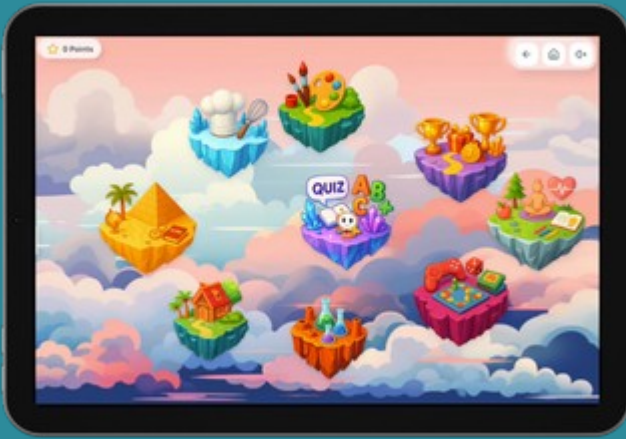


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Our Classroom Quantity Challenges - Foundation

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Teacher Quick Start

Purpose and preparation

Foundation: count separate Need and Have collections, choose add/take/no change and check enough. Diagnose one-to-one counting and small-group recognition in Lesson 1. Prepare up to 20 counters per pair (10 fixed goal markers, 10 working counters), mats, pencils, selected practice pages and an offline computer/display with editable PowerPoint. Need stays fixed; only counters inside Have count. Spare and Taken away stay outside.

Resources and access

Displays/models pp.8–12; three practice sets pp.13–30, each with support (0–5), core (0–10) and extension plus immediate red keys. Prep Station pp.31–38 includes mat and 8 cards; Decision Check pp.39–43 has 8 checking cards. Adults read short directions. Students speak, point, draw, use pictures or direct adult movement; an adult may read. No sentence writing is required. Hide answer pages during practice and assessment.

Actual virtual movement

Work offline in the presentation's Edit view: slides 10 and 15 are practice; slide 22 is the fresh assessment. Save a classroom working copy. Select and drag only individual round counters between Have, Spare and Taken away. Keep goal and Need markers and boundaries fixed. Students choose every move; an adult may operate the pointer. Count Have after moving. There is no automatic score. Undo moves or reopen the unchanged copy for the next student; never assess from a static screenshot alone.

Individual evidence across the week

Use pp.44–47 for fresh physical Need 10/Have 8 and virtual Need 4/Have 7; teacher-only zero/no-change copy p.48; record p.49 and rubric p.50. Keep keys out of view. Allow about 4 minutes per student across both modes and checks: about 100 minutes for 25 students. Begin rotations in Lessons 2–4 and use Lesson 5's 25-minute block plus ordinary independent-work blocks as needed. Record actual action, final quantity, check and content prompts. Group answers or paper work alone do not establish Secure; adult reading/recording does not lower achievement.

Lesson 1 - Need, Have and Make Enough

Focus

45 minutes. Keep the goal fixed; add objects to Have and check the final match.

Resources

Presentation slides 1–10; display p.8, model p.11; Prep Station pp.31–36; W 1 support/core pp.13–16; counters and mat p.32.

5 min - Diagnose

Show 4 counters and then the same 4 spread out. Ask students to count once, name the total and show how they checked. Compare separate Need 4/Have 2 collections. Listen for counting both sets together.

8 min - Model

Read Need 4; build 4 fixed goal markers and 2 counters inside Have. Think aloud: 'Need stays 4. Add 2 to Have. Now Have 4. Four matches four.' Count on Have; keep spare counters outside. Repeat Need 5/Have 3 with students choosing the amount.

12 min - Guided Prep Station

Pairs use the mat and addition cards Need 4/Have 2 and Need 5/Have 3. Maker changes Have, Checker counts and compares to Need; swap roles. Each student replays a turn. Ask 'What moved? What stayed? How do you know enough?'

10 min - Independent practice

Choose W 1 support or core. Students make an action, show the amount moved and draw/name final Have. Adults may reveal or record the student's decision. Observe one-to-one counting and goal separation before sharing keys.

5 min - Virtual practice

In Edit view on slide 10, a student chooses and moves 2 counters from Spare into Have 3 to meet Need 5. Students may direct the adult pointer. Count final Have 5; spare counters are not included. Reset the classroom copy.

5 min - Exit and next step

Fresh oral case Need 3/Have 1: add 2, final 3, check match. Record whether the student kept Need fixed and checked Have. Reteach separate collections if they changed the goal or counted spares.

Differentiation and access

Support: goals and Have within 0–5, touch-count and larger counters. Core: progress to 10 as secure. Extend: explain why the same collection stays the same after spreading, or show a second valid check. Keep oral/pointing access available.

Lesson 2 - Take Away the Extras

Focus

45 minutes. Remove only extras from Have, including removing all objects for zero.

Resources

Presentation slides 11–15; display p.9, model p.12; Prep Station cards pp.33–36; W 2 pp.19–24; counters, mat and teacher record p.49.

5 min - Retrieve

Build two separate collections. Count Have without counting goal markers or spares. Revisit an addition case and ask why Need never moves.

8 min - Model

Need 3/Have 5: take 2 into Taken away outside Have; final 3 matches Need. Model Need 6/Have 9, remove 3, count the 6 left. For Need 0/Have 4, take all 4 away; empty Have is 0, not the number removed.

12 min - Guided practice

Pairs use subtraction cards Need 3/Have 5, Need 6/Have 9 and Need 6/Have 9. Swap Maker/Checker roles. Add oral Need 4/Have 8: take 4, final 4. Ask students to point to the boundary that decides which objects count.

10 min - Independent choices

Choose W 2 at the appropriate level. Students select a useful action and show final Have. Ask a student to explain, writing choice using the current collection. Begin brief individual observation rotations with form a assessment keys hidden.

5 min - Virtual practice

On slide 15 in edit view, the student removes 3 from Have 9 into Taken away to meet Need 6. The adult may move only as directed. Count the 6 remaining inside Have, reset the copy and record the student's decision separately from pointer skill.

5 min - Exit and next step

Need 1/Have 3: take 2, final 1; ask for a check. Students who count removed objects as final Have return to clear outside/inside boundaries. Continue observation in later ordinary independent-work blocks.

Differentiation and access

Support: work within 0–5 and physically separate the removed objects. Core: use totals to 10. Extend: correct a mistaken current collection, explaining the exact extra amount. Adult reading, pointing and recording remain valid access supports.

Lesson 3 - Already Enough and Check Errors

Focus

45 minutes. Recognise no change and repair the current Have, not an old starting count.

Resources

Presentation slides 14,16-17,20-21; display p.10; Decision Check pp.39-43; W 3 pp.25-30; counters, mat and observation record.

5 min - Retrieve

Rebuild a taught add and take case. Ask students to identify fixed Need, current Have and outside counters before deciding anything.

8 min - Model

Need 7/Have 7: leave, move 0, final 7. Need 10/Have 10 also needs no change. Spread the same 7 objects and recount: still 7. Show Need 4/current Have 2 (after 1 was moved); add 1 now, final 4. Ignore the old starting amount.

15 min - Guided Decision Check

Pairs repair the 4 current-mismatch cards then check the boundary/zero/no-change cards. Maker decides from Have now; Checker checks only Have. Swap and replay so both act. For Need 5/Have 5 with Spare 4 outside, Have is 5, not 9.

