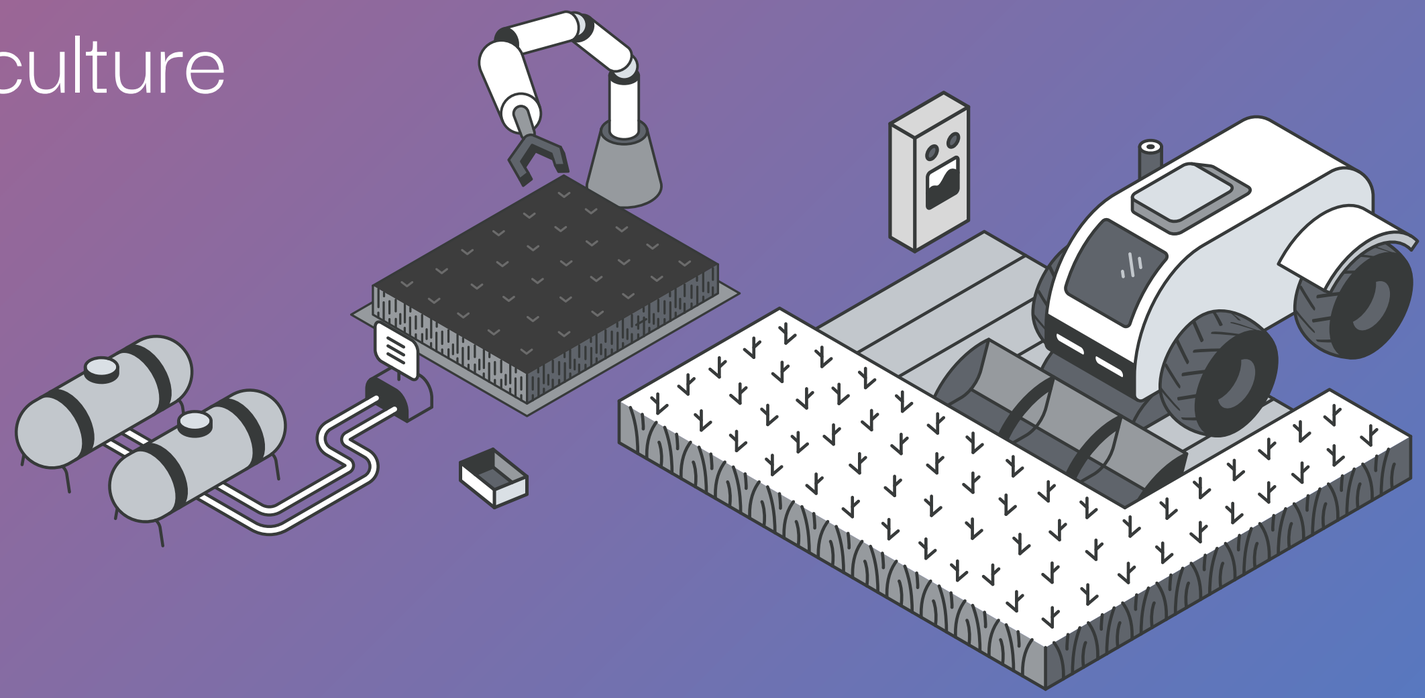
AI for Children

Artificial Intelligence Curriculum for Elementary and Secondary Schools

Geography I

Smart Technologies in Agriculture

Smart Farming Simulator Board Game



90 min lesson



Soil types



Map of the USA – soil types

Game info sheet — Smart Farming Simulator

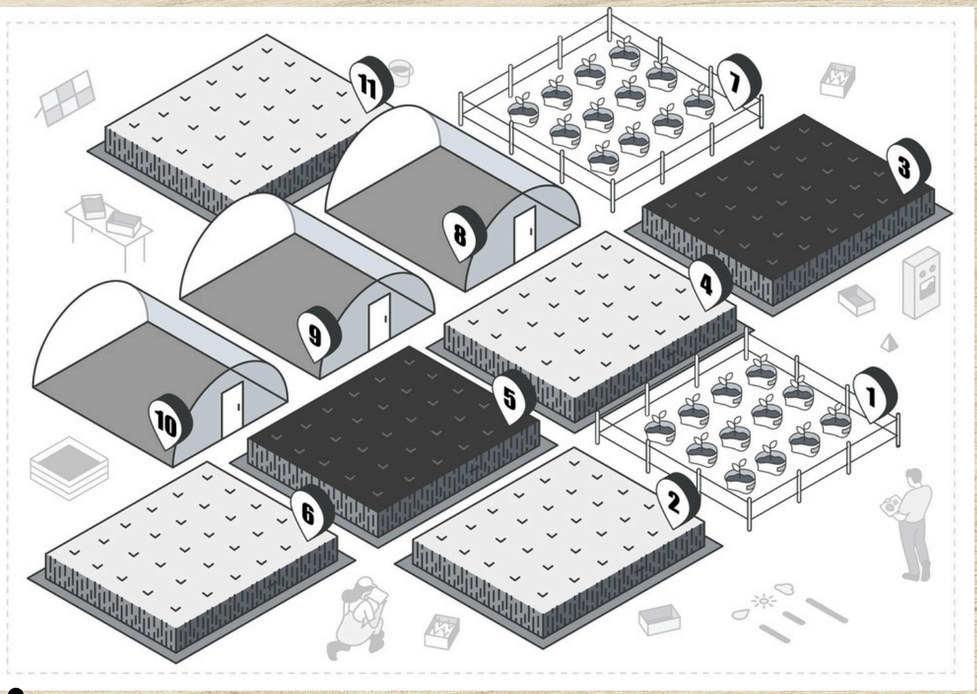
Crop cultivation	Crop	Information	Yields during global events (Calculate yields by multiplying the crop's purchase price by X.)	1	2	3	4	5	6
Dry soil, 10,000 $	Cotton	Price: 1,500 $ Standard yield: 4× Susceptible to pests		4×	3×	5×	2×	2×	0×
	Wheat	Price: 1,000 $ Standard yield: 8× Drought-tolerant		6×	5×	8×	5×	6×	0×
Fertile soil, 15,000 $	Corn	Price: 2,000 $ Standard yield: 6× Drought-tolerant		5×	4×	7×	4×	2×	0×
	Soybeans	Price: 2,000 $ Standard yield: 6× Cold-tolerant		4×	3×	6×	4×	3×	0×
Orchard, 20,000 $	Apples	Price: 5,000 $ Standard yield: 3× Susceptible to pests		3×	2×	4×	2×	2×	0×
	Oranges	Price: 3,500 $ Standard yield: 5× Susceptible to diseases		4×	3×	6×	3×	3×	0×
Greenhouse, 30,000 $	Tomatoes	Price: 3,500 $ Standard yield: 5× Susceptible to diseases		4×	2×	5×	3×	4×	0×
	Lettuce	Price: 4,000 $ Standard yield: 5× Drought-tolerant		4×	3×	5×	2×	3×	0×

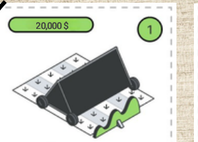
Why buy technologies

By purchasing technology, your crops become resistant to global events. For example, if you roll a four (pests) and you own pest protection technology, your yield remains standard, not reduced.

The exception is good weather (number 3). If you own automation technology, you double the standard yield of all crops.

	Global events	Technologies
1	Weeds	Eco friendly weed control
2	Diseases	Disease detection technology
3	Good weather	Automation of plowing, sowing, and harvesting
4	Pests	Pest protection technology
5	Drought	Smart irrigation technology
6	Floods	No flood protection in this game




20,000 $ — 1

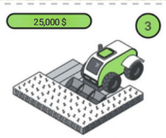
Weed control

Autonomous AI-powered robots detect and remove weeds while being gentle on the soil.


