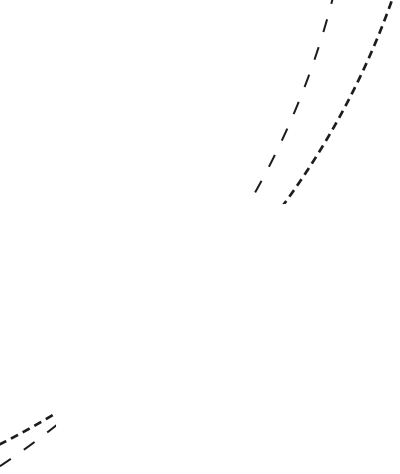
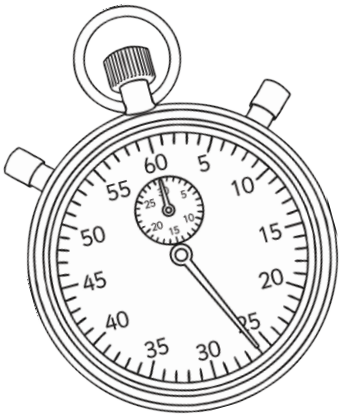
Mathematics Guide



Estimate and Time in Seconds

I can estimate, time and compare activities in seconds.

Activity	Estimate	Actual	Difference
20 star jumps			
Link 10 paper clips			
Write the word ‘seconds’ 20 times			
Order a set of 25 number cards from smallest to largest			
_____ _____			
_____ _____			
_____ _____			



Estimating, Reading and Comparing in Seconds

I can estimate, time and compare activities in seconds.

1) How long, in seconds, do you think it will take you write all the multiples of 4 up to 100? Fill in your estimate on the chart. Complete the activity, time yourself and record on the chart. Were you accurate? What was the difference between your estimate and the actual time?

Estimate	Actual	Difference

2) Jagdeep estimated how long it would take him to complete some activities, then recorded the actual times in the table below.

Activity	Estimate	Actual
Roll five 6s on a dice	45 seconds	76 seconds
Link 15 paper clips	25 seconds	38 seconds
Read aloud a page from a book	69 seconds	125 seconds
Run 100 metres	72 seconds	39 seconds
Walk to the school office and back	110 seconds	98 seconds
Write 15 six-letter words	38 seconds	79 seconds

Order the activities from shortest time taken to longest.

a) _____ d) _____

b) _____ e) _____

c) _____ f) _____

3) Choose the correct symbol (< or >) to compare the actual times taken to complete these activities:

Write 15 six-letter words		Run 100 metres
Roll five 6s on a dice		Read aloud a page from a book
Walk to the school office and back		Write 15 six-letter words
Write 15 six-letter words		Link 15 paper clips
Run 100 metres		Walk to the school office and back
Write 15 six-letter words		Roll five 6s on a dice

4) What was the difference in seconds between Jagdeep's estimates and his actual times?

Activity	Estimate	Actual
Roll five 6s on a dice	45 seconds	76 seconds
Link 15 paper clips	25 seconds	38 seconds
Read aloud a page from a book	69 seconds	125 seconds
Run 100 metres	72 seconds	39 seconds
Walk to the school office and back	110 seconds	98 seconds
Write 15 six-letter words	38 seconds	79 seconds

a) Roll five 6s on a dice. _____ seconds

b) Link 15 paper clips. _____ seconds

c) Read aloud a page from a book. _____ seconds

d) Run 100 metres. _____ seconds

e) Walk to the school office and back. _____ seconds

f) Write 15 six-letter words. _____ seconds

Estimating, Reading and Comparing in Seconds **Answers**

Question	Answer
1. How long, in seconds, do you think it will take you write all the multiples of 4 up to 100? Fill in your estimate on the chart. Complete the activity, time yourself and record on the chart. Were you accurate? What was the difference between your estimate and the actual time?	
	A variety of answers, dependent upon the estimates. Check that the difference between the estimate and actual time is correct.
2. Order the activities from shortest time taken to longest.	
a.	*Link 15 paper clips.*
b.	*Run 100 metres.*
c.	*Roll five 6s on a dice.*
d.	*Write 15 six-letter words.*
e.	*Walk to the school office and back.*
f.	*Read aloud a page from a book.*

4. What was the difference in seconds between Jagdeep's estimates and his actual times?	
a.	*31* seconds
b.	*13* seconds
c.	*56* seconds
d.	*33* seconds
e.	*12* seconds
f.	*41* seconds

3. Choose the correct symbol (< or >) to compare the actual times taken to complete these activities:

	Write 15 six-letter words.	>	Run 100 metres.
	Roll five 6s on a dice.	<	Read aloud a page from a book.
	Walk to the school office and back.	>	Write 15 six-letter words.
	Write 15 six-letter words.	>	Link 15 paper clips.
	Run 100 metres.	<	Walk to the school office and back.
	Write 15 six-letter words.	>	Roll five 6s on a dice.

Estimating, Reading and Comparing in Seconds

I can estimate, time and compare activities in seconds.

1) How long, in seconds, do you think it will take you write the alphabet? Fill in your estimate on the chart. Complete the activity, time yourself and record on the chart. Were you accurate? What was the difference between your estimate and the actual time?

Estimate	Actual	Difference

2) Suriya estimated how long it would take her to complete some activities, then recorded the actual times in the table below.

Activity	Estimate	Actual
Run from one side of the playground to the other	26 seconds	24 seconds
Say the alphabet backwards	45 seconds	54 seconds
Complete a word search	86 seconds	67 seconds
Sing a nursery rhyme	48 seconds	61 seconds

Order the activities from shortest time taken to longest.

a) _____

b) _____

c) _____

d) _____

3) Choose the correct symbol (< or >) to compare the actual times taken to complete these activities:

Say the alphabet backwards		Complete a word search
Sing a nursery rhyme		Say the alphabet backwards
Say the alphabet backwards		Run from one side of the playground to the other
Run from one side of the playground to the other		Sing a nursery rhyme

4) What was the difference in seconds between Suriya's estimates and her actual times?

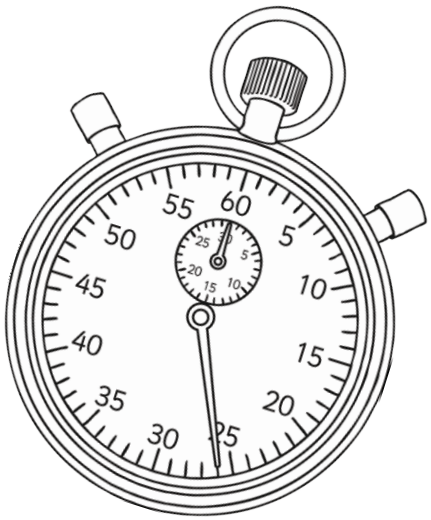
Activity	Estimate	Actual
Run from one side of the playground to the other	26 seconds	24 seconds
Say the alphabet backwards	45 seconds	54 seconds
Complete a word search	86 seconds	67 seconds
Sing a nursery rhyme	48 seconds	61 seconds

a) Run from one side of the playground to the other. _____ seconds

b) Say the alphabet backwards. _____ seconds

c) Complete a word search. _____ seconds

d) Sing a nursery rhyme. _____ seconds



Estimating, Reading and Comparing in Seconds **Answers**

Question	Answer
1. How long, in seconds, do you think it will take you write the alphabet? Fill in your estimate on the chart. Complete the activity, time yourself and record on the chart. Were you accurate? What was the difference between your estimate and the actual time?	
	A variety of answers, dependent upon the estimates. Check that the difference between the estimate and actual time is correct.
2. Order the activities from shortest time taken to longest.	
a.	*Run from one side of the playground to the other.*
b.	*Say the alphabet backwards.*
c.	*Sing a nursery rhyme.*
d.	*Complete a word search.*

3. Choose the correct symbol (< or >) to compare the actual times taken to complete these activities:

	Say the alphabet backwards	<	Complete a word search
	Sing a nursery rhyme	>	Say the alphabet backwards
	Say the alphabet backwards	>	Run from one side of the playground to the other
	Run from one side of the playground to the other	<	Sing a nursery rhyme

4. What was the difference in seconds between Suriya's estimates and her actual times?

a.	*2* seconds	c.	*19* seconds
b.	*9* seconds	d.	*13* seconds

Estimating, Reading and Comparing in Seconds

I can estimate, time and compare activities in seconds.

1) How long, in seconds, do you think it will take you write the alphabet backwards? Fill in your estimate on the chart. Complete the activity, time yourself and record on the chart. Were you accurate? What was the difference between your estimate and the actual time?

Estimate	Actual	Difference

2) Michelle estimated how long it would take her to complete some activities, then recorded the actual times in the table below.

Activity	Estimate	Actual
Do 20 star jumps	29 seconds	45 seconds
Write your name 30 times	60 seconds	51 seconds
Score 5 baskets	45 seconds	82 seconds
Complete a word puzzle	75 seconds	90 seconds
Say the 2× and 3× tables	49 seconds	62 seconds
Draw a picture of a house	13 seconds	29 seconds

Order the activities from shortest time taken to longest.

a) _____ d) _____

b) _____ e) _____

c) _____ f) _____

3) Choose the correct symbol (< or >) to compare the actual times taken to complete these activities:

Complete a word puzzle		Say the alphabet backwards
Write your name 30 times		Score 5 baskets
Say the 2× and 3× tables		Draw a picture of a house
Complete a word puzzle		Do 20 star jumps
Do 20 star jumps		Say the 2× and 3× tables
Draw a picture of a house		Write your name 30 times

4) What was the difference in seconds between Michelle's estimates and her actual times?

Activity	Estimate	Actual
Do 20 star jumps	29 seconds	45 seconds
Write your name 30 times	60 seconds	51 seconds
Score 5 baskets	45 seconds	82 seconds
Complete a word puzzle	75 seconds	90 seconds
Say the 2× and 3× tables	49 seconds	62 seconds
Draw a picture of a house	13 seconds	29 seconds

a) Do 20 star jumps. _____ seconds

b) Write your name 30 times. _____ seconds

c) Score 5 baskets. _____ seconds

d) Complete a word puzzle. _____ seconds

e) Say the 2× and 3× tables. _____ seconds

f) Draw a picture of a house. _____ seconds

Estimating, Reading and Comparing in Seconds **Answers**

Question	Answer
1. How long, in seconds, do you think it will take you write the alphabet backwards? Fill in your estimate on the chart. Complete the activity, time yourself and record on the chart. Were you accurate? What was the difference between your estimate and the actual time?	
	A variety of answers, dependent upon the estimates. Check that the difference between the estimate and actual time is correct.
2. Order the activities from shortest time taken to longest.	
a.	*Draw a picture of a house.*
b.	*Do 20 star jumps.*
c.	*Write your name 30 times.*
d.	*Say 2× 3× table.*
e.	*Score 5 baskets.*
f.	*Complete a word puzzle.*

4. What was the difference in seconds between Michelle's estimates and her actual times?	
a.	*16* seconds
b.	*9* seconds
c.	*37* seconds
d.	*15* seconds
e.	*13* seconds
f.	*16* seconds

3. Choose the correct symbol (< or >) to compare the actual times taken to complete these activities:

	Complete a word puzzle	>	Say the alphabet backwards
	Write your name 30 times	<	Score 5 baskets
	Say the 2× and 3× tables	>	Draw a picture of a house
	Complete a word puzzle	>	Do 20 star jumps
	Do 20 star jumps	<	Say the 2× and 3× tables
	Draw a picture of a house	<	Write your name 30 times

Measurement: Seconds

Aim:	**Success Criteria:**	**Resources:**
Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight. I can estimate, time and compare activities in seconds.	I can estimate how long an activity will last in seconds. I can time activities in seconds. I can compare timed activities in seconds.	**Lesson Pack** Seconds timers – 1 per pair Whiteboards and pens – class set
	Key/New Words: Estimate, actual, time, seconds, difference.	**Preparation:** **Time Unit Cards** – 1 set per child **Estimate and Time in Seconds Sheet** – 1 per child Differentiated **Estimating, Reading and Comparing Seconds Activity Sheet** – 1 per child

Prior Learning: It will be helpful if children have experience of measuring time in seconds.

