

QUEST: ADAPTATIONS PRE-PROGRAM ACTIVITIES



ARIZONA ACADEMIC STANDARDS

SC03-S4C1-01
SC04-S4C1-02
SC03-S4C3-01,03&05
SC04-S4C3-01&03
SC03-S4C4-01&02
SC04-S4C4-01&02

SC03-S1C1-01
SC04-S1C1-03
SC05-S1C1-02
SC03-S1C2-01,03,04&05
SC04-S1C2-01,03,04&05
SC05-S1C2-01,04&05
SC03-S1C3-01&02
SC04-S1C3-05
SC05-S1C3-05
SC03-S1C4-01&03
SC04-S1C4-01&03
SC05-S1C4-01&03

SS03-S4C1-02
SS04-S4C1-01&02

VOCABULARY

Adaptation
Predator
Prey
Succulence
Drought
Aridity
Burrow

ANTICIPATORY

A variety of activities to hook student interest in adaptations

Grades 3-5

Adaptations Game

From ASDM Desert Discovery Quest: Adaptations TIP

Students play a card game to match adaptations to plant and animals.

Grades 3-5

Animal vs. Human Olympics

From ASDM Desert Discovery Quest: Adaptations TIP

Students measure and compare their own abilities to animal abilities.

Exploration Activities

A variety of activities for students to explore plant and animal adaptations and using maps

Grades 3-5

Mapping the Museum

From ASDM Desert Discovery Quest: Adaptations TIP

Student investigation using ASDM visitor map to practice map skills.

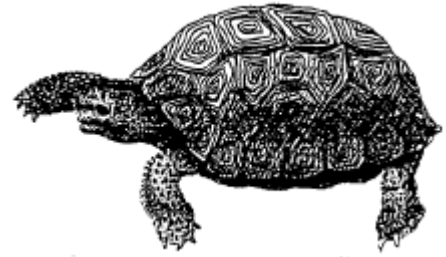
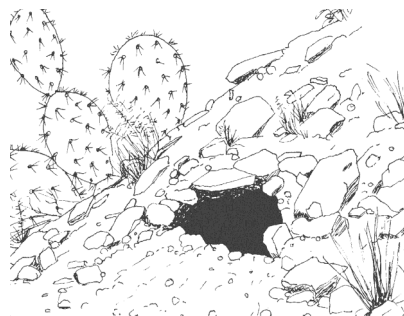
Grades 3-5

Plant and Animal Adaptations

From CASES Curriculum Access System for Elementary Science – University of Michigan

<http://cases.soe.umich.edu/plans.php?nav=showplan&dqid=50&lpid=3>

Using everyday products, students design and carry out an investigation to help a desert organism conserve water.



Grades 4 (3-5) Survival in Extreme Environments

From Queensland Museum – Adaptations Teaching Unit

<http://www.qm.qld.gov.au/Learning+Resources/Resources>

or

<http://www.google.com/url?sa=t&rct=j&q=adaptations%20les-son&source=web&cd=54&cad=rja&ved=0CD8QFjADODI&url=http%3A%2F%2Fwww.qm.qld.gov.au%2FLearning%2BResources%2F%2Fmedia%2FDocuments%2FLearning%2520resources%2FQM%2FResources%2FTeacher%2520and%2520student%2520resources%2Fadaptations-teaching-unit.pdf&ei=3lmZUKa1HMOBiQKj9IG4BQ&usg=AFQjCNHXmiujLnCEYk0q7EidWKxu2QiMww>

Using everyday products, students design and carry out an investigation of which animal will stay coolest in a hot environment (and which animal will stay warmest in a cold environment).

Grade 4 Adapting to Desert Living – Adaptionary

From Saguaro National Park

<http://www.nps.gov/sagu/forteachers/lessonplansandteacherguides.htm>

or

<http://www.nps.gov/sagu/forteachers/upload/Unit%204%20-%20Adapting%20to%20Desert%20Living.pdf>

Students play a drawing and guessing game to learn how adaptations help plants and animals survive in the desert.