7 min - Independent recording

Use one suitable W 3 level. Students mark the current action and amount, show final Have and explain a check by recounting, pointing or drawing. Observe content prompts separately from access support.

5 min - Compare strategies

Ask students to show counting every counter once, recognising a small group, or matching Have to Need. Even valid checks can confirm the same total. Continue individual physical/virtual relations while other students replay familiar kits.

5 min - Exit and next step

Present Need 5/Have 5 plus Spare 4 outside. Correct: leave, moved 0, final 5. Ask why the spares are excluded. Reteach boundary counting or no-change reasoning if needed.

Differentiation and access

Support: use 0-5 and compare collections by matching one to one. Core: include 7 and 10.

Extend: explain a false claim or repair a one-object mismatch without using the old action.

Accept a clear gesture or demonstration as an explanation.



Lesson 4 - Independent Prep Station

Focus

45 minutes. Choose, perform and check add/take/no-change actions independently.

Resources

Presentation slides 8–9,17–21; both kits pp.31–43; record pp.37–38; selected W 2/W 3; physical counters, offline slide 10 or 15 and individual observation record.

5 min - Retrieve

Review fixed Need, Have now, spare/removed boundaries, zero and no change. Ask students what makes a check useful.

8 min - Model a repair

Need 8/Have 5: add 3, final 8. Need 10/Have 7: add 3, final 10. Then model a mistake: Need 8, start Have 5, only 2 added gives current Have 7. Add 1 now. Adding the original 3 again would make 10, too many.

12 min - Independent kit turns

Pairs work through all 8 Prep Station cards. Make choices and moves; Checker checks. Swap roles and require each student to replay an independent turn. Use the two-turn record for Need 8/Have 5 and Need 6/Have 9; keep its answer page hidden.

10 min - Consolidate

Choose W 2 or W 3 according to observed need. Ask students to repair the present collection and explain errors. The teacher continues individual assessment rotations; peers practise without certifying another student's achievement.

5 min - Actual virtual turn

One small group practises student-chosen moves on editable slide 10 or 15. Students may direct the adult sinter. This five-minute turn is practice for one group, not evidence that the whole class has completed virtual assessment.

5 min - Exit and next step

Need 10/Have 7: add 3, final 10 and match. Note readiness for a fresh challenge. Schedule remaining individual observations in ordinary independent-work blocks rather than shortening the action/check demand.

Differentiation and access

Support: use the 0–5 cards, large counters and a clear mat. Core: use all totals to 10. Extend: explain why an incorrect current Have needs a different amount now or give a second check. Record independence in the mathematics, not handwriting speed.



Lesson 5 - A New Classroom Challenge

Focus

45 minutes. Gather individual evidence across actual physical and virtual tasks, zero and no change.

Resources

Fresh physical record pp.44–45; virtual record pp.46–47 and editable presentation slide 22; teacher cues p.48, observation p.49, rubric p.50; quiz 22 slides; familiar kits for independent work.

5 min - Retrieve

Students identify Need, Have and outside counters. Recall that zero can be empty and equal collections may need no change. Do not rehearse the fresh assessment answers.

6 min - Explain the process

Practise a different taught case: Need 3/Have 5, take 2, final 3. Explain that students choose a move and show a check. An adult can read directions, record or operate the pointer as the student directs. Hide all teacher keys.

25 min - Individual observation block

Physical: set fixed Need 10 and Have 8 with spare counters outside. Student adds 2 and checks final 10. Virtual: reset slide 2 to fixed Need 1/Have 7; student removes 3 into Taken away and checks final 4. Paper recording alone is insufficient. Also observe Need 6/Have 6 leave 0/final 6 and Need 0/Have 2 take 2/final 0, using p.48 out of view. Record actual action, final count, explanation and any correct prompt on p.49. Other students replay familiar kits or selected practice. Allow 100 minutes per student: 25 students need about 100 minutes across Lessons 2 and additional ordinary work blocks. Complete remaining observations for judging; this block alone cannot assess the whole class.

6 min - Quiz feedback

Use the 10-question quiz orally as a brisk class review. Invite an action and check, then reveal the matching black-text answer. Accept pointing or counter demonstrations. Group responses supplement, not replace, individual evidence.

3 min - Reflect and plan

Students show one useful checking strategy. Use the four-criterion rubric from both modes plus zero/no-change evidence. Secure requires independent mathematics; access supports do not reduce the level. Plan one specific next teaching step.

Differentiation and access

Offer larger counters, read directions and allow pointing, pictures or adult recording without supplying the solution. Record prompts that give a count/action/answer. If a student is not ready, use support practice and reassess with another equivalent fresh challenge; never invent evidence.

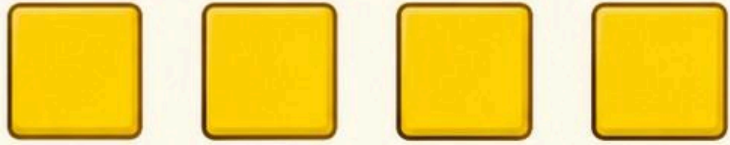


Need and Have

1

Need 4

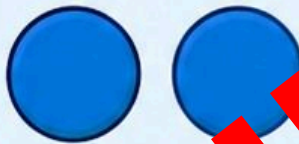
Need stays fixed



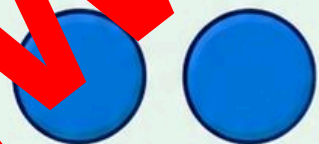
2

Have 2

Have



Spare



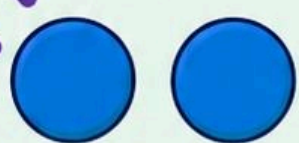
3

Add 2

Have



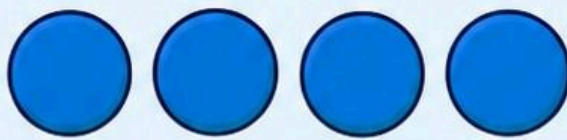
Spare



4

**Have 4.
Enough.**

Have

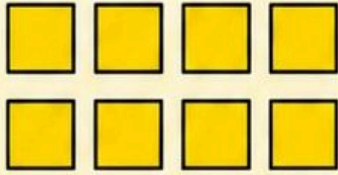


Spare

Count Have. Check it matches Need.

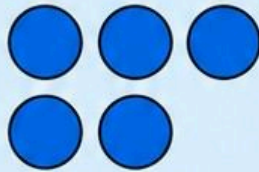
Add or take

Need 8



The goal stays the same.

Have 5

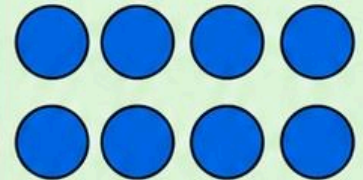


Spare



Add 3

Have 8

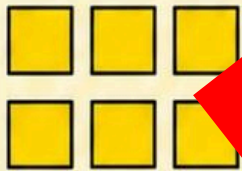


8 matches Need 8.

Add 3 more to make 8.

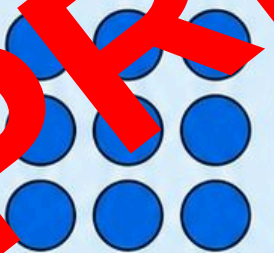


Need 6



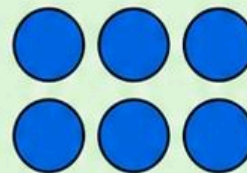
The goal stays the same.