20,000 $ — 2

Disease detection

AI detects plant diseases early and enables preventive action.


25,000 $ — 3

Automation

Autonomous machines handle plowing, sowing, and harvesting. In favorable conditions, they double the yield.


20,000 $ — 4

Pest control

AI analyzes data and predicts the risk of pest outbreaks.


20,000 $ — 5

Smart irrigation

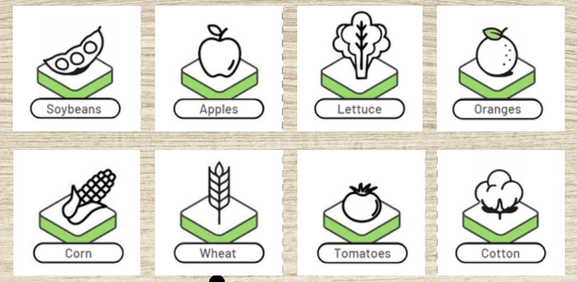
AI monitors soil moisture and irrigates only where needed.

Accounting ledger

Victory Types
- Best Technologist (most technologies acquired)
- Best Farmer (most crops grown)
- Best Entrepreneur (most money in the account)

Flow of a game round:
1) buy land and crops
2) roll the die for a global event
3) calculate profits, optionally buy technology

Round	At the beginning of the round I have:	Land	Crops	Technology	I bought:	Remaining:	Event	I earned:
01	50,000 $							
02								
03								
04								
05								
06								
07								
08								
09								
10								





