Power of Flowers - Stinky Life Cycles

Performance Task ANSWER KEY Name(s): _____

Directions: Study the silver arrow reed and dung beetle life cycles. Then answer these questions.

1. Describe three **differences** between the two life cycles.

   There are many, many possible answers to this. Here are some potential responses: beetles produce eggs while the reeds produce seeds; dung beetles go through metamorphosis while reeds don't; the reeds produce flowers while the dung beetles don't; dung beetles bury their eggs in dung, but the reeds have to wait for the wind to bury their seeds.

2. Which stages are the **same** in **both** life cycles? All living things go through these four stages. Some also go through more stages, but none go through fewer!

   Birth ***Reproduction***

   Growth ***Death***

3. Which stage can happen any time in the life cycles? ***Death***

4. There is something that slows the life cycle of the silver arrow reed plant down. What is it? (*Hint: Something takes a very, very long time.*)

   It takes a very long time for the seeds to be covered in sand by the wind.

5. The dung beetle needs dung to complete its life cycle. What does the dung beetle use dung for? In which stages does it use it? Describe two examples.

   In the ***reproduction*** *stage, dung beetles use dung to*

   lay their eggs,

   and in the ***growth*** *stage, dung beetles use dung to*

   eat as food. Dung beetle larvae can only eat dung.

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5. Imagine that the dung beetles bury new silver arrow reed seeds as soon as they drop from the flowers. What would the silver arrow reed life cycle look like? Draw your answer in the box below. Then, explain your answer.

Silver arrow reed plant life cycle (with dung beetles)

Answers will vary based on how students choose to draw the life cycle. They should include all of the stages of the original life cycle: birth, growth, reproduction, and death. The change is that the seeds do not have to wait to be buried in sand by the wind. The dung beetles are now burying the seeds.

In what way(s) is this new life cycle different from the original? ***The seeds do not have to wait to be buried in sand by the wind. The dung beetles are now burying the seeds.***

Think back to the original silver arrow reed life cycle. Is this new life cycle better or worse for the plant? Why? ***Answers will vary. However, students should mention that the plants will be able to grow and reproduce much faster because they don't have to wait for seeds to be buried by the wind. This is better for the plant because they can grow and reproduce more quickly.***

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6. Imagine the dung beetles get **very** confused and spend most of their lives burying seeds and only bury a few dung balls. What would the dung beetle life cycle look like? Draw your answer in the box below. Then, explain your answer.

Dung beetle life cycle (with stinky seeds)

Answers will vary based on how students choose to draw the life cycle. The key idea that they should include is that the dung beetles will not be able to lay eggs into seeds they bury. This has a negative impact on the life cycle of the beetles. Students may choose to say that it takes longer for the beetles to reproduce because they waste time burying seeds, or they may choose to say that it completely breaks the life cycle. If the dung beetles don't bury dung, they can't lay eggs and reproduce.

In what way(s) is this new life cycle different from the original? ***Answers will vary based on what students come up with for the updated dung beetle life cycle. They should explain how the life cycle they created is different from the original.***

Think back to the original dung beetle life cycle. Is this new life cycle better or

worse for the beetles? Why? ***Answers will vary based on what students come up with for the updated dung beetle life cycle, but the new life cycle should be worse for the dung beetles. If the dung beetles bury seeds instead of dung, they can't lay eggs and reproduce.***