Have 9



Take 3 away

Have 6



6 matches Need 6.

Taken away 3



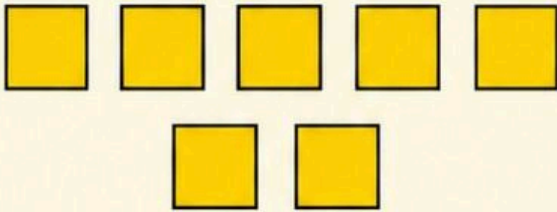
Take 3 away to make 6.



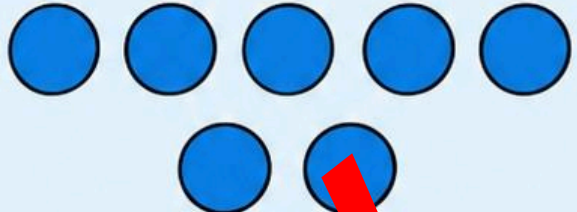
Check Have

1 Already enough

Need 7



Have 7



No change. Have 7 matches. Need 7.

2 Zero is enough

Need 0

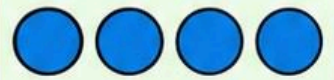
0

Have 4



Have 0

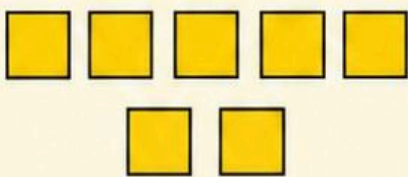
Taken away 4



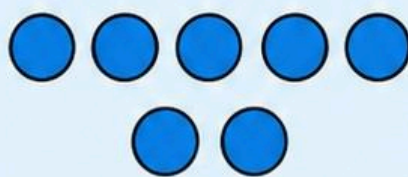
Take all 4 away. Empty Have matches. Need 0.

3 Spread out, still 7

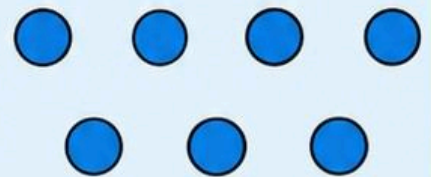
Need 7



Before Have 7



After Have 7



No change. Spreading them keeps 7.

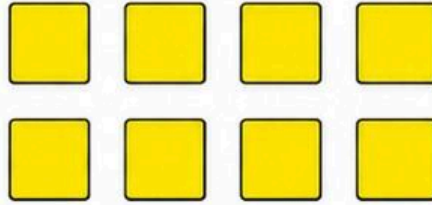
Make enough for 8

1 The goal



We need 8.

Need 8



Need stays fixed.

2 Start with what we have



We have 5.
Add 3 from
Spare.

Have 5



Spare 3

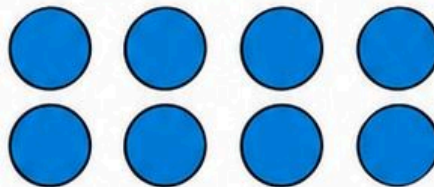


3 After adding



Count Have:
1, 2, 3, 4,
5, 6, 7, 8.

Have 8

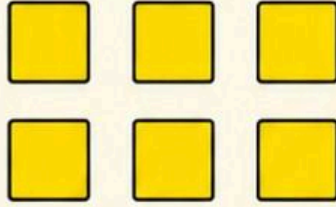


Spare 0

Have 8 matches Need 8. Enough.

Remove the extra

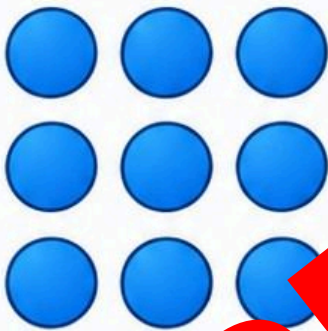
Need 6



Need stays fixed.

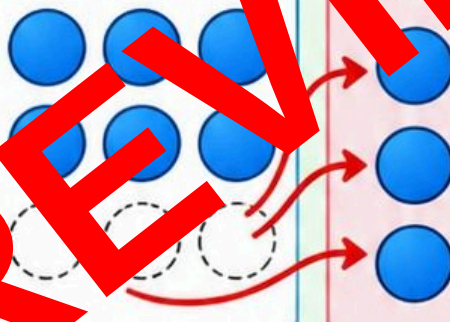
1. Before: Have 9

Have



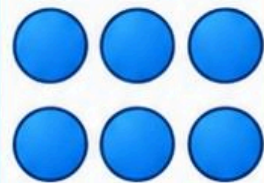
2. Take 3 away.

Have



3. After: Have 6

Have



Taken away 3



We have 9.
We need 6.
Take 3 out.

Count the 6 still
in Have.

6 matches
Need 6.



Name: _____

Support

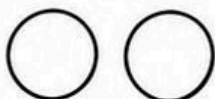
Make enough

Use counters. Make enough. Record it.

Need 4



Have 2

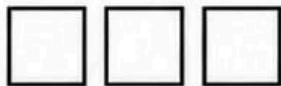


Add / Take / Leave

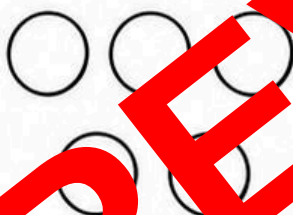
Moved:

Have now

Need 3



Have 5



Add / Take / Leave

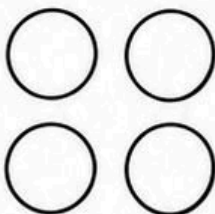
Moved:

Have now

Need 4



Have 4



Add / Take / Leave

Moved:

Have now

PREVIEW



Name: ANSWERS

Support

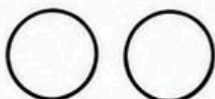
Make enough

Use counters. Make enough. Record it.

Need 4



Have 2

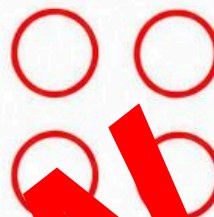


Add / Take / Leave

Moved:

2

Have now



4

Need 3



Have 5



Add / Take / Leave

Moved:

2

Have now

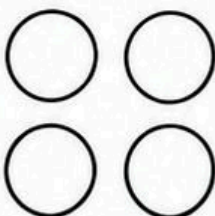


3

Need 4



Have 4

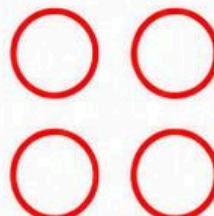


Add / Take / Leave

Moved:

0

Have now



4

Name: _____

Core

Make enough

Use counters. Make enough. Record it.

Need 8

Have 5

Add / Take / Leave

Moved:

--

Have now

--

Need 6

Have 9

Add / Take / Leave

Moved:

--

Have now

--

Need 10

Have 7

Add / Take / Leave

Moved:

--

Have now

--

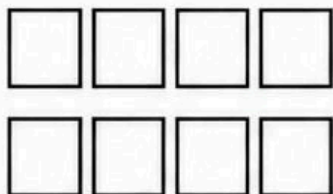
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Core

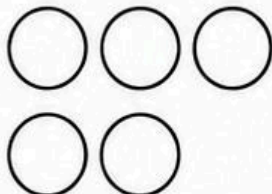
Make enough

Use counters. Make enough. Record it.