GAME INFO SHEET FOR EACH PLAYER

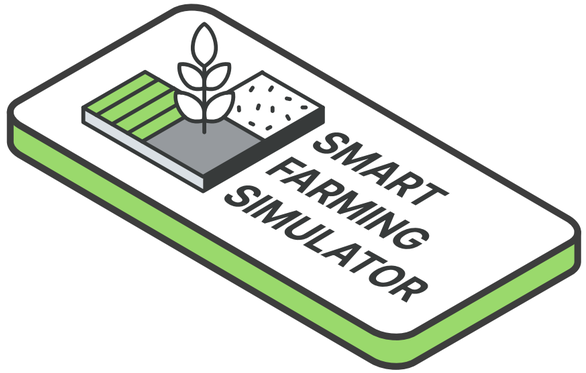
LAND MAP ONE PER GROUP

TECHNOLOGY CARDS TWO PER GROUP

CROP CARDS TWO PER GROUP

ONE DIE

ACCOUNTING LEDGER FOR EACH PLAYER



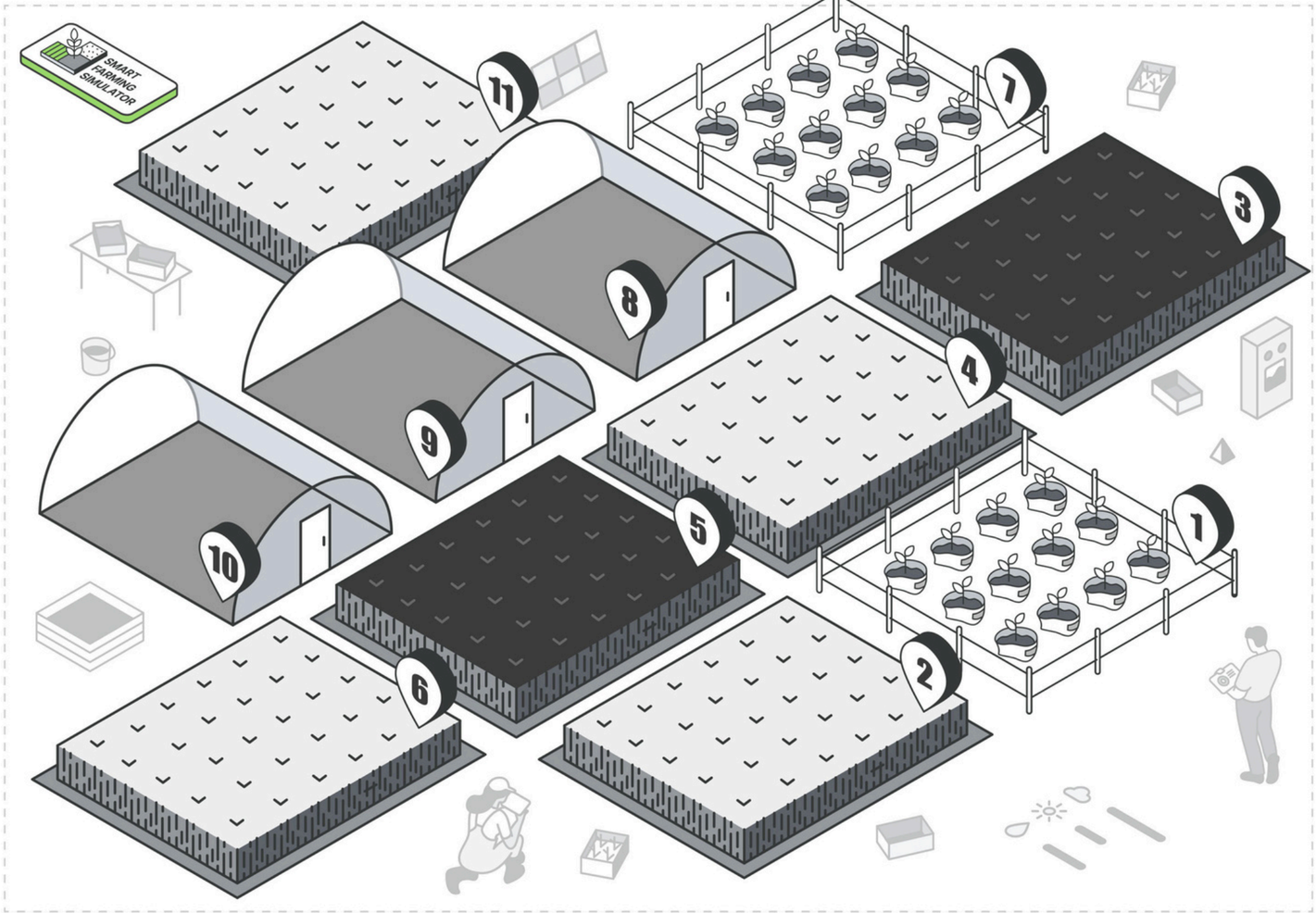
Course of each round

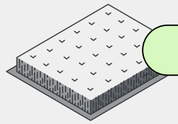
1) purchase of land and crops
2) roll the die for a global event
3) calculation of profits, potential purchase of technology

There are 10 rounds in total. The first round is a trial run.

Land map

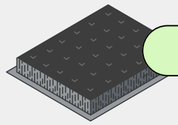
(you should have one per group)





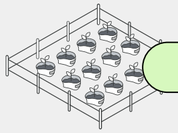
10,000 $

Dry soil
Crops: cotton and wheat



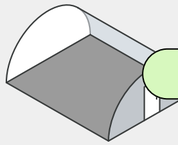
15,000 $

Fertile soil
Crops: corn, soybeans



20,000 $

Orchard
Crops: apples, oranges



30,000 $

Greenhouse
Crops: tomatoes, lettuce

Crop cards (each group should have two sets)





Dry soil





Fertile soil





Greenhouse





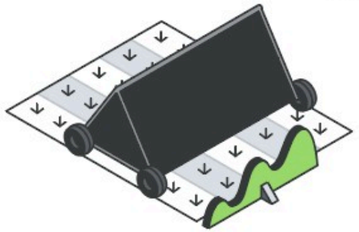
Orchard

Accounting ledger (each player gets one)

