



ACADEMY SCIENCE CAMP

from home

Evolution Game

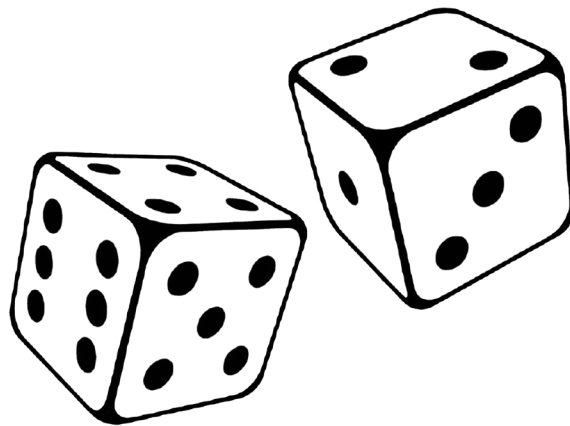
Biological evolution is the process of change over time in the heritable characteristics, or traits, of a population of organisms. This change sometimes results in the origin of new, distinct populations of species. Studying evolution helps us to understand the history and diversity of life on the planet. Try your hand at the evolution game.

Know before you begin

- This activity can be done inside or outside
- All supplies are easy to find, substitute or leave out entirely
- Adult supervision is recommended
- Please choose a safe space to play

Materials

- Evolution Game printout
- Six-sided dice





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Instructions

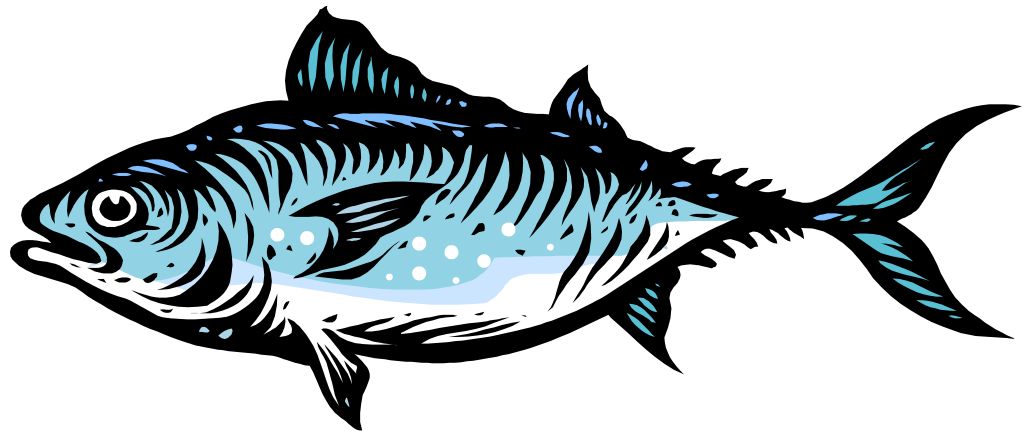
Your population of fish is breeding!

1. Roll the die three times. These first three rolls of the die represent mutations inherited by the first generation of offspring. These mutations occurred in the parent population's reproductive cells.
2. Record the number on your die in each box under Generation 1. If you got a 6, ignore that row of fish moving forward.
3. Roll the die again for each active row of fish. These rolls of the die represent mutations that occurred in the reproductive cells in Generation 1 that were inherited by their offspring.
4. Record these numbers in the boxes under Generation 2. If you got a 6, ignore that row of fish moving forward.
5. Add the mutations in Generation 1 with the mutations in Generation 2 to find out the mutations in Generation 3.

What mutations have occurred in your breeding population of fish?

Did all of your generations survive?

What total mutations are present in Generation 3?





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EVOLUTION GAME

PARENT POPULATION	GENERATION 1 (Offspring of Parent Population)	GENERATION 2 (Offspring of Generation 1)	GENERATION 3 (Offspring of Generation 2)
→	MUTATION: <input type="checkbox"/>	MUTATION: <input type="checkbox"/>	TOTAL: <input type="checkbox"/>
→	MUTATION: <input type="checkbox"/>	MUTATION: <input type="checkbox"/>	TOTAL: <input type="checkbox"/>
→	MUTATION: <input type="checkbox"/>	MUTATION: <input type="checkbox"/>	TOTAL: <input type="checkbox"/>
→	MUTATION: <input type="checkbox"/>	MUTATION: <input type="checkbox"/>	TOTAL: <input type="checkbox"/>
→	MUTATION: <input type="checkbox"/>	MUTATION: <input type="checkbox"/>	TOTAL: <input type="checkbox"/>
→	MUTATION: <input type="checkbox"/>	MUTATION: <input type="checkbox"/>	TOTAL: <input type="checkbox"/>

MUTATION KEY

- 1 = lungs
- 2 = extra fins
- 3 = more efficient gills
- 4 = no mutation — fish stays the same
- 5 = no mutation — fish stays the same
- 6 = fish dies — population goes extinct