Need 8



Have 5



Add / Take / Leave

Moved:

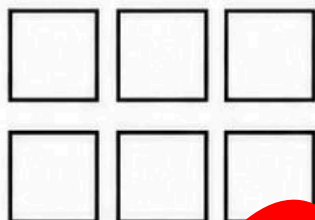
3

Have now

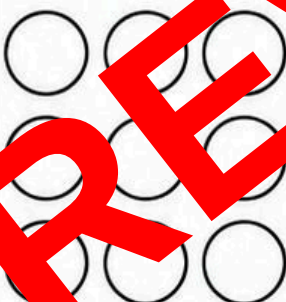


8

Need 6



Have 9

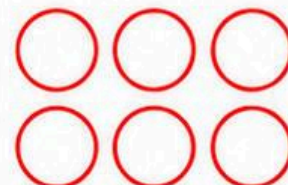


Add / Take / Leave

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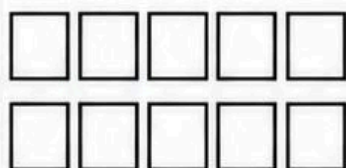
3

Have now

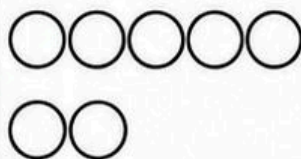


6

Need 10



Have 7

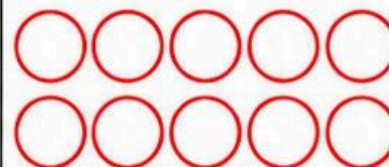


Add / Take / Leave

Moved:

3

Have now



10

Make enough

Name: _____

Extension

Need

0

Have

Add

Take

Leave

Moved

Have now

Final number

Check: point or draw

Need

Have

Add

Take

Leave

Moved

Have now

Final number

Check: point or draw

Need

Have

Add

Take

Leave

Moved

Have now

Final number

Check: point or draw



Make enough

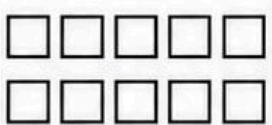
Name: ANSWERS

Extension

Need	Have		Moved	Have now	Final number
0		Add Take Leave	4	Empty	0

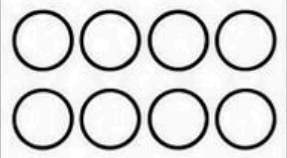
Check: point or draw

Empty Have matches Need 0.

Need	Have		Moved	Have now	Final number
		Add Take Leave	0		10

Check: point or draw

Have 10 already matches Need 10.

Need	Have		Moved	Have now	Final number
		Add Take Leave	4		4

Check: point or draw

Have 4 matches Need 4.

Name: _____

Support

Choose an action

Point or circle. Make enough. Check.

Need

☐☐☐☐

Have

☐☐

Add 2

Take 2

Have now

How many?

Check: point, draw or tell.

Need

☐☐☐

Have

☐☐☐☐☐☐

Take 2

Leave

Have now

How many?

Check: point, draw or tell.

Need

☐☐☐☐☐

Have

☐☐☐☐☐☐

Leave

Take 1

Have now

How many?

Check: point, draw or tell.

Name: ANSWERS

Support

Choose an action

Point or circle. Make enough. Check.

Need	Have		Have now	How many?
☐ ☐ ☐ ☐	☐ ☐	Add 2 Take 2		4

Check: point, draw or tell.

Have 4 matches Need 4.

Need	Have		Have now	How many?
☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐	Take 2 Leave		3

Check: point, draw or tell.

Have 6 matches Need 3.

Need	Have		Have now	How many?
☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐	Leave Take 1		5

Check: point, draw or tell.

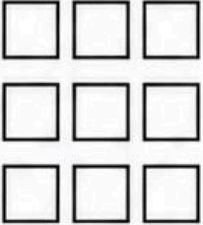
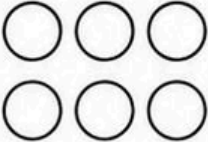
Already enough. No change.

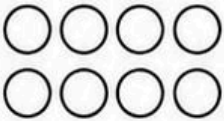
Choose an action

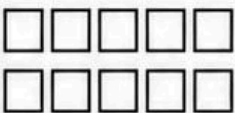
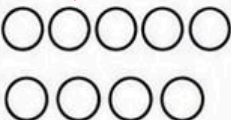
Core

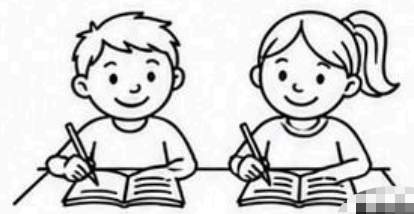
Name: _____

Point or circle. Make enough. Check.

Need 9 	Have 6 	Choose an action Add 3 Add 2	Have now	How many? 	Check: point, draw or tell
---	--	--	-----------------	---------------------------------	-----------------------------------

Need 4 	Have 8 	Choose an action Take 4 Take 3 Take 2	Have now	How many? 	Check: point, draw or tell
---	--	--	-----------------	---------------------------------	-----------------------------------

Need 10 	Have 9 	Choose an action Add 1 Leave	Have now	How many? 	Check: point, draw or tell
--	--	--	-----------------	---------------------------------	-----------------------------------

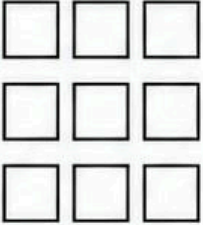
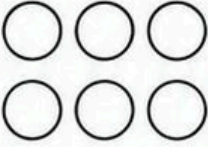


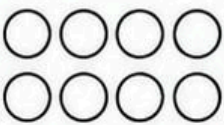
Choose an action

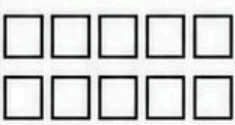
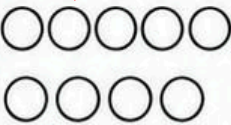
Core

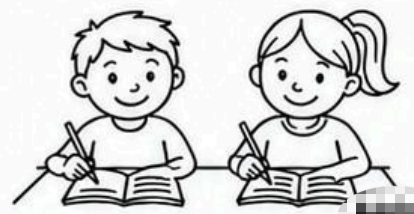
Name: **ANSWERS**

Point or circle. Make enough. Check.

Need 9 	Have 6 	Choose an action Add 3 Add 2	Have now 	How many? 9	Check: point, draw or tell 9 matches Need 9.
---	--	---	---	----------------------------------	--

Need 4 	Have 8 	Choose an action Take 4 Take 3	Have now 	How many? 4	Check: point, draw or tell 4 matches Need 4.
---	--	---	--	----------------------------------	--

Need 10 	Have 9 	Choose an action Add 1 Leave	Have now 	How many? 10	Check: point, draw or tell 10 matches Need 10.
--	--	---	--	-----------------------------------	--



Fix it now

Name: _____

Extension

Have is 7 now. Choose a correction. Check.

Need 8

Have 7 NOW

☐ Add 1

☐ Take 1

Have now (after correction)

--

How many?

--

Check: point, draw or tell.

Need 6

Have 7 NOW

☐ Take 1

☐ Add 1

Have now (after correction)

--

How many?