Learning Sequence

	Best Unit: Looking at the activities on the **Lesson Presentation**, children decide which is the most appropriate time unit to measure the activities and hold up the relevant **Time Unit Card**.	
	Seconds Activity: In pairs, children take turns to estimate, time each other and compare a variety of activities, four of which are given and three that they choose themselves. They record their answers on the **Estimate and Time in Seconds Sheet**.	
	Comparing Activities: The **Lesson Presentation** shows a set of times (estimated and actual). Children choose the correct symbol (< or >) to compare two activities. They calculate the difference between the estimates and actual times.	
	Ordering Activities: Children order the activities from the one that took the least time to the activity that took the most time.	
	Estimating, Reading, Comparing in Seconds: Children complete the differentiated **Estimating, Reading and Comparing Seconds Activity Sheet**, estimating and timing an activity and comparing times using the symbols < and >. They order activities and calculate the difference between estimated and actual times. Children compare, order and calculate differences of up to 20 seconds in a set of four timed activities. Children compare, order and calculate differences of up to 40 seconds in a set of six timed activities. Children compare, order and calculate differences of up to 60 seconds in a set of six timed activities.	
	How Long? Children work with a partner to use their reasoning skills, calculating the possible times of an activity, given the estimated time and the difference between the actual and the estimate.	

Masterit

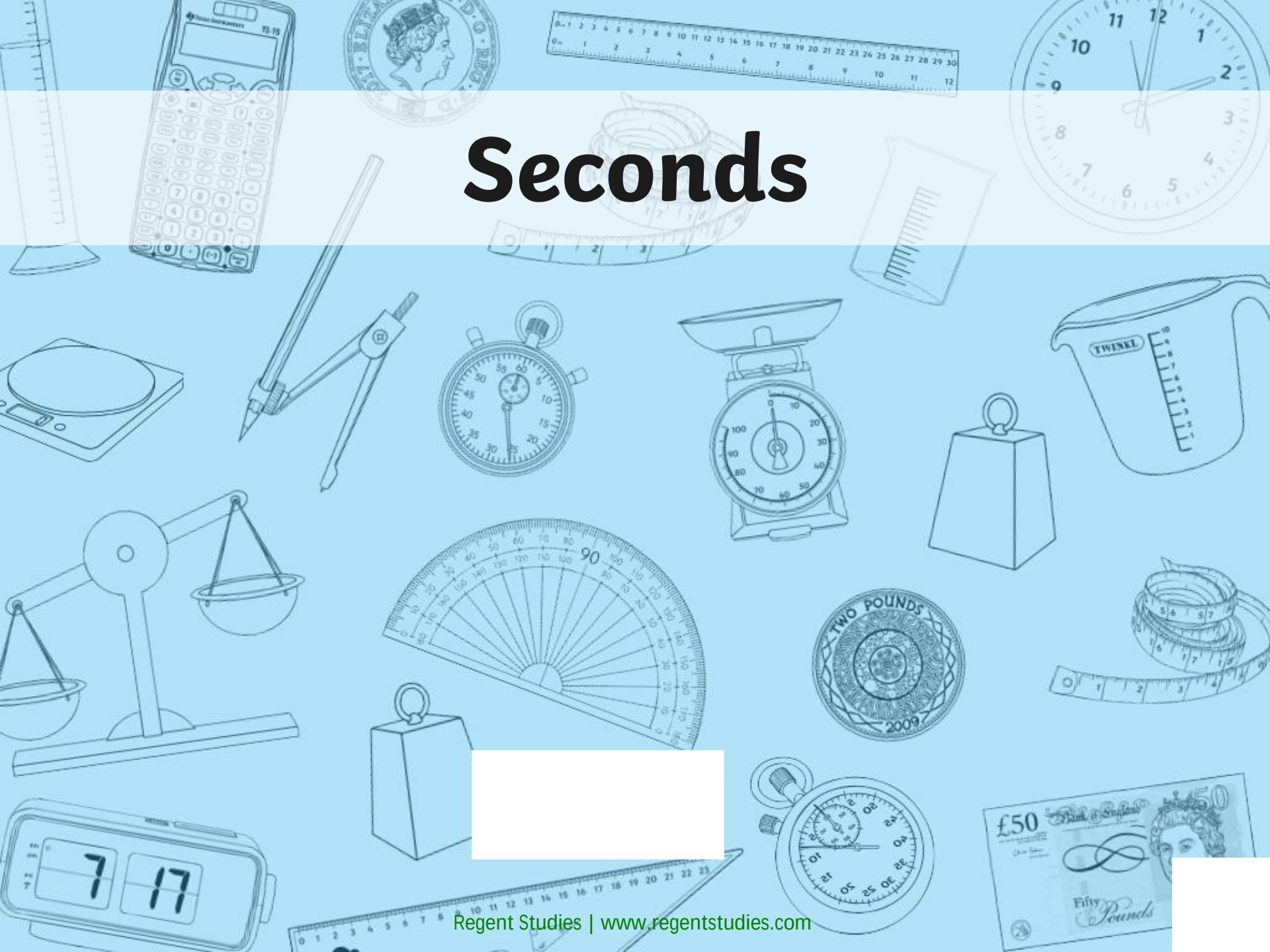
Improveit: Children think of a simple activity that can be timed in seconds, e.g. do ten star jumps. They time themselves doing the activity. They think of how they can improve their performance and then repeat the activity nine more times. They order their attempts from most time take to least time taken and calculate the difference between their fastest and slowest times.

Estimateit: Children time each other in estimating ten seconds. Each child has five attempts, then orders their attempt from most to least successful. Do they have a method for estimating? Repeat for other amounts of time, e.g. 20 seconds, 30 seconds. Discuss if it is easier or harder to estimate longer amounts of time and explain why they think so.

Maths

Measurement

Seconds



Aim

- I can estimate, time and compare activities in seconds.

Success Criteria

- I can estimate how long an activity will last in seconds.
- I can time activities in seconds.
- I can compare timed activities in seconds.

Best Unit

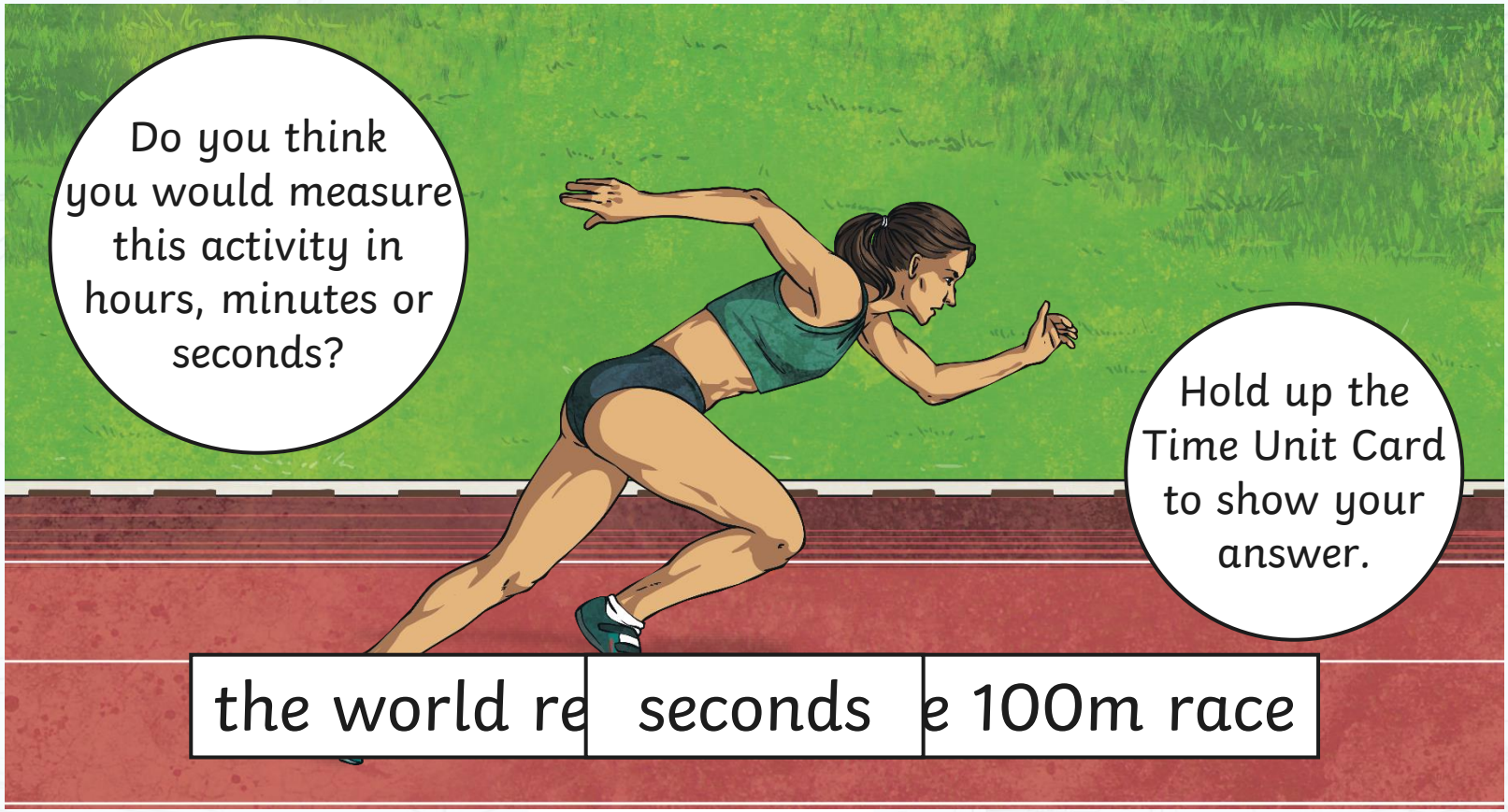
Think about this activity.

Best Unit

Think about this activity.

Best Unit

Think about this activity.



Best Unit

Think about this activity.

