Wheat Grains Activity

Fact Card 1

When ready for harvest, 1000 grains weigh about 30 grams

Fact Card 2

A combine harvester can harvest 70 tonnes an hour

Fact Card 3

This is a fairly large field, with an area of 75 acres

Fact Card 4

One hectare is the same as 2.5 acres

Fact Card 5

A good crop of wheat yields 10 tonnes per hectare

The Question

How many grains of wheat would this field produce?

Problem Solving 1

What do I want to find out?

What is the question really asking me?

What will my answer look like?

Problem Solving 2

What do I already know?

What information have I been given?

Which bits are going to be useful?

Problem Solving 3

What do I need to do?

What other knowledge/skills do I need?

How do I apply them to get a solution?

Instructions

Cut out all the cards, then use them to find an answer to the question.
In your groups, each try guessing a number first, and see who was the closest. *You don't need a calculator, but you may use pen and paper.*

Wheat Grains Activity - Instructions

Designed to be a complex problem-solving activity which requires logical thinking as well as the ability to calculate.

Participants will have all the cards (either cut out or simply printed - a single set will fit on A4).

They will need to sort through them for **Facts**, **Question** and **Problem Solving** cards.

The **fact cards** contain information which may or may not be useful, the **question card** the problem they need to solve, and the **problem solving cards** the techniques they should use to solve it (valid for any problem solving)

To get to the solution (10,000,000,000 or Ten Billion), it is necessary to link the facts together into a string from the size of the field (fact card 3) to the weight of a grain (fact card 1)

The progression goes like this:

Fact Card 3 *Size of field in acres*	The size of the field is 75 acres
Fact Card 4 *Conversion between hectares and acres*	This converts to 30 hectares
Fact Card 5 *Yield in tonnes per hectare*	This would yield 300 tonnes of grain
Fact Card 1 *Weight of a grain in grams*	At 30g per 1000 grains, this gives **10,000,000,000 grains**

Note: Fact Card 2 is a red herring - the time it takes to harvest the field is irrelevant to this problem.