--

Check: point, draw or tell.

Need 7

Have 7 NOW

☐ Leave

☐ Add 1

Have now (after correction)

--

How many?

--

Check: point, draw or tell.

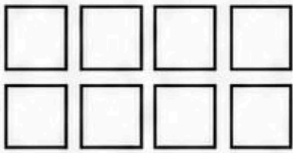
Fix it now

Name: ANSWERS

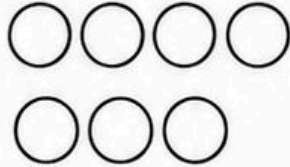
Extension

Have is 7 now. Choose a correction. Check.

Need 8



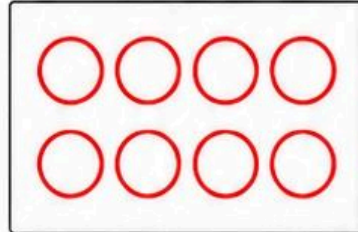
Have 7 NOW



☒ Add 1

☐ Take 1

Have now (after correction)



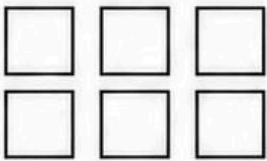
How many?

8

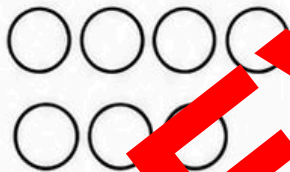
Check: point, draw or tell.

Add 1 to the current 7. Have 8 matches Need 8.

Need 6



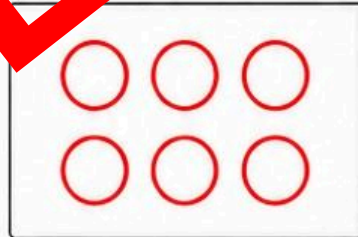
Have 7 NOW



☒ Take 1

☐ Add 1

Have now (after correction)



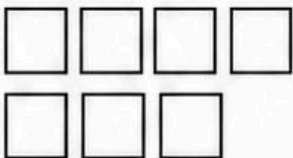
How many?

6

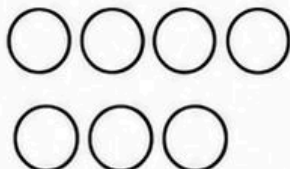
Check: point, draw or tell.

Take 1 from the current 7. Have 6 matches Need 6.

Need 7



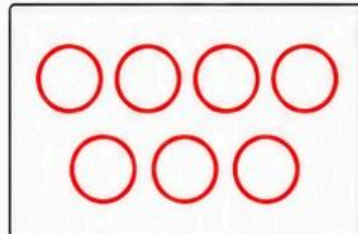
Have 7 NOW



☒ Leave

☐ Add 1

Have now (after correction)



How many?

7

Check: point, draw or tell.

No change. Have 7 already matches Need 7.

Repair and check

Support

Name: _____

This is Have now. Fix it. Check.

Need 4 	Add / Take / Leave ☐ Add ☐ Take ☐ Leave Moved 	Have now after correction How many?
Have 3 NOW 		Check: point, draw or tell.

Need 2 	Add / Take / Leave ☐ Add ☐ Take ☐ Leave Moved 	Have now after correction How many?
Have 3 NOW 		Check: point, draw or tell.



Repair and check

Support

Name: ANSWERS

This is Have now. Fix it. Check.

Need 4



Add / Take / Leave



Add



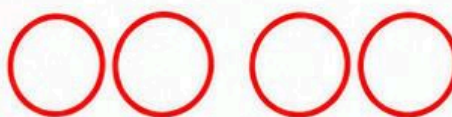
Take



Leave

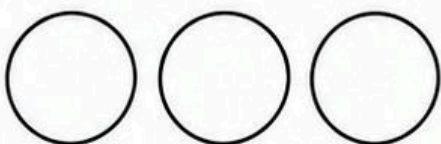
Have now after correction

How many?



4

Have 3 NOW



Moved

1

Check: point, draw or tell.

Add 1. Have 4 matches Need 4.

Need 2



Add / Take / Leave



Add



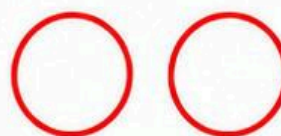
Take



Leave

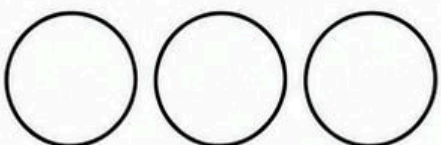
Have now after correction

How many?



2

Have 3 NOW



Moved

1

Check: point, draw or tell.

Take 1. Have 2 matches Need 2.

Repair and check

Name: _____

Core

This is Have now. Fix it. Check.

Need 8

Have 6 NOW

What do I do?

Add

Take

Leave

Moved:

Have now after correction

How many
now?

Check: point, draw or tell.

Need 6

Have 8 NOW

What do I do?

Add

Take

Leave

Moved:

Have now after correction

How many
now?

Check: point, draw or tell.



Repair and check

Name: ANSWERS

Core

This is Have now. Fix it. Check.

Need 8

Have 6 NOW

What do I do?

Add

Take

Leave

Moved:

2

Have now after correction

How many now?

8

Check: point, draw or tell.

Add 2. Have 8 matches Need 8.

Need 6

Have 8 NOW

What do I do?

Add

Take

Leave

Moved:

2

Have now after correction

How many now?

6

Check: point, draw or tell.

Take 2. Have 6 matches Need 6.



Repair and check

Extension

Name: _____

Need 5	Have 5	Spare 4
--	--	--

Someone says: Have is 9.
Check the claim.

What do you do? Add Take Leave Moved:	Have now (draw): How many now?
--	--

Check: point, draw or tell.

Need 7	Have 7 The same 7, spread out.
--	---

Someone says: too many!
Check the claim.

What do you do? Add Take Leave Moved:	Have now (draw): How many now?
--	--

Check: point, draw or tell.

Repair and check

Extension

Name: _____ **ANSWERS**

Need 5

--	--	--	--	--

Have 5

--	--	--	--	--

Spare 4

--	--	--	--

Someone says: Have is 9.
Check the claim.

What do you do?

- ☐ Add
- ☐ Take
- ☒ Leave

Moved:

0

Have now (draw):

--	--	--	--	--

How many now?

5

Check: point, draw or tell.

No change. Count Have 5. Spare 4 stay outside.

Need 7

--	--	--	--	--	--	--

Have 7

--	--	--	--	--	--	--

The same 7, spread out.

Someone says: too many!
Check the claim.

What do you do?

- ☐ Add
- ☐ Take
- ☒ Leave

Moved:

0

Have now (draw):

--	--	--	--	--	--	--

How many now?

7

Check: point, draw or tell.

No change. The same 7 stay 7 when spread out.

Prep Station

Get ready

2 students.

Need/Have mat and cards.

Up to 20 large counters:

up to 10 fixed goal markers
and up to 10 working counters.

Keep unused counters off the mat.

Roles

Maker moves working counters.
Checker counts Have.
Swap each turn.

Rules

1. Read the card.
2. Build Need and Have.
3. Decide: add, take or leave.
4. Move only working counters.
5. Count Have. Match Need.
6. Swap roles.

