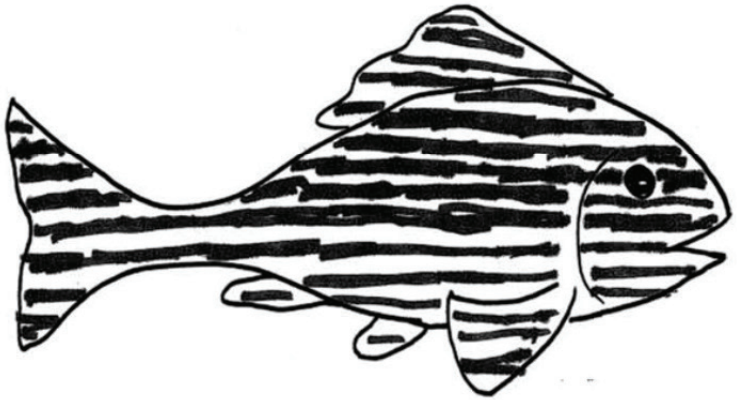
COLORATION

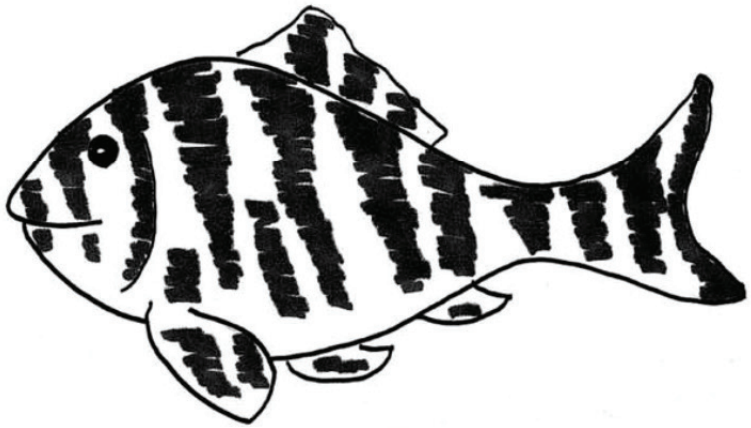
Top Dark, Bottom Light



Mottled



Horizontal Stripes



Vertical Stripes

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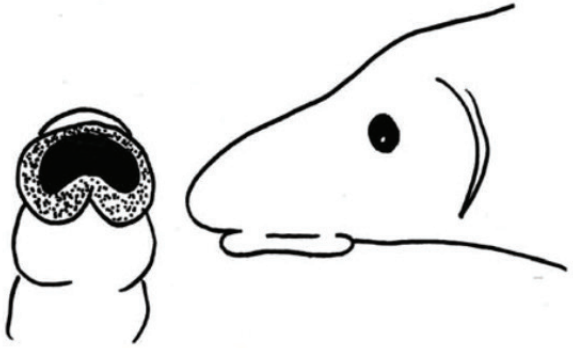
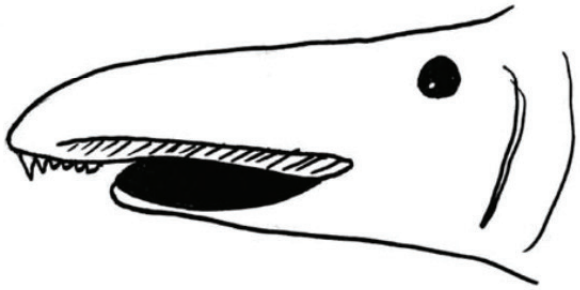
MOUTH DESIGN



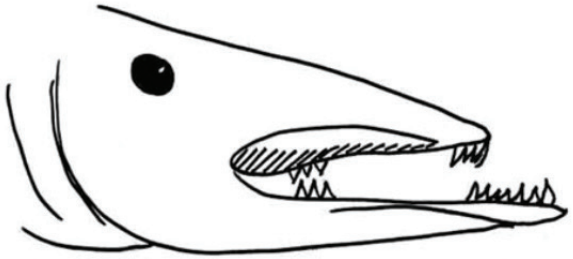
Sucker Shaped Jaw

Duckbill Jaw

Extremely Large Jaw



Elongated Upper Jaw



Elongated Lower Jaw

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