ANSWER KEY.

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Reproductive Strategies

Biology | ANSWER KEY

Answer in complete sentences. Show your work for calculations. Use the graphs and tables as evidence.

1. A fish releases 8,000 eggs and gives no parental care. Only 0.05% of the eggs survive. A bird raises 3 chicks, and 80% of them survive.

(a) How many fish offspring survive? Show the setup.

(b) How many bird offspring survive? Show the setup.

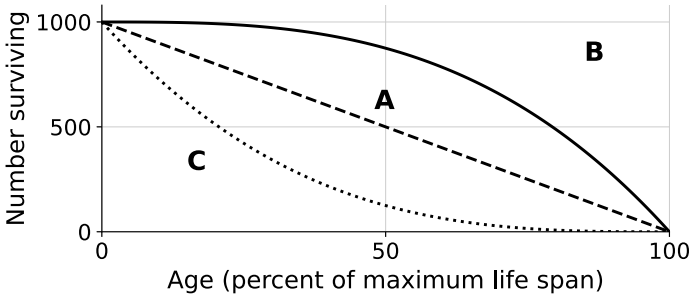
(c) Which species gives more care to each offspring?

(a) 8,000 × 0.0005 = **4 fish survive**

(b) 3 × 0.80 = **2.4 chicks survive**

(c) **The bird.**

2. The graph shows survivorship curves for three species.



(a) Which curve is Type I, Type II, and Type III?

(b) Which curve shows that most offspring die when young?

(a) **A = Type II, B = Type I, C = Type III**

(b) **Curve C (Type III).**

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3. Is each trait closer to the r-strategy or the K-strategy?

Trait	Closer to r-strategy or K-strategy?
(a) Produces thousands of tiny seeds	**r-strategy**
(b) Has one calf every 3 to 4 years and cares for it	**K-strategy**
(c) Matures in a few weeks	**r-strategy**
(d) Lives for many decades	**K-strategy**

4. A student says, "A species that makes thousands of offspring is wasting energy, because most of them die." Write a claim, evidence, and reasoning statement that supports or disagrees. Use your results from problem 1.

Claim: The student is not correct. **Evidence:** the fish releases 8,000 eggs and about 4 survive, while the bird raises 3 chicks and 2.4 survive. The fish still produces more survivors, even though most eggs die. **Reasoning:** with limited energy, a parent can make many small offspring with little care for each. Enough survive to reproduce, so the strategy can keep the population going.

Must include: (1) a claim that disagrees; (2) data with units from problem 1; (3) the idea that limited energy leads to a trade-off and that enough offspring survive.

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