Boundary reminder

Need stays fixed. Spare and Taken away stay outside Have.
Goal markers are not spare counters.

Worked example

Card

Add 2

Before

Need 4



Have 2



Spare 2



After

Need 4



Have 4



Spare 0

Have 4 matches Need 4.

Need and Have mat

Name: _____

Need stays fixed. Change Have. Check.

Need

Fixed goal markers

Have

Count these working counters

Spare

Taken away

Count Have. Spare and Taken away stay outside.

PREVIEW

Prep Station cards

Set 1

Name: _____

Need 4



Have 2



Make enough. Check.

Add

Take

Leave

Moved

Have now

Draw the final set here:

Need 5



Have 3



Make enough. Check.

Add

Take

Leave

Moved

Have now

Draw the final set here:

Need 3



Have 5



Make enough. Check.

Add

Take

Leave

Moved

Have now

Draw the final set here:

Need 0

Have 4



Make enough. Check.

Add

Take

Leave

Moved

Have now

Draw the final set here:



Prep Station cards

Set 1

Name: **ANSWERS**

Need 4



Have 2



Make enough. Check.

Add

Take

Leave

Moved

2

Have now

4

Draw the final set here:



Need 5



Have 3



Make enough. Check.

Add

Take

Leave

Moved

2

Have now

5

Draw the final set here:



Need 3



Have 5



Make enough. Check.

Add

Take

Leave

Moved

2

Have now

3

Draw the final set here:



Need 0



Have 4

Make enough. Check.

Add

Take

Leave

Moved

4

Have now

0

Draw the final set here:

Empty

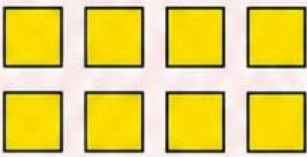


Prep Station cards

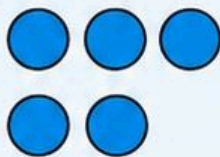
Set 2

Name: _____

Need 8



Have 5



Make enough. Check.

Add

Take

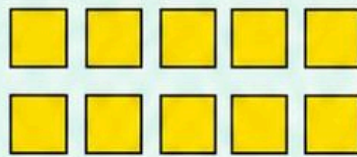
Leave

Moved:

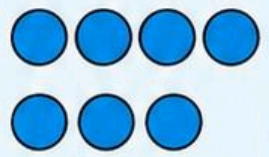
Have now:

Draw the counters you have now (up to 10).

Need 10



Have 7



Make enough. Check.

Add

Take

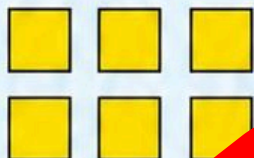
Leave

Moved:

Have now:

Draw the counters you have now (up to 10).

Need 6



Have 9



Make enough. Check.

Add

Take

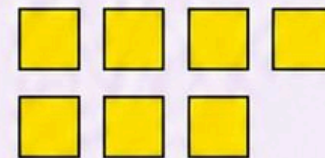
Leave

Moved:

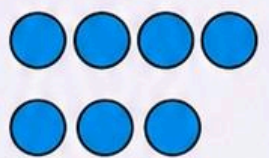
Have now:

Draw the counters you have now (up to 10).

Need 7



Have 7



Make enough. Check.

Add

Take

Leave

Moved:

Have now:

Draw the counters you have now (up to 10).

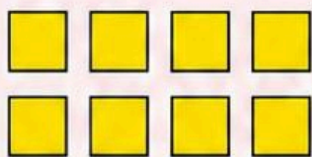


Prep Station cards

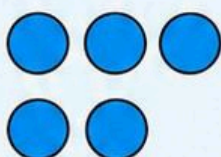
Set 2

Name: **ANSWERS**

Need 8



Have 5



Make enough. Check.

Add

Take

Leave

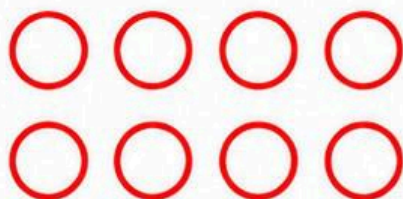
Moved:

3

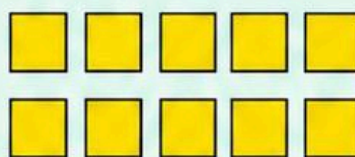
Have now:

8

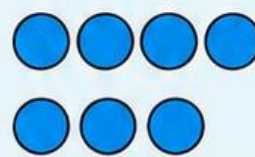
Draw the counters you have now (up to 10).



Need 10



Have 7



Make enough. Check.

Add

Take

Leave

Moved:

3

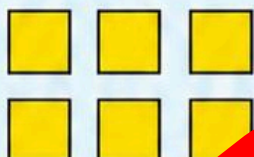
Have now:

10

Draw the counters you have now (up to 10).



Need 6



Have 9



Make enough. Check.

Add

Take

Leave

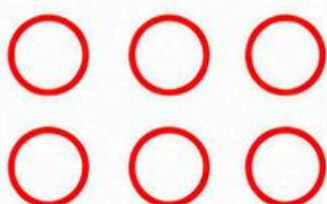
Moved:

3

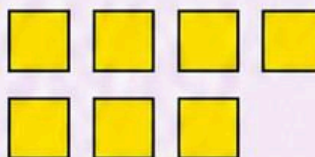
Have now:

6

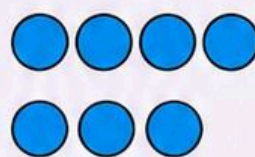
Draw the counters you have now (up to 10).



Need 7



Have 7



Make enough. Check.

Add

Take

Leave

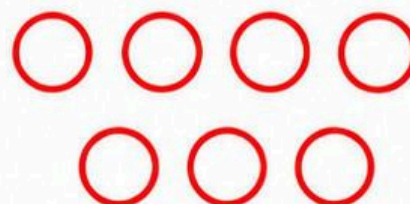
Moved:

0

Have now:

7

Draw the counters you have now (up to 10).



Prep Station record

Name: _____

Make enough with counters. Record each turn. Check.

Two turns

Turn 1

Need 8

Have 5 at start

Need:

Have at start:

Add

Take

Leave (circle one)

Moved:

Have at end:

Draw Have at end:

Check: point, draw or tell.

Turn 2

Need 6

Have 9 at start

Need:

Have at start:

Add

Take

Leave (circle one)

Moved:

Have at end:

Draw Have at end:

Check: point, draw or tell.

Prep Station record

Name: ANSWERS

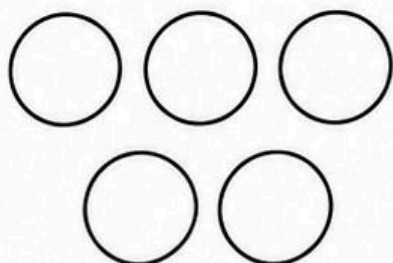
Make enough with counters. Record each turn. Check.

