



# TEACHER'S NOTES

## SICKLES & DONUTS

### OVERVIEW

Aimed at **key stage 2** (7-9 years)

(Prep time 20 mins/Class time 40 mins)

After watching a video about a boy with Sickle Cell Anaemia, learners consider what it is like living with the condition before playing a customised snakes and ladders game which illustrates the problems caused by sickle-shaped blood cells. Working in pairs, they each pose and answer mathematical questions in order to generate playing numbers and complete the game.

### LEARNING OBJECTIVES

- To work effectively as a pair, competing against one another
- To calculate simple number sums of addition, subtraction and multiplication
- To understand and follow a given set of rules
- To appreciate and respect similarities and differences between one another

### CURRICULUM LINKS

- Mathematical understanding: read, write and order numbers to 100 and beyond using a range of representations
- Mathematical understanding: use number bonds to ten to add and subtract mentally whole numbers with one or two significant figures
- Understanding physical development, health and wellbeing: work and play independently and in groups
- Understanding physical development, health and wellbeing: recognise and respect similarities and differences between people

### you will NEED

- For each pair: a **Let's play Sickles and Donuts board**, two counters and one set of **Sickles and Donuts question cards** (provided)
- Internet access

### Activity

- Explain that you want the class to watch a film about a boy called Tamilore. As they watch, ask learners to pay attention to how Tamilore describes his blood cells. Watch Tamilore's video story at:  
<http://www.genesareus.org/filmlibrary/tamiloresstory>
- Ask structured questions to draw out information about Tamilore's condition, for example:
  - Tamilore has a genetic condition called Sickle Cell Anaemia. How does this affect his blood?  
*Sickle Cell Anaemia means that Tamilore's blood cells are shaped like crescents or sickles. Most people's blood cells are shaped like donuts.*
  - Sickle-shaped blood cells are more sticky than donut-shaped cells. What does this mean for Tamilore?  
*Tamilore's blood cells sometimes get stuck and do not move around his body as they should. This causes pain which can last for several hours or days.*
  - Does Tamilore know when his blood cells are going to get stuck?  
*Tamilore's blood cells can get stuck (known as a 'crisis') at any time. His condition affects different people in different ways. For Tamilore, the cold can often trigger a crisis.*

## Activity

continued

- Explain that you are going to play a game about Tamilore's condition. It is called **Sickles and Donuts**. Ask learners to get into pairs and hand out a board, two playing counters and a set of question cards to each pair.

Learners follow the rules on the board to play the game:

- They each start at square 1.
- One player picks a card from the top of the pack and asks the other the question. If they get the answer right, they move that number of squares forward. If they land on a sickle they must slide back to the square at the bottom. If they land on a donut, they can go up to the top of the chain.
- Players take it in turns to answer a question.
- The winner is the first to reach square 100.

## EXTENSION

- Learners work on their own to design, draw and colour a snakes and ladder board about aspects of their own life. They could consider:
  - What makes them happy. This could be the 'ladder' that helps them move forward on the board.
  - What makes them sad. This could be the 'snake' that sends them backwards.
  - What colours they will use for the squares and the different features.
  - What their game will be called.
- Learners use the blank question cards to create their own question cards. These could be simple number sums like those provided, or could test knowledge from a completely different discipline. In this case, the card would need a random number included on it, to indicate the number of spaces they should move on the board.

## FURTHER INFORMATION

This interactive snakes and ladders board could be used on a whiteboard:

[www.mathsyear2000.co.uk/games/virtualmathfest/snakesladders.html](http://www.mathsyear2000.co.uk/games/virtualmathfest/snakesladders.html)



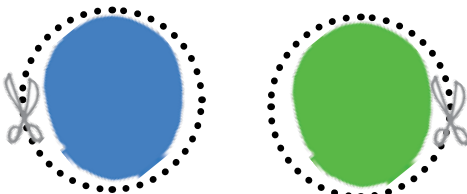


## RULES

- Shuffle the cards and place them face down on the table.
- Each player chooses a playing counter and places it on square 1.
- The oldest player takes a card from the top of the pack and asks the other player the question. If the other player gets the answer right, they move their counter forward that number of spaces. If they get the answer wrong, they stay where they were.
- The other player now picks a card from the top of the pack and asks a question. If the first player gets the answer right, they move their counter forward that number of spaces.
- Players carry on like this, taking turns to answer questions and move their counters around the board.
- If any player lands at the bottom of a string of donuts, they may go up to the top of the string.
- If any player lands at the top of a string of sickles, they must slide back down to the bottom of the string.
- The winner is the first player to get to square 100.

## COUNTERS

Cut out to play...







# SICKLES & DONUTS

QUESTION CARDS

Cut out the question cards, or use the blanks to make your own.

$$2 + 5 = ?$$

Answer= 7

$$1 \times 3 = ?$$

Answer= 3

$$2 + ? = 9$$

Answer= 7

$$4 + 1 = ?$$

Answer= 5

$$8 - 6 = ?$$

Answer= 2

$$4 - 3 = ?$$

Answer= 1

$$9 - 3 = ?$$

Answer= 7

$$2 \times 4 = ?$$

Answer= 8

$$3 - ? = 2$$

Answer= 1

$$10 - 5 = ?$$

Answer= 5

$$2 + 2 = ?$$

Answer= 4

$$9 - 5 = ?$$

Answer= 4

$$1 + 1 = ?$$

Answer= 2

$$7 - 4 = ?$$

Answer= 3

$$2 + ? = 8$$

Answer= 6

$$5 + 1 = ?$$

Answer= 6

$$3 \times 3 = ?$$

Answer= 9

$$5 + ? = 6$$

Answer= 1

FOR MORE RESOURCES GO TO [WWW.JEANSFORGENESDAY.COM](http://WWW.JEANSFORGENESDAY.COM)

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