

# Rich Tasks using Dragon Cards

## Rich Task 1: TV Documentary

The dragon cards you have are all of the dragons on one island. You are producing a TV documentary of red and green dragons on the island. You will need to tell the audience how they are different and how they are the same.

### Teacher details

The students could be in groups with about 30 cards per group. Get the students to present a part of their documentary to the rest of the class.

## Rich Task 2: Developing dragon card games

Create a game with dragon cards which practices maths skills. Is the game fun? What maths skills does it practice? Is the game fair? Is the game easy or hard? How long does it take to play? Is it suitable for younger students?

### Teacher details

Get the students to test out their games. They could teach their game to another group (or the class) and get feedback. Get the groups to use the feedback to improve their game.

The groups could collect relevant statistics about their game. Such as how often the first player wins or what scores are achieved. They can use that to address the questions about the fairness of the game, how long it takes and whether it is easy or hard.

## Rich Task 3: Odd one out

Work out which of the dragon cards you have is the odd-one-out. How many of your cards can you make the odd-one-out by using different criteria? Compare your odd-one-out and criteria with another student. Do your criteria give an odd-one-out for their set of cards?

### Teacher details

Give the students 8 cards each. Get pairs to students to explain which card is the odd-one-out from their set and why. Get the students to count how many of their cards can be the odd-one-out using different criteria. Can they make all of their cards the odd-one-out by using different criteria?

## Rich Task 4: Same and different

Make pairs of dragons with one, two or three things the same. What is the most number of things the same you can get? Try the same with more cards. Work out scores based on the number of cards and the number of things matching. What is the highest score you can get from 5 cards?

### Teacher details

Encourage the students to think up further activities based on matching and difference.

## Rich Task 5: Dragon shelters

The dragon cards you have are all of the dragons on one island. Dragon shelters are needed to keep the dragons safe. The layout of shelters, the materials used and the number needs to be based on the types of dragons, their size, strength, behaviour and breath-type. Find out about your dragons and plan appropriate shelters.

### Teacher details

Get the students to draw up plans of their shelters. The plans will need to include notes about things like building materials and why they have chosen the layout they have.

Give the students free rein on the needs of the dragons. For example, they may need to think of a material that can withstand the acid breath. The shelter sizes will depend on the dragon heights. The materials needed may depend on the dragon strengths. There could be an advantage to separating males and females. Friendly dragons might need shelters in clusters while shelters for dangerous dragons may need to be further apart. You could let individual students make up their own information or continually add to a common class list.

An extension is to include cost information about the materials and shelters. For example, have different costs for shelters made of concrete or wood and suitable for different behaviours. Get the students to work out the cost of their plan. Can they save money by adjusting their plan? You could add different levels of complexity here, such as the cost of feeding.

## Rich Task 6: Dragon game park

You are setting up a game park for dragons. The dragon cards you have represent the dragons in your game park. Your park needs a range of dragon types for the visitors to see.

The space needed for a dragon is different based on its colour and behaviour. Your teacher has the details. Work out how much space your set of dragons needs and the cost of purchasing this space. Dragons in your game park also need feeding. Work out the cost of feeding your dragons.

You can also trade dragons with other students to adjust your range of dragons and to reduce the cost of space and feeding.

### Teacher details

Provide information for the students on the cost of purchasing space and the amount of space needed by different types of dragons. Start with a reasonably simple set of data. Later you might add some complications – for example a breeding pair might need less (or more) space than the two individuals, in which case you need to determine how breeding pairs are determined.

Provide the feeding costs after students have worked out the purchasing cost. You may want to add additional costs as well. Give more complicated cost data to students as appropriate. Income could depend on the diversity of dragons, for example based on the strength of their strongest dragon and the number of colour-breath combinations.