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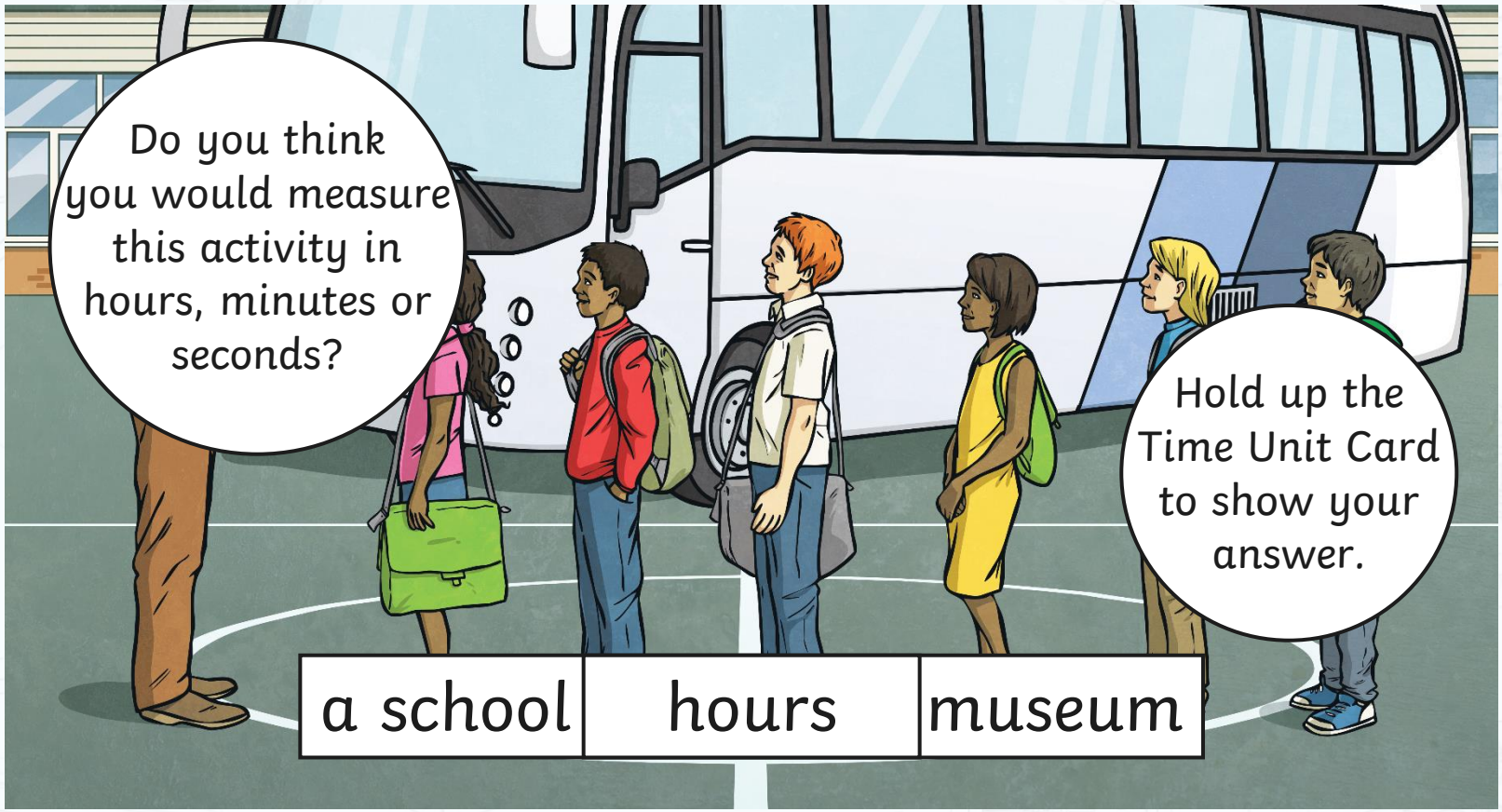
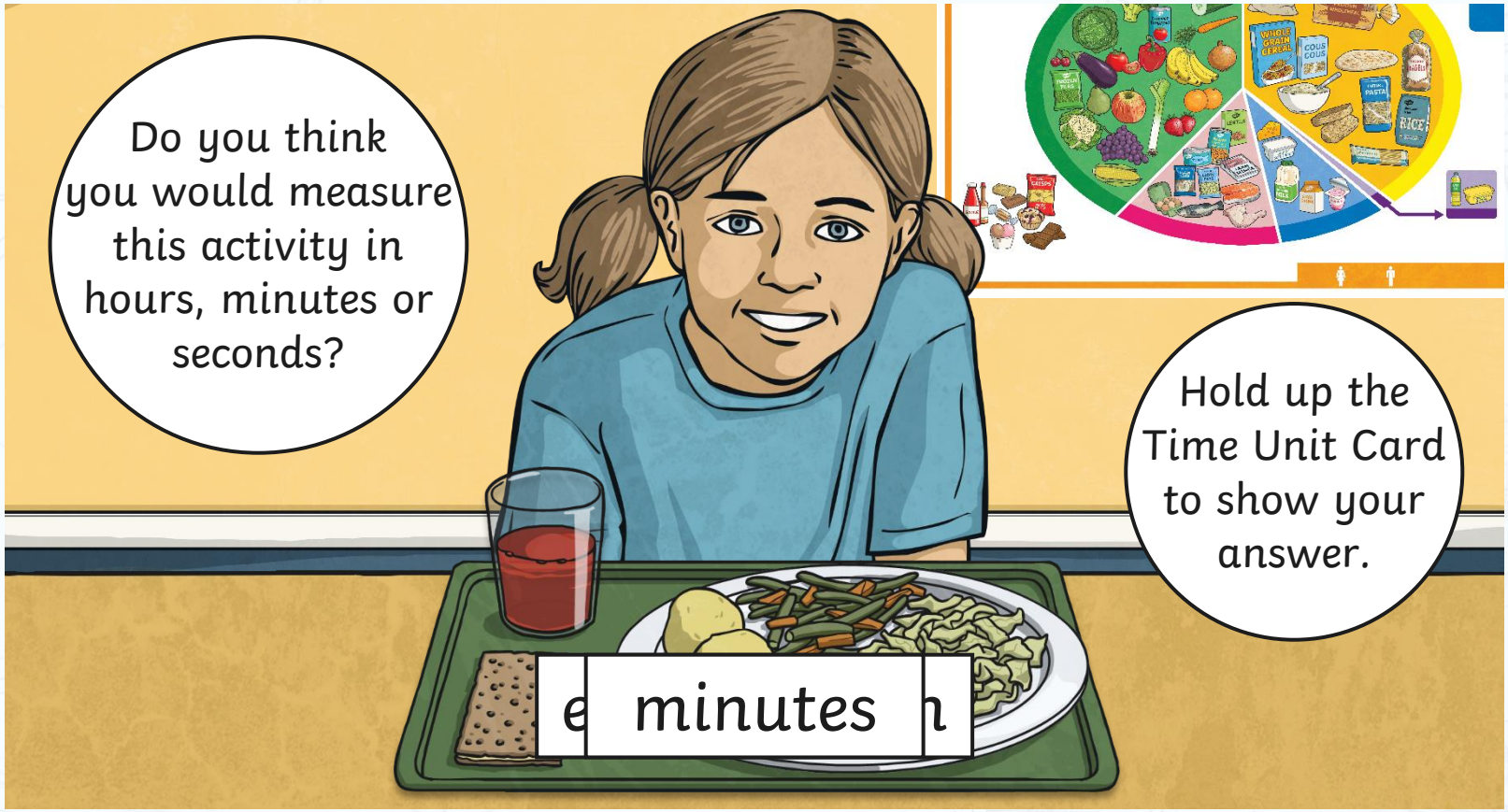
Best Unit

Think about this activity.



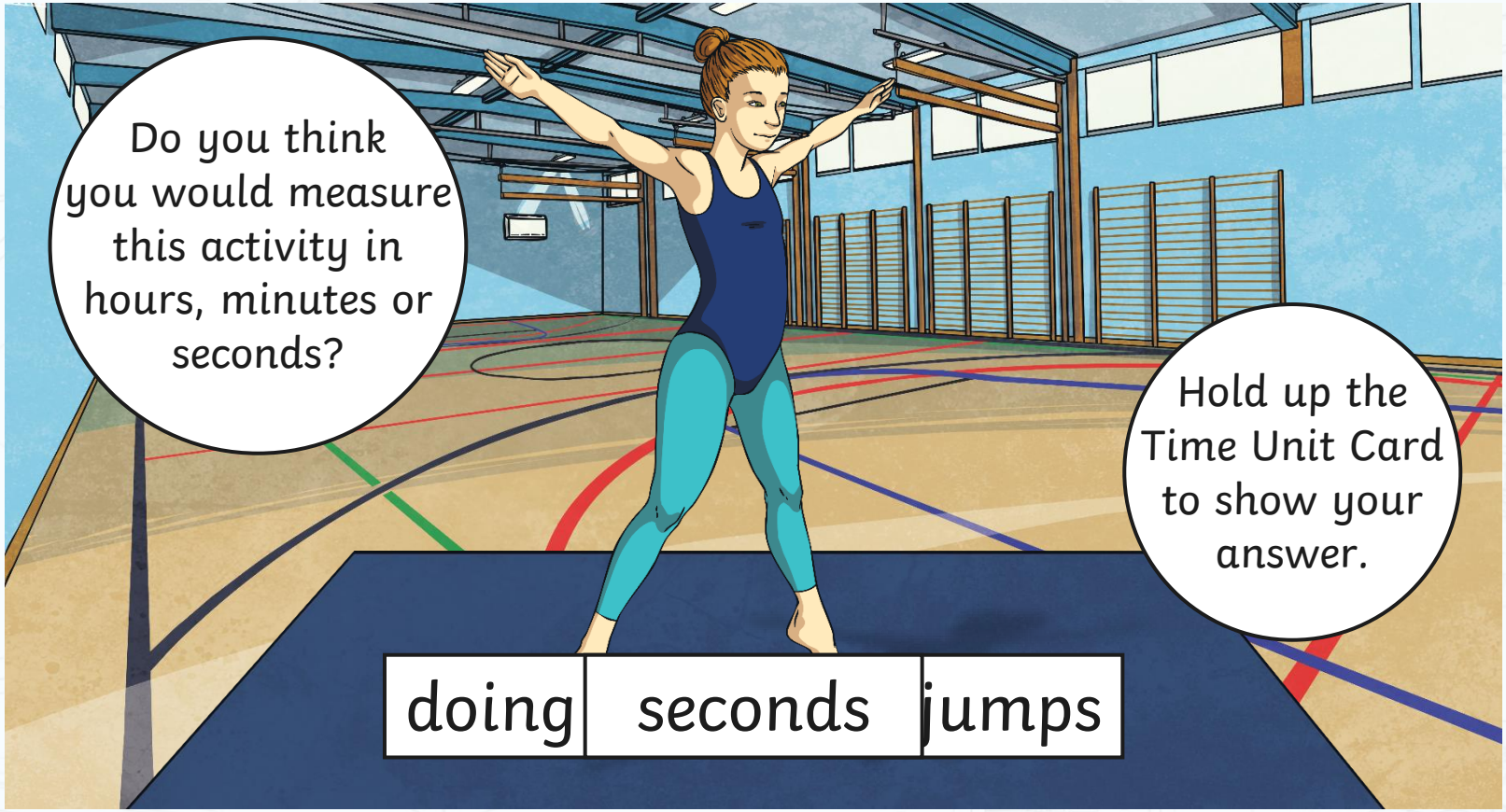
Best Unit

Think about this activity.



