

Patent Problems

You need

- ★ a dice
- ★ 2 sets of 9 counters
- ★ a classmate

TECHNOLOGY

When an inventor comes up with a new idea, they “patent” it. A patent means that no one can use or sell the invention without the inventor’s permission. Patents help the inventor make money so that they can afford to keep inventing!

Game

Alex and Eden are playing a “patenting game” that involves claiming the rights to an invention.



Plastic teeth

Childcare robot

Talking watch

Self-cleaning shirt

Virtual reality windows

Cardboard cellphones

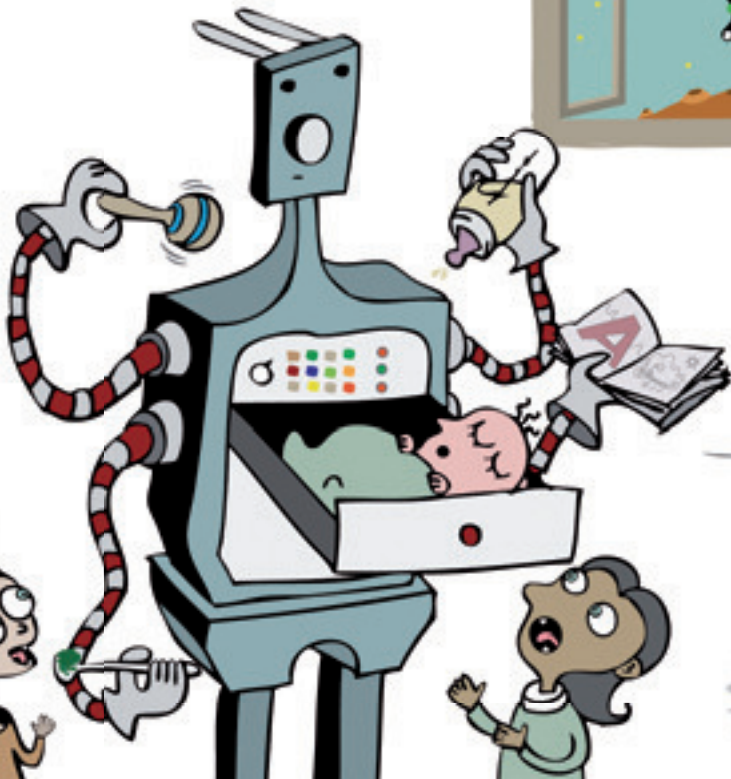
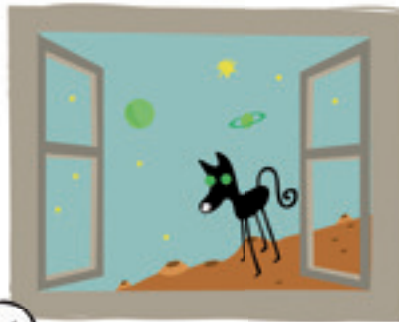
Bug teleporter

Ever-lasting chewing gum

Night lights on slippers



4, 3, 2, 1, 6. I wish I'd chosen option B!

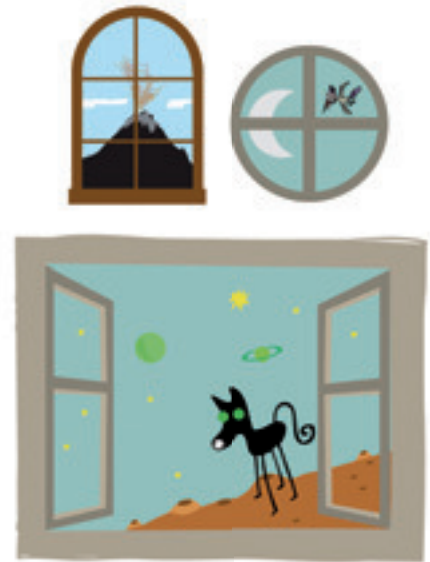


To patent an invention, choose one of the following outcomes at the start of your turn:

- A: get 2 numbers the same within 5 dice throws
- B: get a 3 within 5 throws
- C: throw a dice 5 times without getting a 5 or a 6.

- i. Tell your classmate which outcome you have chosen.
- ii. Throw the dice up to 5 times.
- iii. If you match the outcome, claim one of the inventions by putting a counter on it.

The winner is the person with the most patented inventions at the end of the game.



Activity One

1. Alex notices that some outcomes seem to be easier to get than others. He decides to test the outcomes with an experiment.

A “conjecture” is a statement that you believe to be true but have not yet proved.

- a. With a classmate, make a conjecture about which outcome (A, B, or C) is most likely and which is least likely.
 - b. Make up an experiment that could be used to test your conjecture.
 - c. Each carry out the experiment on your own, recording your results in a table.
 - d. Compare your results with your classmate’s. Are they the same? Why or why not?
2. A probability experiment may not prove whether a conjecture is correct, but it can be used as evidence to support one. Do the results of your experiment support your conjecture? Why or why not?

Activity Two

1.
 - a. Modify each of the outcomes A, B, and C to make it:
 - i. more likely to occur
 - ii. less likely to occur.
 - b. Justify your suggestions.
2. Alex’s friends say:
 - i. “Not getting a 2 or a 4 is as likely as not getting a 5 or a 6.”
 - ii. “It is harder to get a 6 than a 3.”
 - iii. “It would be almost impossible to get 5 of the same number.”
 Discuss each comment.