Round	At the beginning of the round I have:	Land	Crops	Technology	I bought for:	Remaining:	Event	I earned:
01	50,000 $							
02								
03								
04								
05								
06								
07								
08								
09								
10								

Technology cards (each group should have one set)

20,000 $ 1



Weed control

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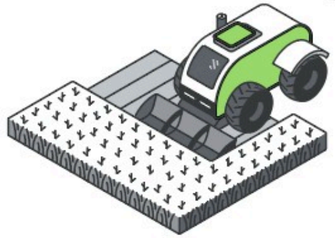
20,000 $ 2



Disease detection

AI detects plant diseases early and enables preventive action.

25,000 $ 3



Automation

Autonomous machines handle plowing, sowing, and harvesting. In favorable conditions, they double the yield.

20,000 $ 4



Pest control

AI analyzes data and predicts the risk of pest outbreaks.

20,000 $ 5



Smart irrigation

AI monitors soil moisture and irrigates only where needed.

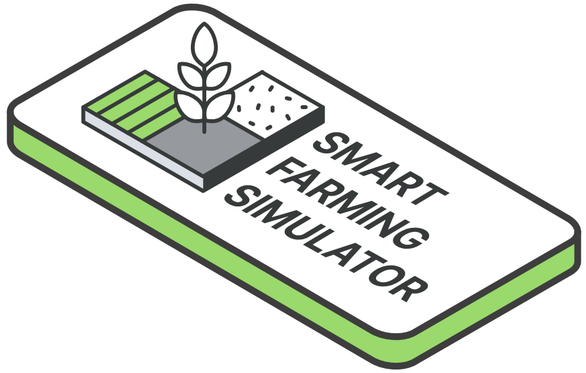
Technology cards can be used to reduce the impact of negative events or to enhance positive ones.

Global events

(roll the dice, the result applies to the whole group)

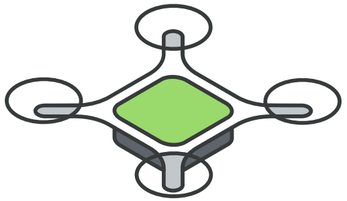
Global events		Technologies
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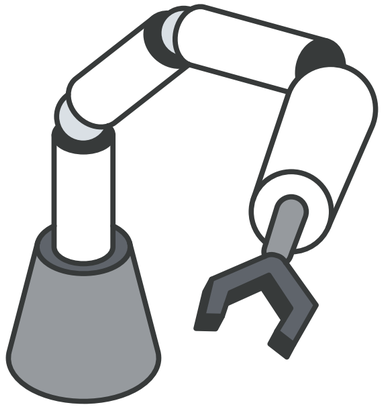


Victory Types

+ Best Technologist (most technologies acquired)
+ Best Farmer (most crops grown)
+ Best Entrepreneur (most money in the account)



Collaboration options

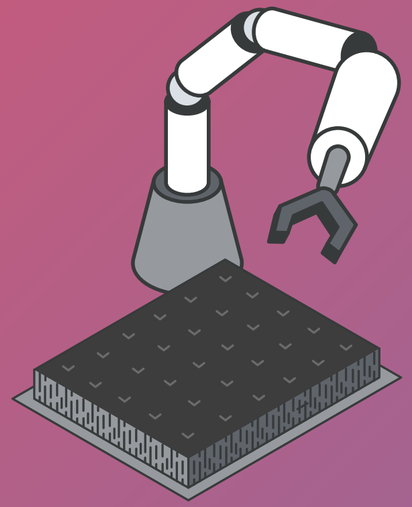


+ Land on the map is purchased by mutual agreement.
+ You can lend money to each other.
+ You can trade land with one another.
+ Both technology and land can be bought or sold.





Smart Technologies in Agriculture





See you again in another lesson!

AI for Children's Artificial Intelligence Curriculum
Methodological Material for Elementary and Secondary
Schools - the Development of Digital Competence

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