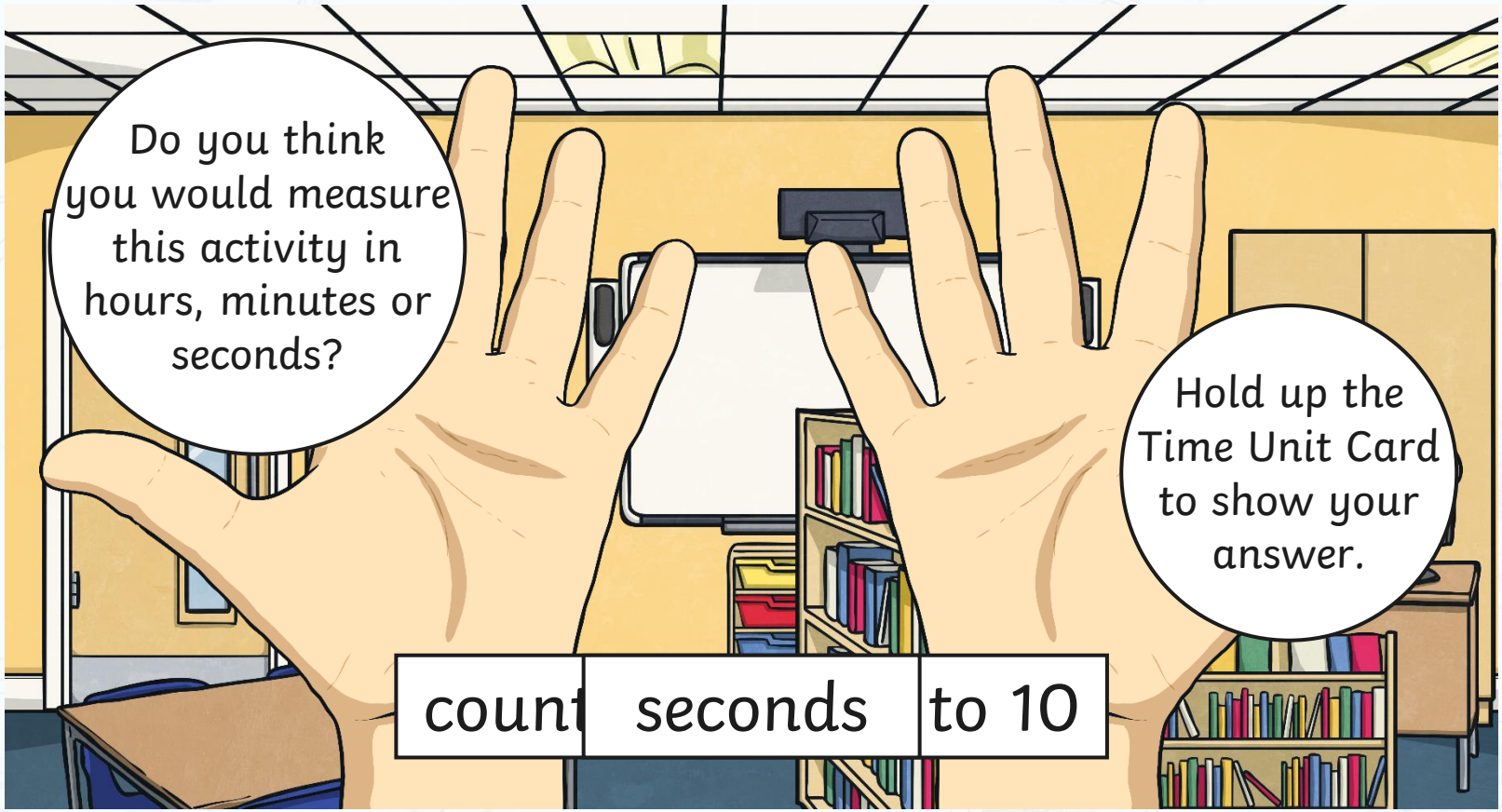
Best Unit

Think about this activity.



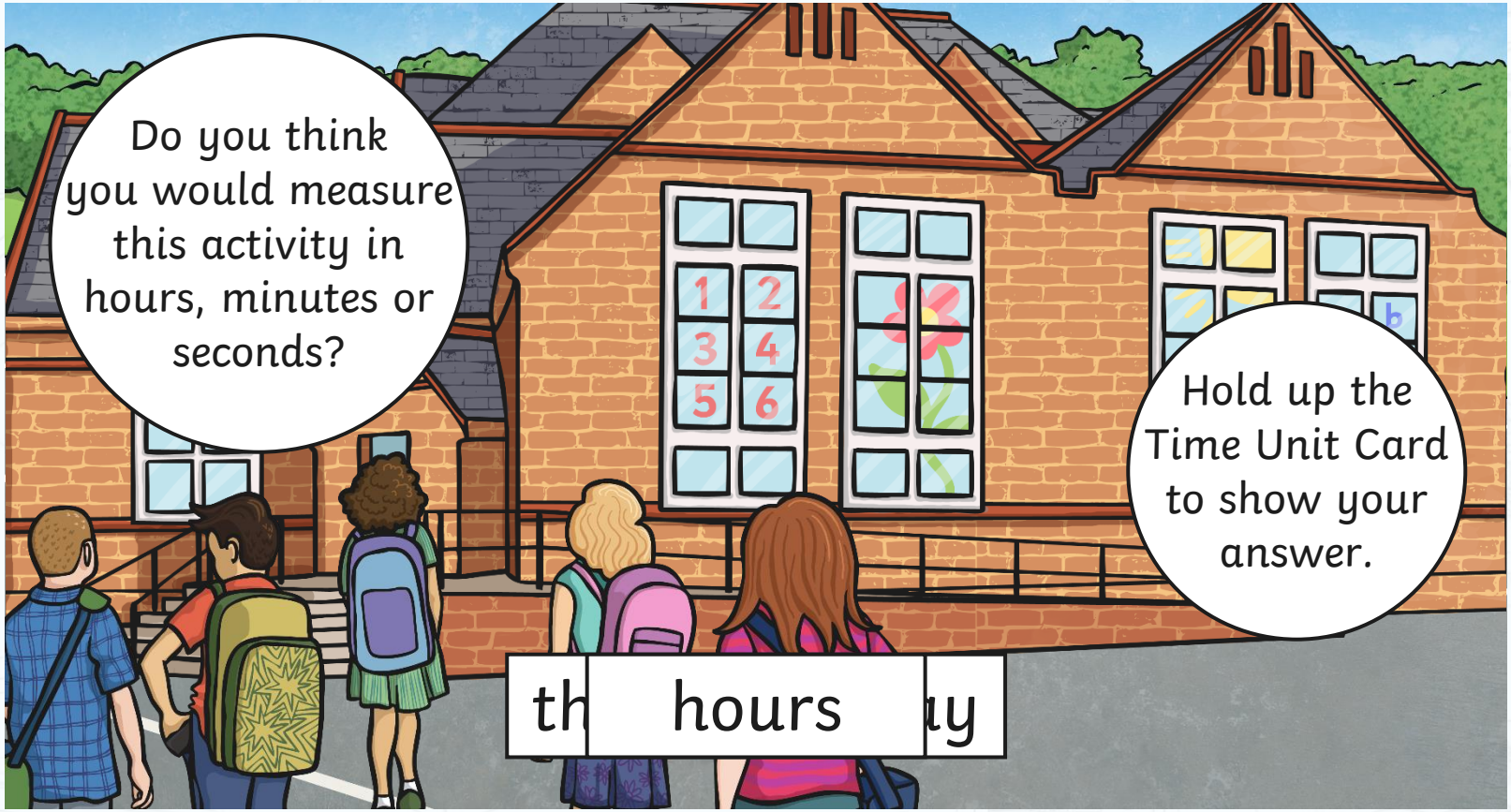
Best Unit

Think about this activity.



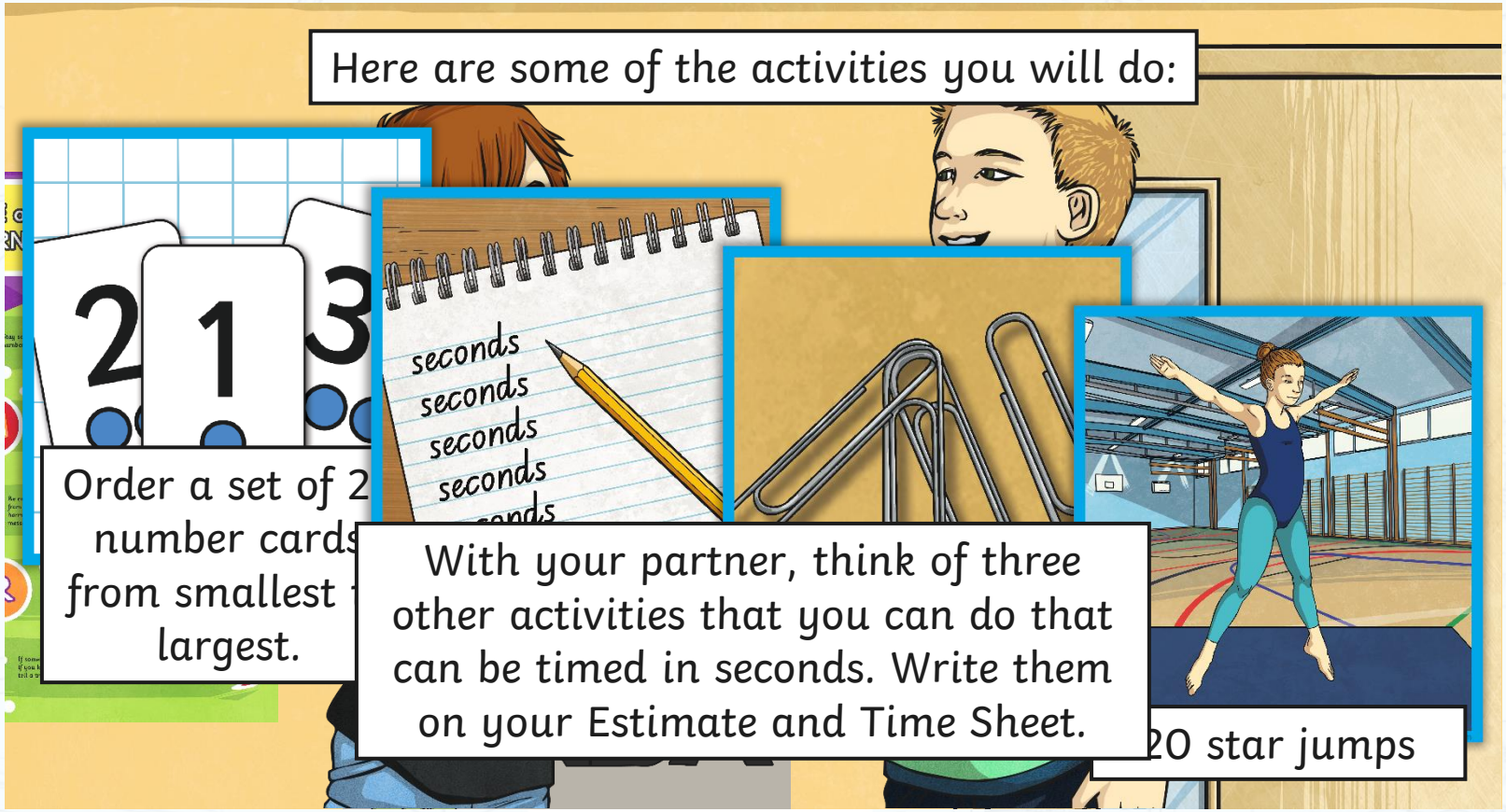
Best Unit

Think about this activity.