QUEST: ADAPTATIONS POST-PROGRAM ACTIVITIES

A variety of activities for students to apply quest concepts, and elaborate on plant and animal adaptations to the desert environment

ARIZONA ACADEMIC STANDARDS

SC03-S4C1-01
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SC03-S4C3-01,03&05
SC04-S4C3-01&03
SC03-S4C4-01&02
SC04-S4C4-01&02

SC03-S1C1-01
SC04-S1C1-03
SC05-S1C1-02
SC03-S1C2-01,03,04&05
SC04-S1C2-01,03,04&05
SC05-S1C2-01,04&05
SC03-S1C3-01&02
SC04-S1C3-05
SC05-S1C3-05
SC03-S1C4-01&03
SC04-S1C4-01&03
SC05-S1C4--01&03

VOCABULARY

Adaptation
Predator
Prey
Succulence
Drought
Aridity
Burrow

APPLICATION /ELABORATION

Grades 4 (3-5)

Digital Story Task

From Queensland Museum – Adaptations Teaching Unit

<http://www.qm.qld.gov.au/Learning+Resources/Resources>

or

<http://www.google.com/url?sa=t&rct=j&q=adaptations%20les-son&source=web&cd=54&cad=rja&ved=0CD8QFjADODI&url=http%3A%2F%2Fwww.qm.qld.gov.au%2Flearning%2BResources%2F%2Fmedia%2FDocuments%2Flearning%2520resources%2FQM%2FResources%2FTeacher%2520and%2520student%2520resources%2Fadaptations-teaching-unit.pdf&ei=3lmZUKa1HMOBiQKj9IG4BQ&usg=AFQjCNHXmiujLnCEYk0q7EidWKxu2QiMww>

Students create and present digital storyboard presentations to review adaptations. This resource provides kid-friendly instructions, and applicable websites and worksheets that students can use as guidelines for creating a Sonoran Desert Adaptations digital story.

Grades 4 (3-5)

Hands-on Activity: Biomimicry: Natural Designs

From Teach Engineering Resources for K-12 http://www.teachengineering.org/view_activity.php?url=collection/cub/_activities/cub_bio/cub_bio_lesson05_activity1.xml

Students learn about biomimicry and how engineers often imitate nature in the design of innovative new products. They demonstrate their knowledge of biomimicry by practicing brainstorming and designing a new product based on what they know about animals and nature.

Grades 7 (6-8)

Hands-on Activity: Live like an Animal

From Teach Engineering Resources for K-12

http://www.teachengineering.org/view_activity.php?url=collection/cub/_activities/cub_lifescience/cub_lifescience_lesson03_activity1.xml

Students design and present an innovative human shelter that is inspired and informed by an animal structure, explaining what attribute of the animal structure influenced their design.



Further Ideas

Grades 3-5

Desert Adaptation Debates

Pair up students to debate which plants/animals have the best adaptations for storing or conserving water, avoiding heat etc.

Use http://www.educationworld.com/a_lesson/03/lp304-01.shtml for lesson plan information on staging a debate.

Grades 3-5

Desert Safari in the Classroom

Turn room into a desert landscape with students dressed as plants, animals and tour guides. Have other classes visit. Can use Virtual African Safari lesson plan as a basis. http://teachersnetwork.org/impactII/profiles03_04/horne.htm



QUEST: ADAPTATIONS SUGGESTED ACTIVITIES

More fun activities related to adaptations.

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SC03-S4C4-01&02
SC04-S4C4-01&02

VOCABULARY

Adaptation
Predator
Prey
Ectothermic

FURTHER RESOURCES

Grades 3-4

Beaks for What We Eat

From ASDM Teacher Idea Packet for Hunters and Hunted program

http://www.desertmuseum.org/center/edu/tip_hunters_hunted.php

Students gather of variety of “foods” with different tools that represent bird beaks.

Grades 3-4

Sonoran Desert Predators and Prey

From ASDM Teacher Idea Packet for Hunters and Hunted program

http://www.desertmuseum.org/center/edu/tip_hunters_hunted.php

Students classify Sonoran Desert animals as predators, prey or both; and describe their adaptations for finding food and avoiding predators.

Grades 3-4

Lizard Dash

From ASDM Teacher Idea Packet for Desert Reptiles program

http://www.desertmuseum.org/center/edu/tip_desert_reptiles.php

Students play a kinesthetic game simulating lizards’ adaptations as ectothermic animals while feeding on insects.

Grades 6 – HS (adaptable for Grade 5)

Lesson 1: The Lion as a Predator - Are You as Agile as a Cat?

From AZGF Focus Wild - Mountain Lions in Arizona

http://www.azgfd.gov/i_e/ee/lessons/lion/1_complete.pdf or http://www.azgfd.gov/i_e/ee/lessons/lion/lion.shtml

Students measure and compare their own abilities to mountain lion abilities to learn about the mountain lion’s adaptations as predator.