Two turns

Turn 1

Need 8

Have 5 at start



Need: **8**

Have at start: **5**

Add

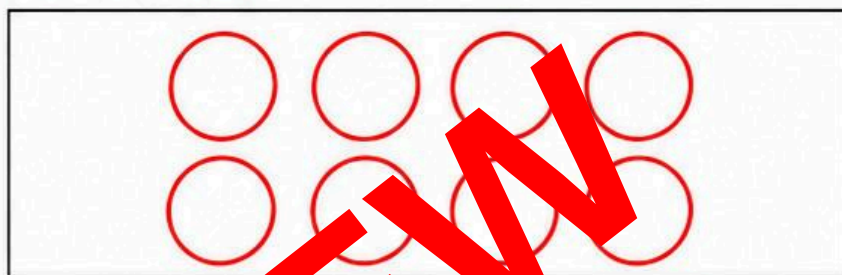
Take

Leave (circle one)

Moved: **3**

Have at end: **8**

Draw Have at end:



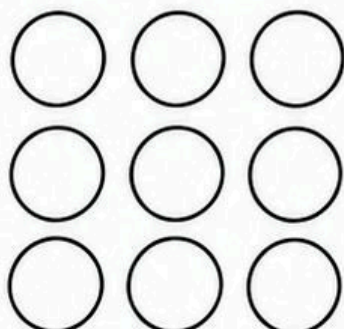
Check: point, draw or tell.

Have 8 matches Need 8.

Turn 2

Need 6

Have 9 at start



Need: **6**

Have at start: **9**

Add

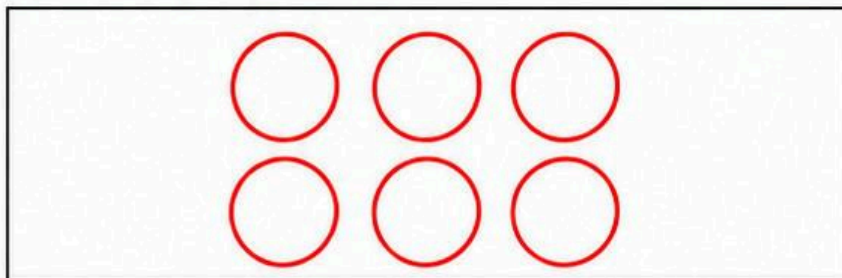
Take

Leave (circle one)

Moved: **3**

Have at end: **6**

Draw Have at end:



Check: point, draw or tell.

Have 6 matches Need 6. Removed 3 stay outside.

Decision Check

Get ready

2 students.
Decision Check cards.
Need/Have mat.
Up to 20 counters: up to 10 goal markers and up to 10 working counters.
Keep unused counters off the mat.

Roles

Maker chooses and moves.
Checker counts Have.
Swap each turn.

Rules

- 1 Read the card.
- 2 Build fixed Need and Have NOW.
- 3 Choose a correction: add, take or leave.
- 4 Move the right amount.
- 5 Count Have and match Need.
- 6 Show or tell your check. Swap.

Reminder

Need stays fixed. Spare and Taken away stay outside Have.

Worked example: CURRENT – repeat

Decision: Add 1

Before: Have 3 NOW

Need (fixed)



Have (3 NOW)



Spare (1)



After: Have 4

Need (fixed)



Have (4)



Spare (0)

Check

Have 4 matches Need 4.



Decision Check cards

Fix it now

Name: _____

Need 4



Have 3 NOW



Choose a correction. Check.

Add

Take

Leave

Moved amount:

Final have now:

Draw the final group (have now):

Need 2



Have 3 NOW



Choose a correction. Check.

Add

Take

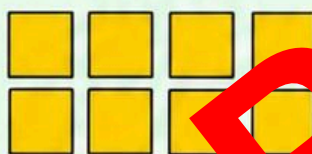
Leave

Moved amount:

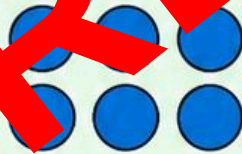
Final have now:

Draw the final group (have now):

Need 8



Have 6 NOW



Choose a correction. Check.

Add

Take

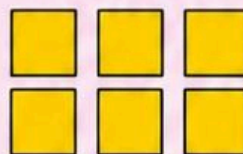
Leave

Moved amount:

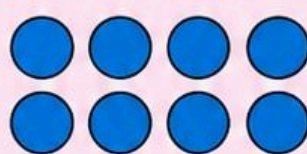
Final have now:

Draw the final group (have now):

Need 6



Have 8 NOW



Choose a correction. Check.

Add

Take

Leave

Moved amount:

Final have now:

Draw the final group (have now):

Decision Check cards

Fix it now

Name: **ANSWERS**

Need 4



Have 3 NOW



Choose a correction. Check.

Add

Take

Leave

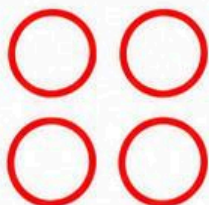
Moved amount:

1

Final have now:

4

Draw the final group (have now):



4 matches Need 4. ✓

Need 2



Have 3 NOW



Choose a correction. Check.

Add

Take

Leave

Moved amount:

1

Final have now:

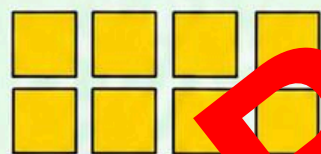
2

Draw the final group (have now):

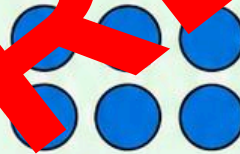


2 matches Need 2. ✓

Need 8



Have 6 NOW



Choose a correction. Check.

Add

Take

Leave

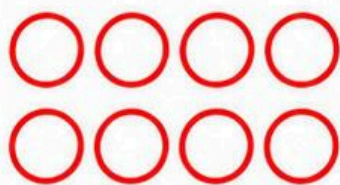
Moved amount:

2

Final have now:

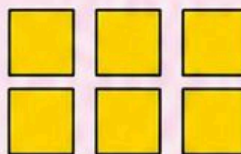
8

Draw the final group (have now):

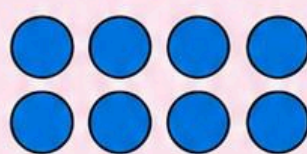


8 matches Need 8. ✓

Need 6



Have 8 NOW



Choose a correction. Check.

Add

Take

Leave

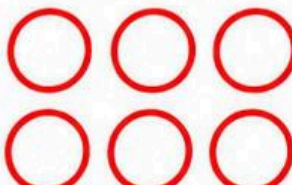
Moved amount:

2

Final have now:

6

Draw the final group (have now):



6 matches Need 6. ✓

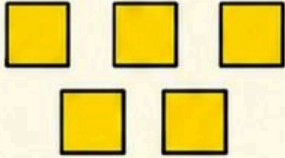
Decision Check cards

Name: _____

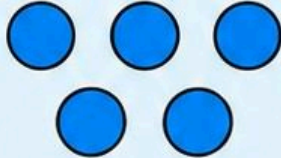
Check Have

Someone says: Have is 9.

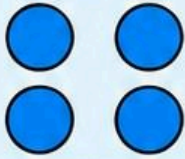
Need 5



Have 5



Spare 4



Check. Change Have?

Add

Take

Leave

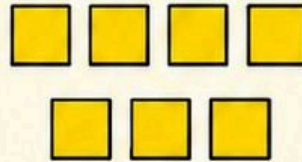
Moved:

Have now:

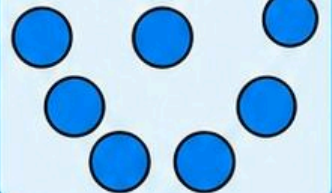
Check Have

Someone says: Too many!

Need 7



Have 7



The same 7, spread out.