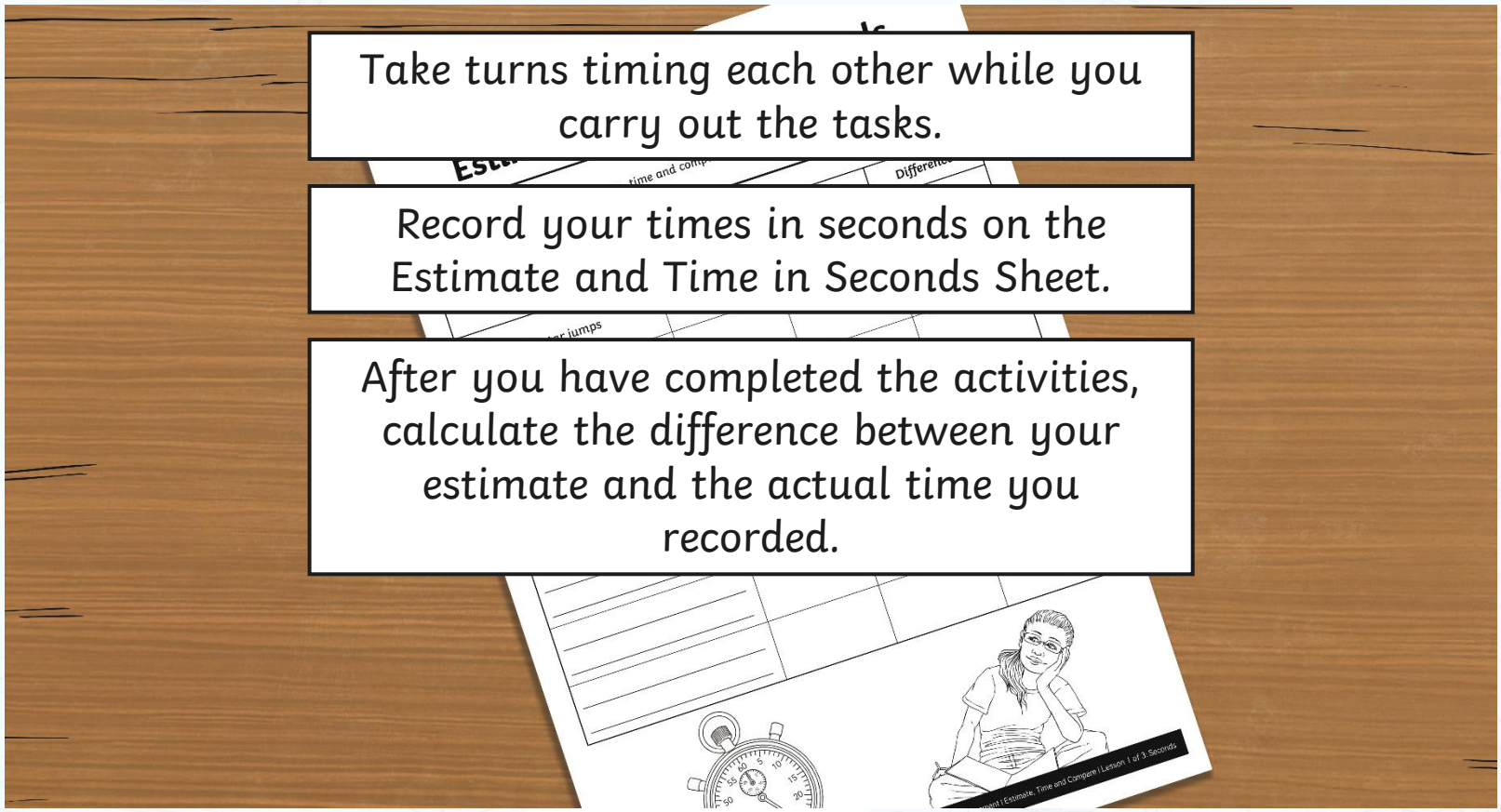
Seconds Activities

You are going work with a partner to estimate, time and compare a variety of activities, using seconds.



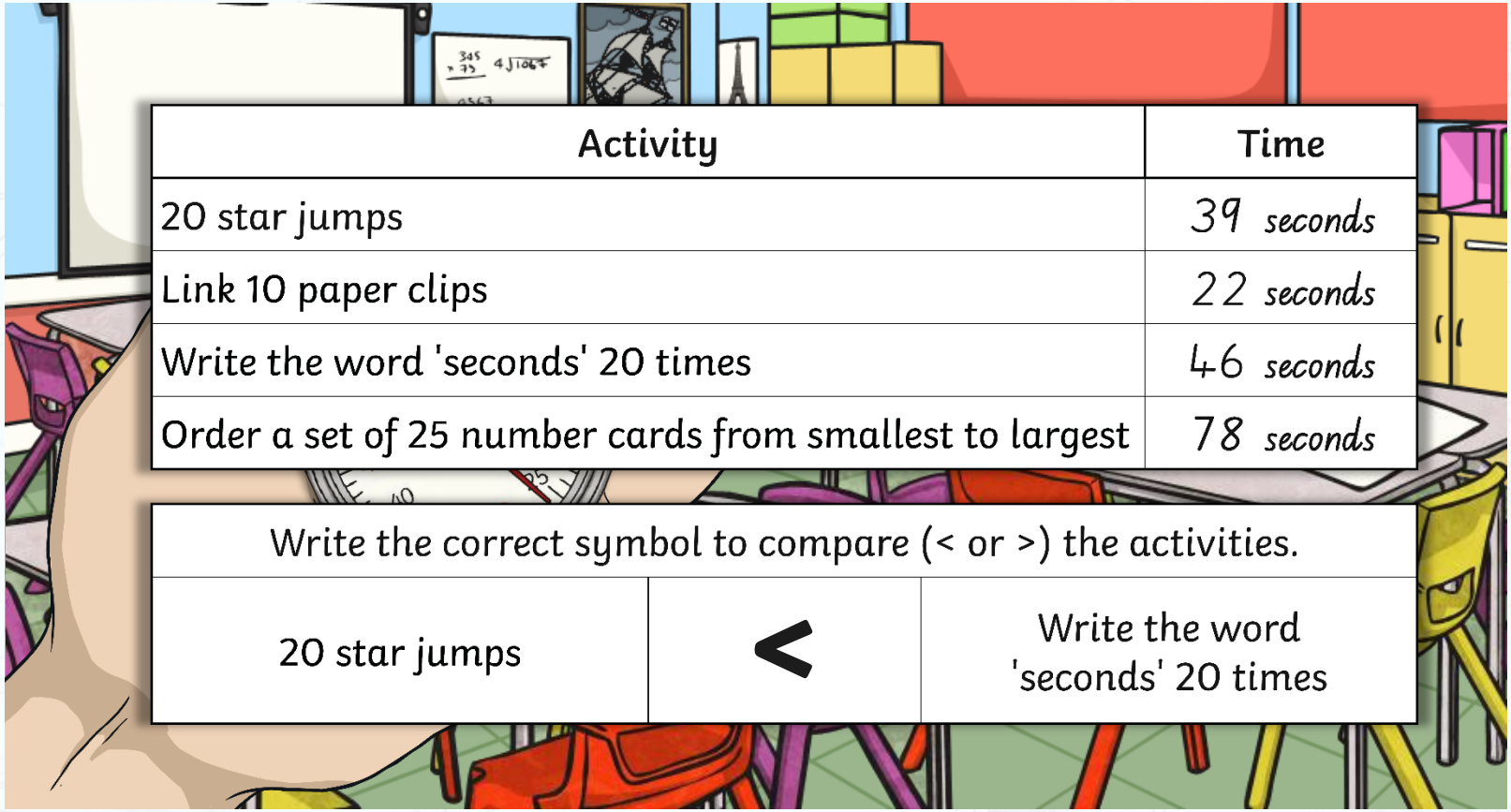
Seconds Activities

Estimate how long you think it will take to complete each activity.



Comparing Activities

Here are the results of Tarjinder's timed activities.

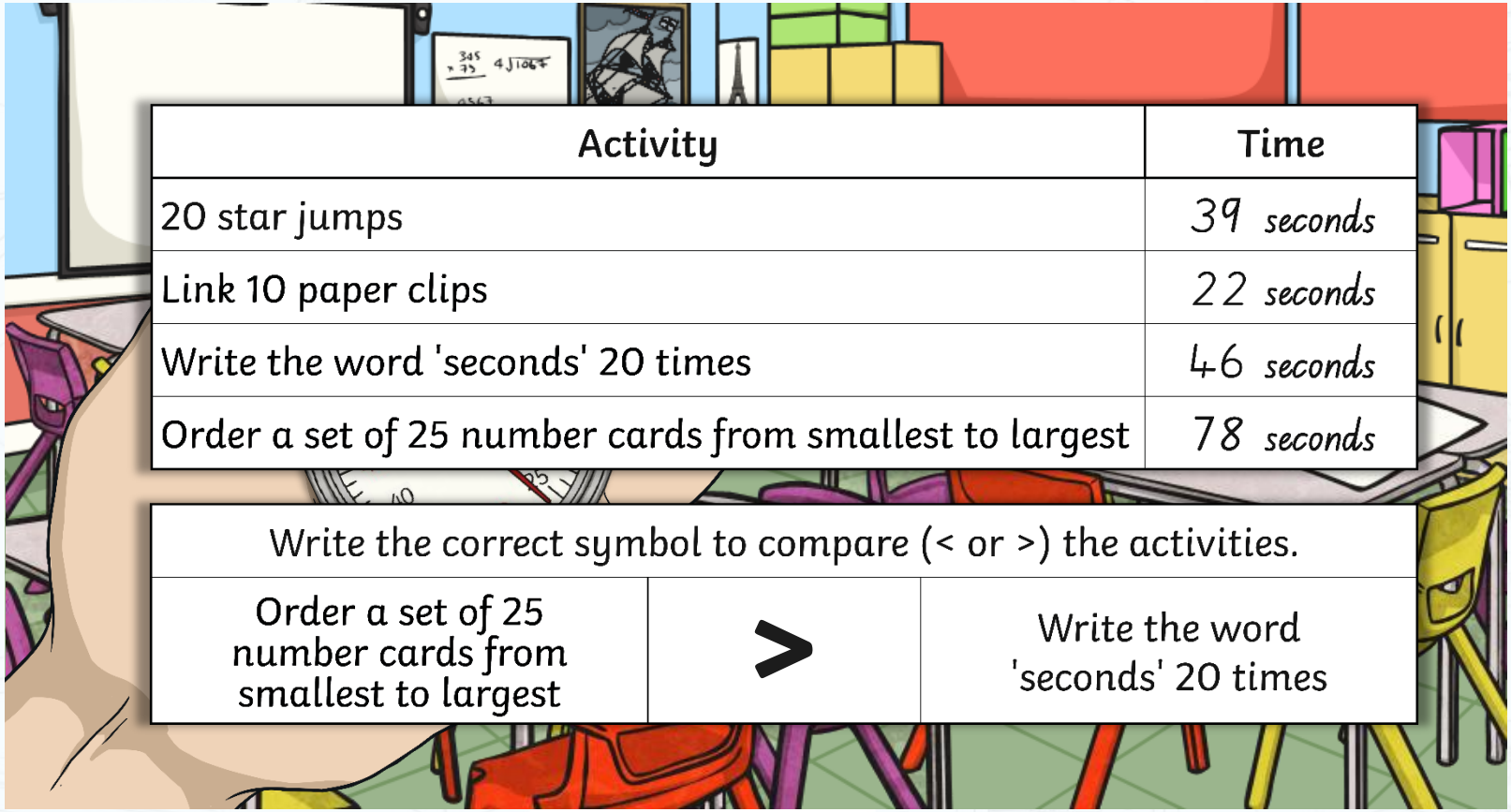


Activity	Time
20 star jumps	39 seconds
Link 10 paper clips	22 seconds
Write the word 'seconds' 20 times	46 seconds
Order a set of 25 number cards from smallest to largest	78 seconds

Write the correct symbol to compare (< or >) the activities.		
20 star jumps	<	Write the word 'seconds' 20 times

Comparing Activities

Here are the results of Tarjinder's timed activities.

