

Nature of Science	Students should be able to produce and select data (qualitatively/quantitatively), critically analyse data to identify patterns and relationships, identify anomalous observations, draw and justify conclusions
Biological World	Students should be able to describe asexual and sexual reproduction; explore patterns in the inheritance and variation of genetically controlled characteristics
Physical World	Students should be able to investigate patterns and relationships between physical observables



Why does the puppy look different from its mother?

Do all offspring look different from their parents?

Task 1

A scientific toy company has asked you to develop and test a card game that models the differences in offspring produced through asexual and sexual reproduction. The goals of the game are for players to correctly match alien offspring with their parent(s), identify whether the offspring are the result of sexual or asexual reproduction, and then justify their choices.

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JC Science 2017 Specification

Success Criteria: The scientific toy company has created the following success criteria for each set of cards.

	Self-check	Peer check	Teacher check
Each card set must have at least 10 parent cards.			
Each card set must have at least 6 offspring cards			
The card game will be marketed to other First Year science students			
Plan the features your parent aliens will have. Then make your parent card set.			
Based on your parent cards, create your offspring cards.			
Think about your audience and the qualities of a good visual aid as you make your cards.			

Before the scientific toy company will sell your card game, you will have to test it.

- Give your card set to First Year science students.
- Explain the instructions of the game.
 - Have the players try to match parent and offspring cards.
 - Players should identify the type of reproduction (sexual or asexual) for each match between parents and offspring.
 - Players should explain the reasoning behind their choices.

Student evaluation and reflection on learning:

Based on how successful players were at making the correct matches and explaining their choices, analyse your model.

	What do I think?	What do my peers say?	What do my teachers say?
What strengths can you identify in your card set?			
What weaknesses can you identify?			
Which offspring card was most difficult to match to a parent card?			
What made this card so difficult?			
Was your card game appropriate for middle-school science students?			

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Why or why not?			
How could you improve your card set?			
How is the relationship between the genes of a parent and the traits of an offspring different in sexual reproduction compared to asexual reproduction?			

Teacher Feedback
What have we learned?