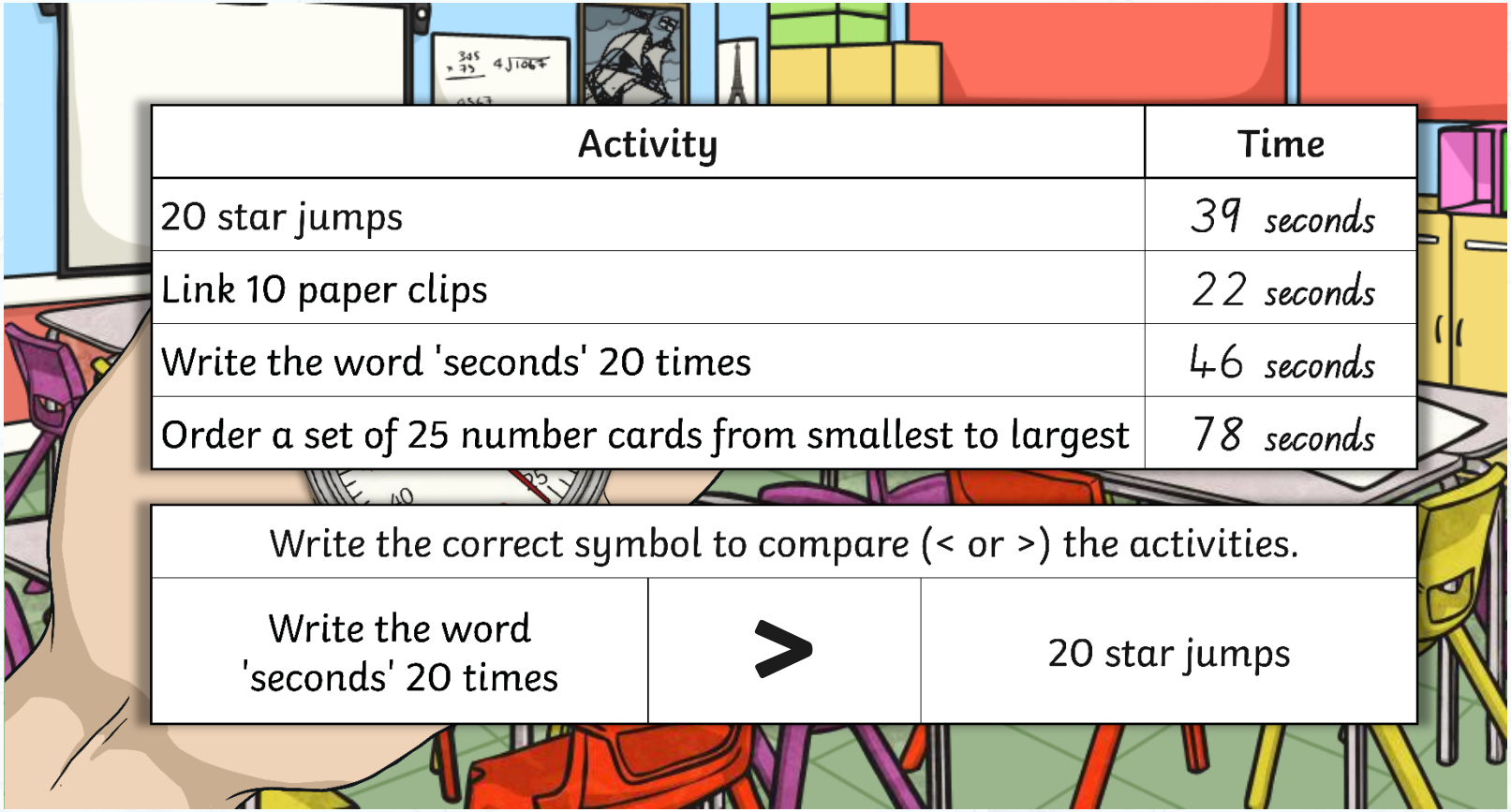


Activity	Time
20 star jumps	39 seconds
Link 10 paper clips	22 seconds
Write the word 'seconds' 20 times	46 seconds
Order a set of 25 number cards from smallest to largest	78 seconds

Write the correct symbol to compare (< or >) the activities.		
Order a set of 25 number cards from smallest to largest	>	Write the word 'seconds' 20 times

Comparing Activities

Here are the results of Tarjinder's timed activities.

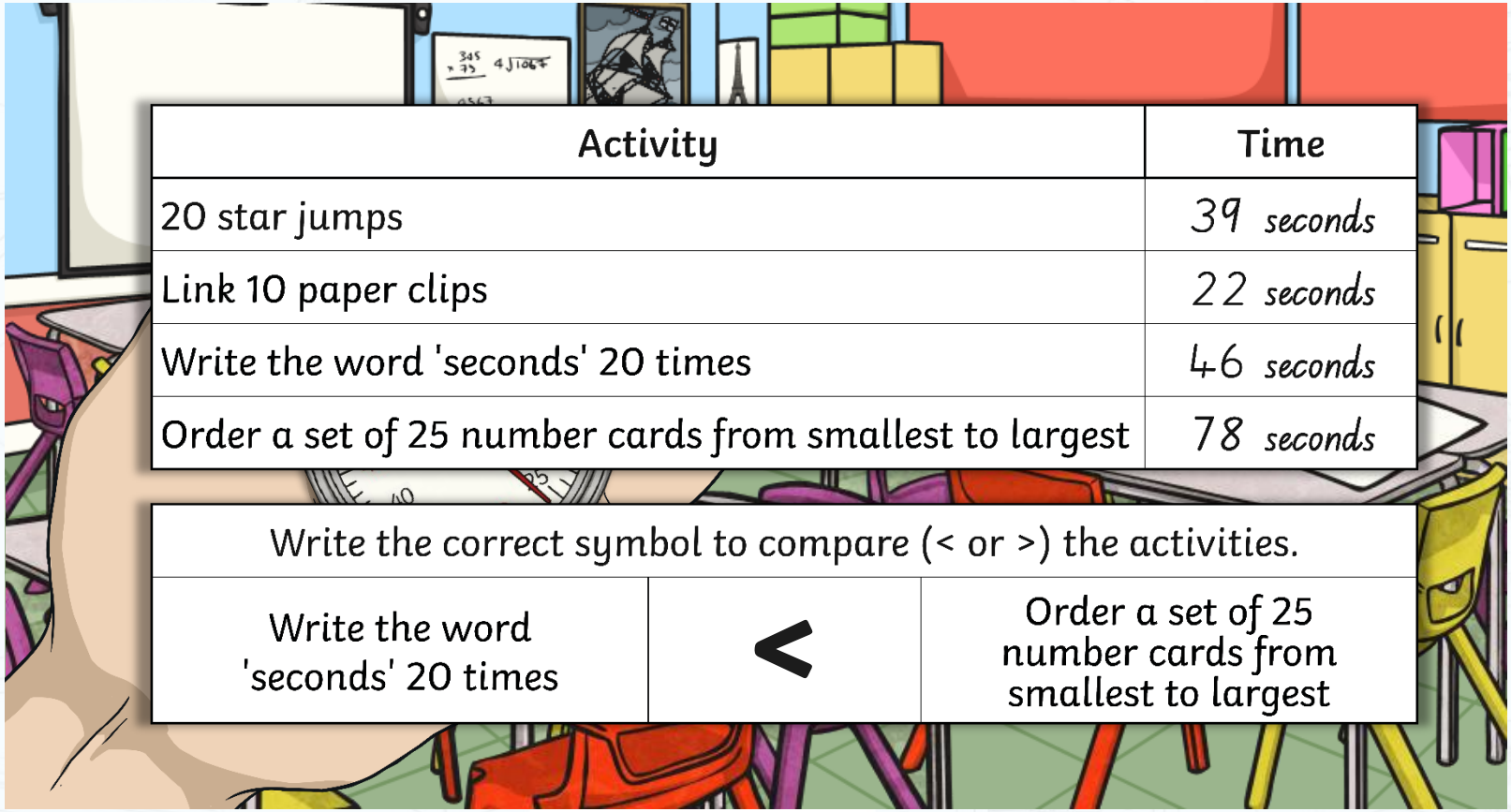


Activity	Time
20 star jumps	39 seconds
Link 10 paper clips	22 seconds
Write the word 'seconds' 20 times	46 seconds
Order a set of 25 number cards from smallest to largest	78 seconds

Write the correct symbol to compare (< or >) the activities.		
Write the word 'seconds' 20 times	>	20 star jumps

Comparing Activities

Here are the results of Tarjinder's timed activities.



Activity	Time
20 star jumps	39 seconds
Link 10 paper clips	22 seconds
Write the word 'seconds' 20 times	46 seconds
Order a set of 25 number cards from smallest to largest	78 seconds

Write the correct symbol to compare (< or >) the activities.		
Write the word 'seconds' 20 times	<	Order a set of 25 number cards from smallest to largest

Comparing Activities

Here are the results of Tarjinder's timed activities.

Activity	Time
20 star jumps	39 seconds
Link 10 paper clips	22 seconds
Write the word 'seconds' 20 times	46 seconds
Order a set of 25 number cards from smallest to largest	78 seconds

32 seconds

Work out the difference, in seconds, between the activities.

Write the word 'seconds' 20 times	and	Order a set of 25 number cards from smallest to largest

Comparing Activities

Here are the results of Tarjinder's timed activities.

Activity	Time
20 star jumps	39 seconds
Link 10 paper clips	22 seconds
Write the word 'seconds' 20 times	46 seconds
Order a set of 25 number cards from smallest to largest	78 seconds

24 seconds

Work out the difference, in seconds, between the activities.

Link 10 paper clips	and	Write the word 'seconds' 20 times

Comparing Activities

Here are the results of Tarjinder's timed activities.

Activity	Time
20 star jumps	39 seconds
Link 10 paper clips	22 seconds
Write the word 'seconds' 20 times	46 seconds
Order a set of 25 number cards from smallest to largest	78 seconds

56 seconds

Work out the difference, in seconds, between the activities.

Link 10 paper clips	and	Order a set of 25 number cards from smallest to largest

Comparing Activities

Here are the results of Tarjinder's timed activities.

Activity	Time
20 star jumps	39 seconds
Link 10 paper clips	22 seconds
Write the word 'seconds' 20 times	46 seconds
Order a set of 25 number cards from smallest to largest	78 seconds

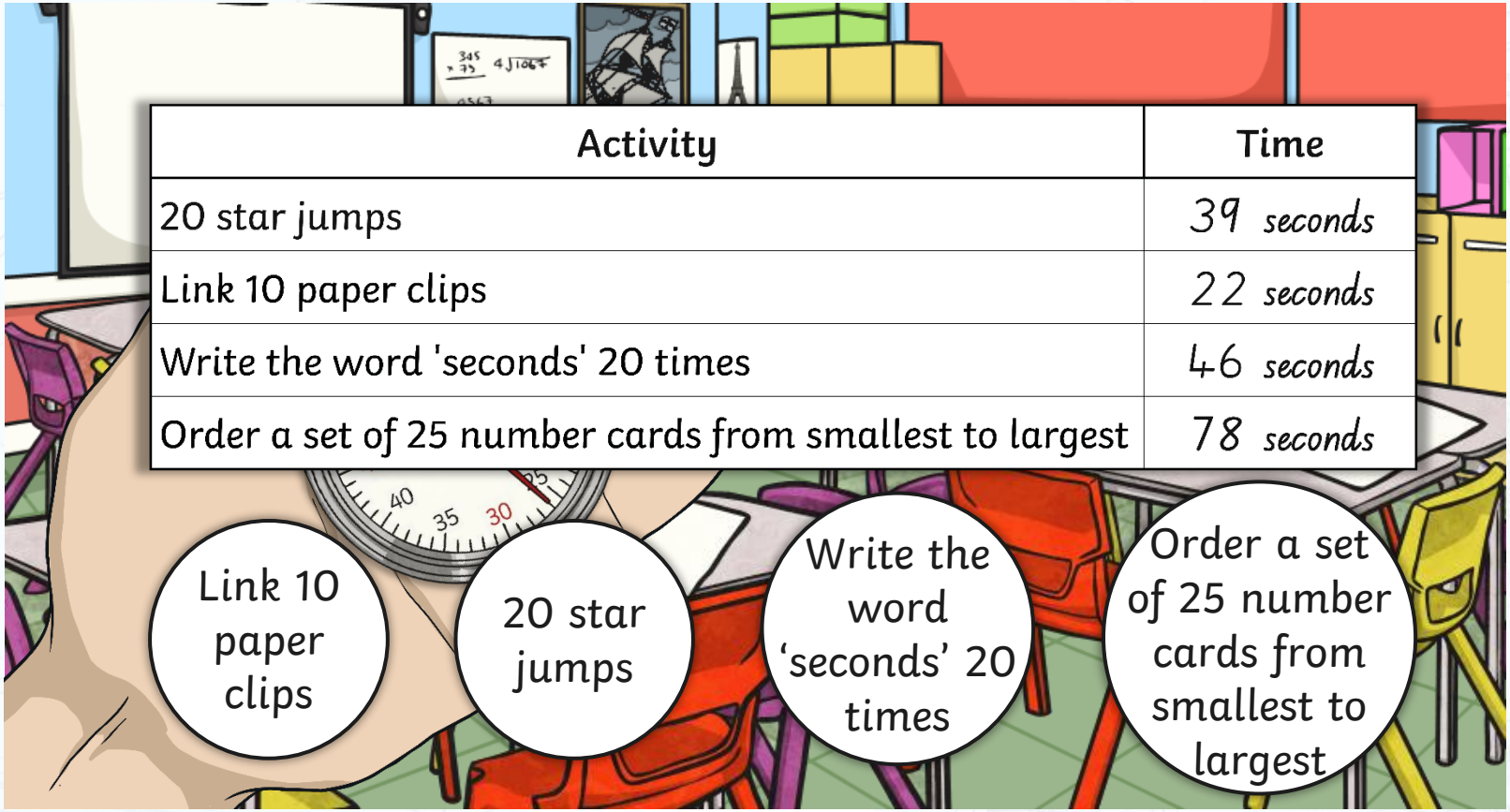
7 seconds

Work out the difference, in seconds, between the activities.

20 star jumps	and	Write the word 'seconds' 20 times

Ordering Activities

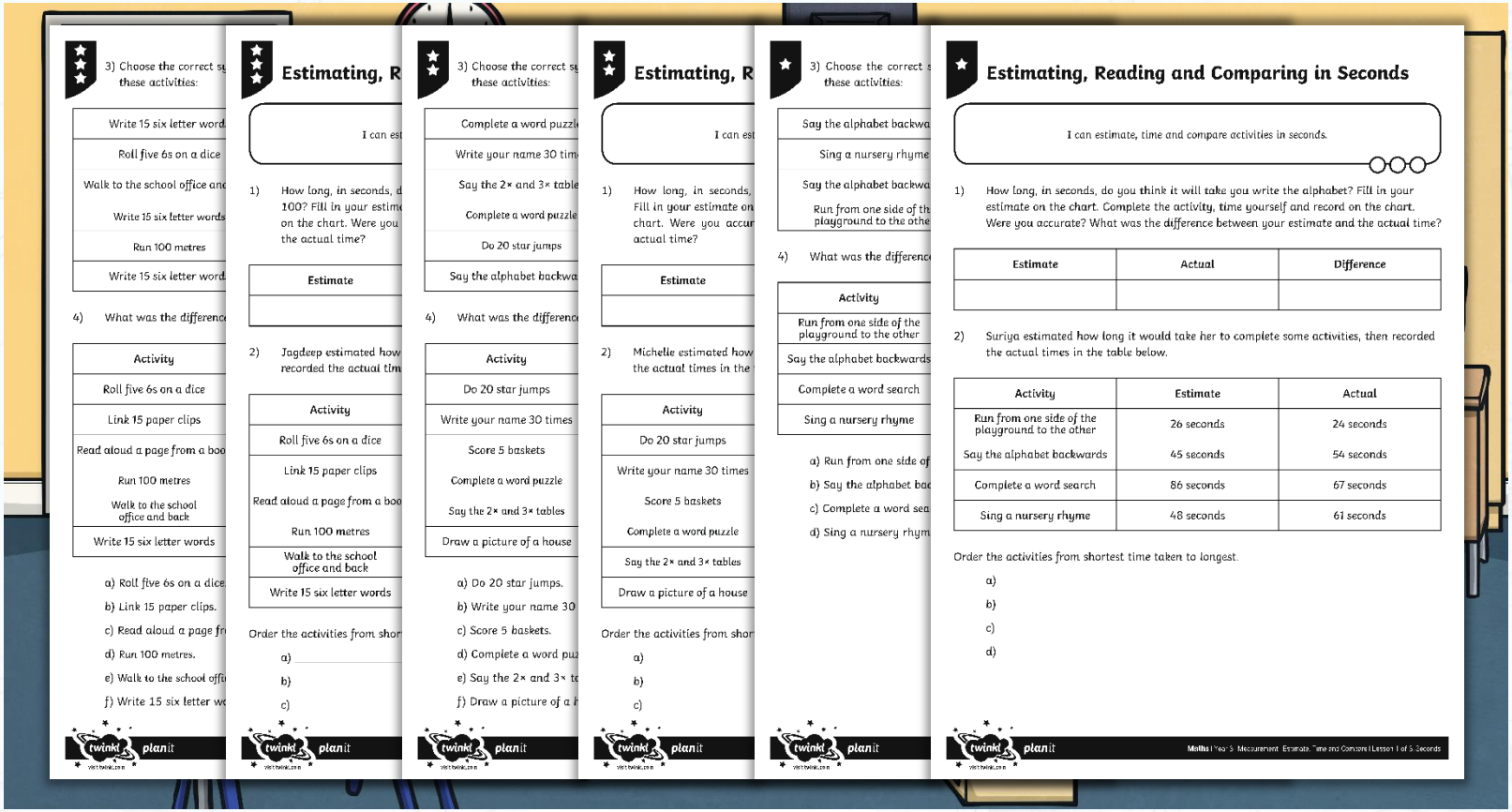
Order the activities from the activity that took the least time to the activity that took the most time.



Activity	Time
20 star jumps	39 seconds
Link 10 paper clips	22 seconds
Write the word 'seconds' 20 times	46 seconds
Order a set of 25 number cards from smallest to largest	78 seconds

Estimating, Reading and Comparing in Seconds

Use your terrific time skills to complete these activity sheets:



Estimating, Reading and Comparing in Seconds

I can estimate, time and compare activities in seconds.

1) How long, in seconds, do you think it will take you write the alphabet? Fill in your estimate on the chart. Complete the activity, time yourself and record on the chart. Were you accurate? What was the difference between your estimate and the actual time?

Estimate	Actual	Difference

2) Suriya estimated how long it would take her to complete some activities, then recorded the actual times in the table below.

Activity	Estimate	Actual
Run from one side of the playground to the other	26 seconds	24 seconds
Say the alphabet backwards	45 seconds	54 seconds
Complete a word search	86 seconds	67 seconds
Sing a nursery rhyme	48 seconds	61 seconds

Order the activities from shortest time taken to longest.

a)

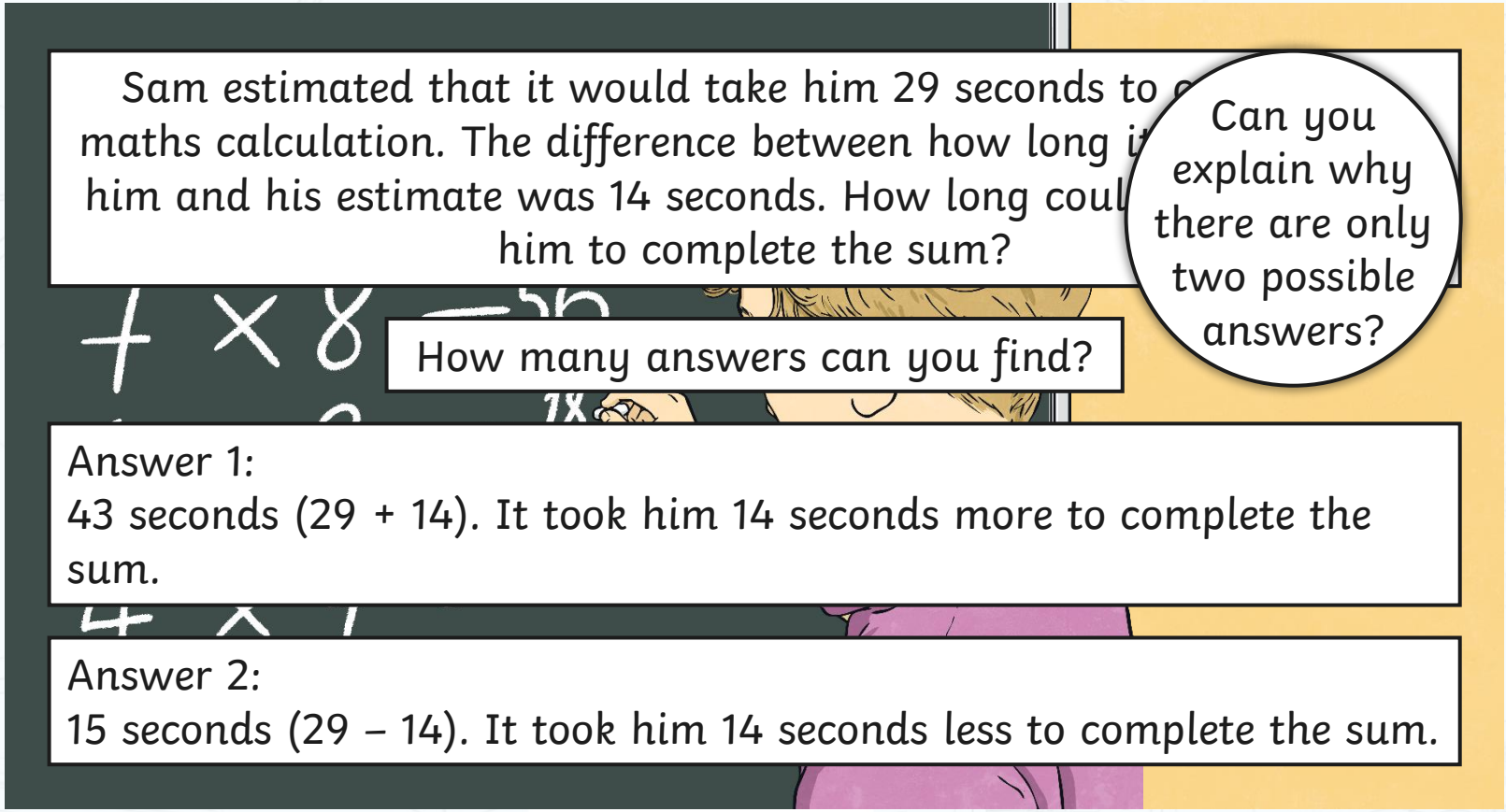
b)

c)

d)

How Long?

Can you solve this tricky time problem with your partner?

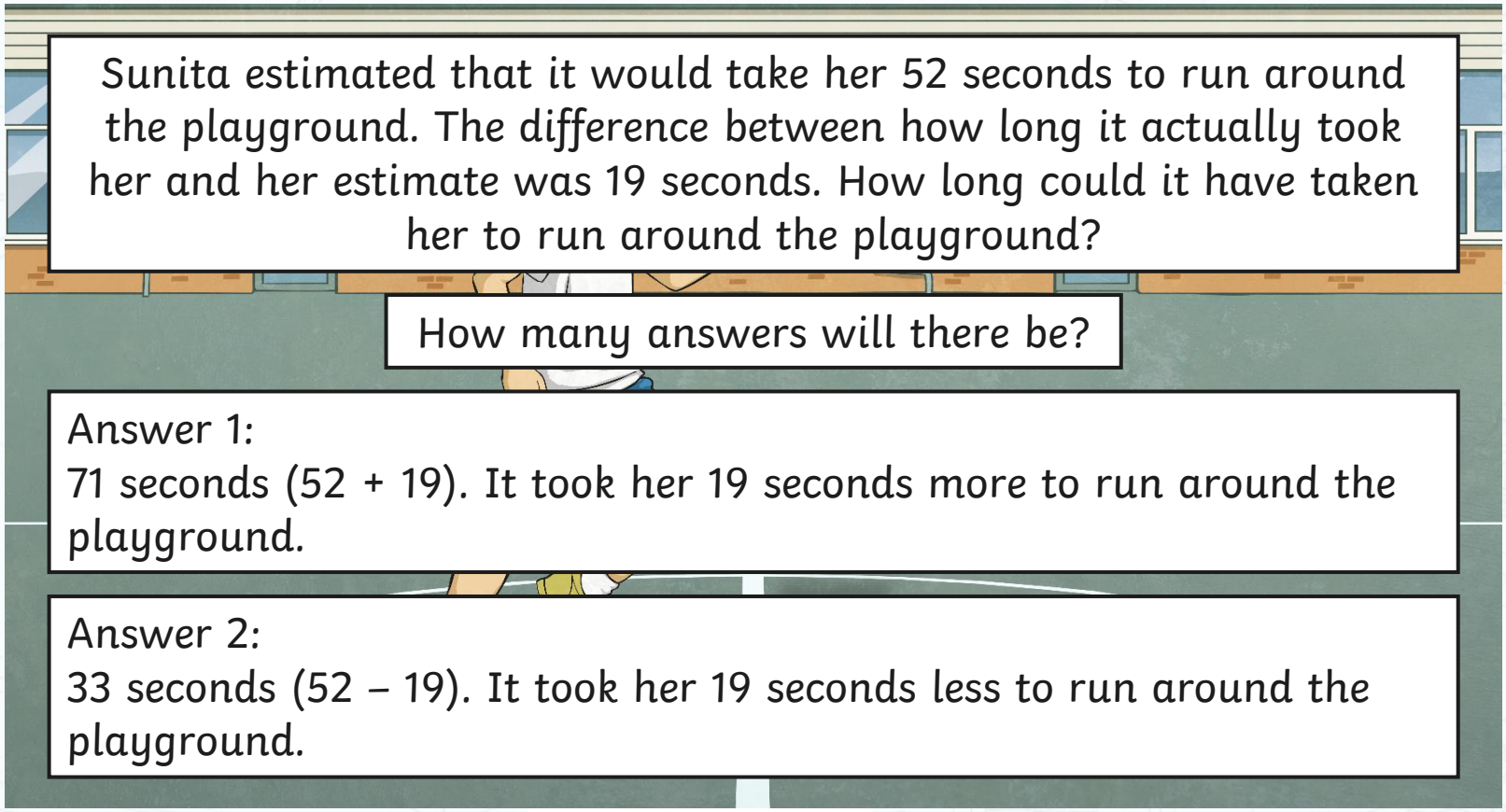


Answer 1:
43 seconds (29 + 14). It took him 14 seconds more to complete the sum.

Answer 2:
15 seconds (29 – 14). It took him 14 seconds less to complete the sum.

How Long?

Can you solve this tricky time problem with your partner?



Sunita estimated that it would take her 52 seconds to run around the playground. The difference between how long it actually took her and her estimate was 19 seconds. How long could it have taken her to run around the playground?

How many answers will there be?

Answer 1:
71 seconds (52 + 19). It took her 19 seconds more to run around the playground.

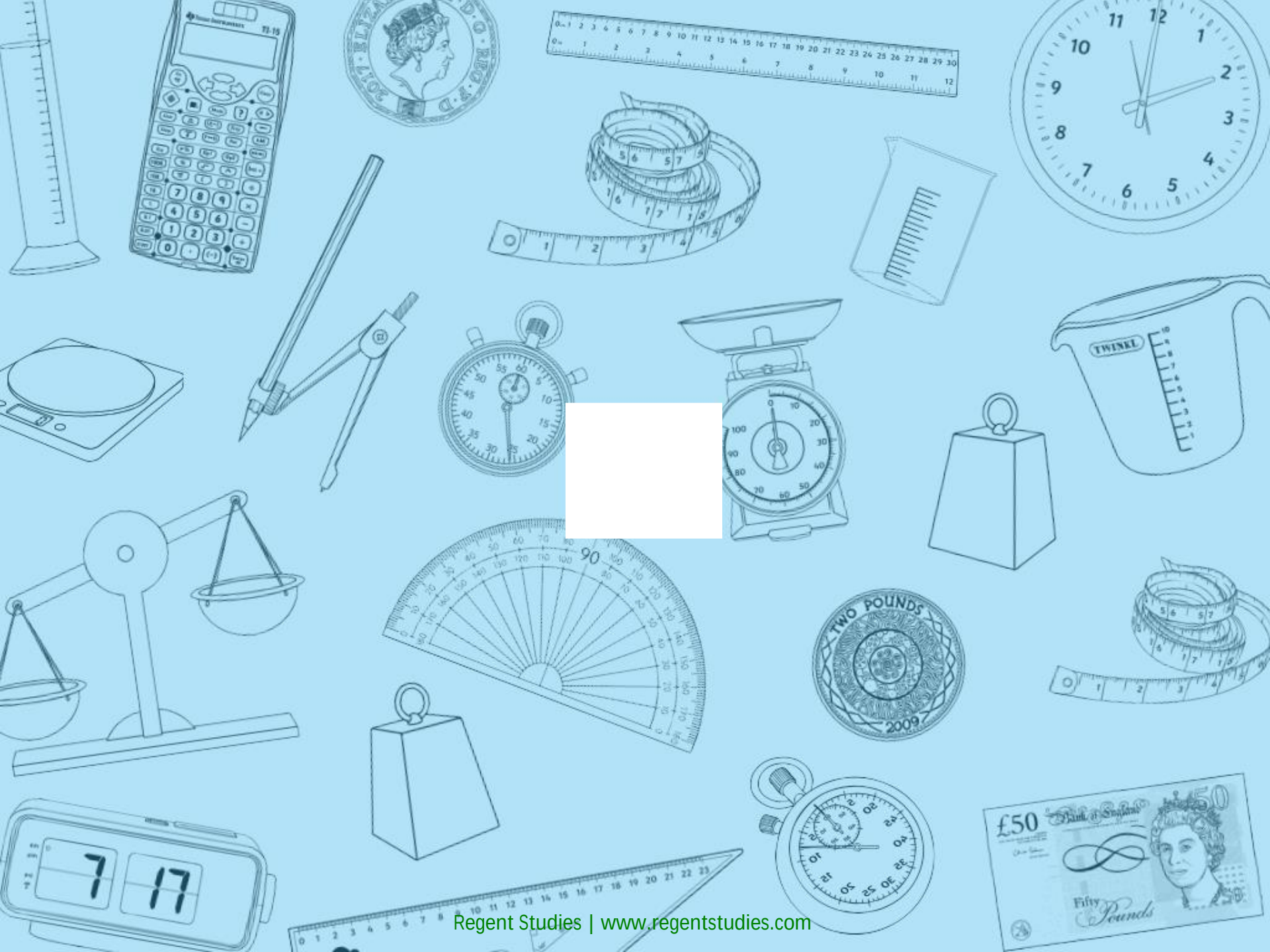
Answer 2:
33 seconds (52 – 19). It took her 19 seconds less to run around the playground.

Aim

- I can estimate, time and compare activities in seconds.

Success Criteria

- I can estimate how long an activity will last in seconds.
- I can time activities in seconds.
- I can compare timed activities in seconds.


TWINKL
TWO POUNDS
2009
£50
Fifty Pounds

Measurement | Seconds

I can estimate, time and compare activities in seconds.		
I can estimate how long an activity will last in seconds.		
I can time activities in seconds.		
I can compare timed activities in seconds.		

Measurement | Seconds

I can estimate, time and compare activities in seconds.		
I can estimate how long an activity will last in seconds.		
I can time activities in seconds.		
I can compare timed activities in seconds.		

Measurement | Seconds

I can estimate, time and compare activities in seconds.		
I can estimate how long an activity will last in seconds.		
I can time activities in seconds.		
I can compare timed activities in seconds.		

Measurement | Seconds

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seconds

minutes

hours

seconds

minutes

hours

seconds

minutes

hours