Check. Change Have?

Add

Take

Leave

Moved:

Have now:

Check Have

Need 0. Make enough.

Need 0

Have 2



Check. Change Have?

Add

Take

Leave

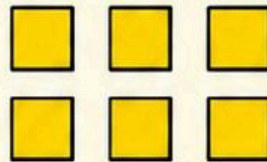
Moved:

Have now:

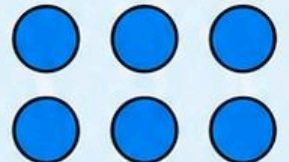
Check Have

Already enough?

Need 6



Have 6



Check. Change Have?

Add

Take

Leave

Moved:

Have now:



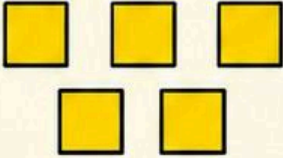
Decision Check cards

Name: **ANSWERS**

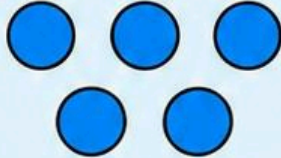
Check Have

Someone says: Have is 9.

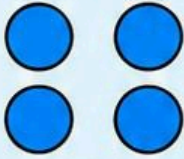
Need 5



Have 5



Spare 4



Check. Change Have?

Add

Take

Leave

Moved: **0**

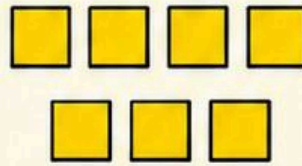
Have now: **5**

Only have: 5

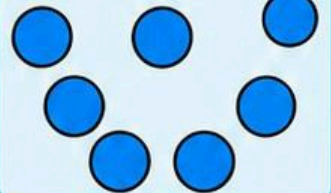
Check Have

Someone says: Too many!

Need 7



Have 7



The same 7, spread out.

Check. Change Have?

Add

Take

Leave

Moved: **0**

Have now: **7**

Same 7.

Check Have

Need 0. Make enough.

Need 0

Have 2



Check. Change Have?

Add

Take

Leave

Moved: **2**

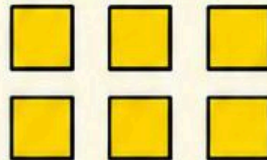
Have now: **0**

Empty Have

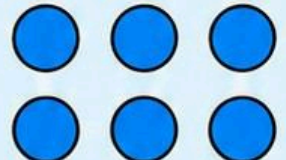
Check Have

Already enough?

Need 6



Have 6



Check. Change Have?

Add

Take

Leave

Moved: **0**

Have now: **6**

6 matches 6.

My Physical Challenge

Foundation

Name: _____ Date: _____

Use real counters. Make enough. Show how you checked.

Need 10 (fixed)

Have 8 (start)

Need stays. Change Have.



Add



Take



Leave

I moved:

--

Draw Have now.

Have now:

--

My check

Speak, point or draw. An adult may record.



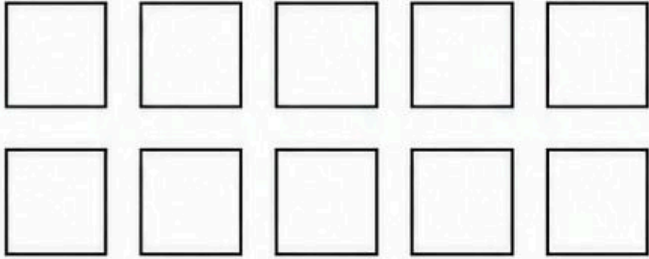
My Physical Challenge

Foundation

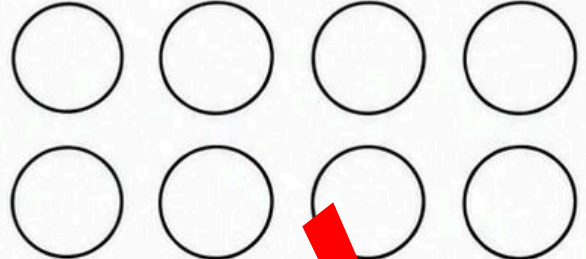
Name: ANSWERS Date: _____

Use real counters. Make enough. Show how you checked.

Need 10 (fixed)



Have 8 (start)



Need stays. Change Have



Add



Take

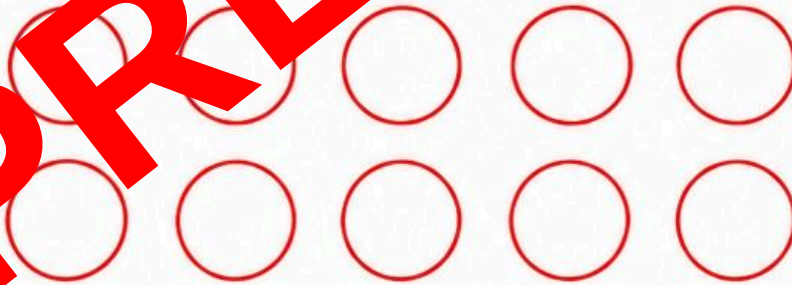


Leave

I moved:

2

Draw Have now.



Have now:

10

My check

Speak, point or draw. An adult may record.



I added 2. I counted each counter once.

Have 10 matches Need 10.

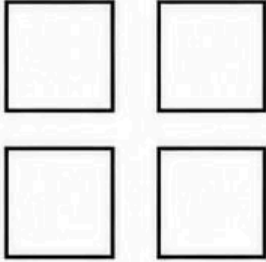
My Virtual Challenge

Foundation

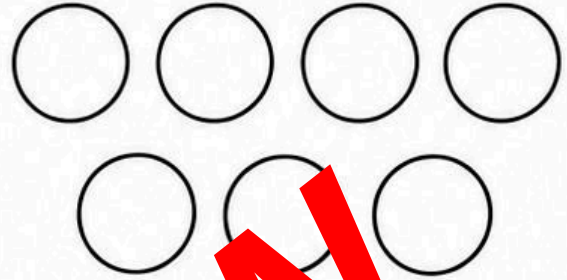
Name: _____ Date: _____

Move the screen counters. Make enough.
You may tell an adult where to move.

Need 4 (fixed)



Have 7 (start)



Need stays. Change Have.

☐

Add

☐

Take

☐

Leave

I moved .

Draw your screen result.

Have now:

Taken away:

Have now: .

My check

Speak, point or draw. An adult may record.

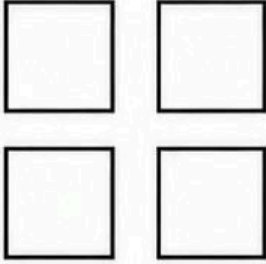
My Virtual Challenge

Foundation

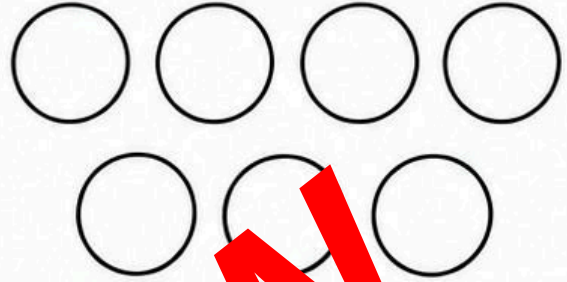
Name: _____ **ANSWERS** _____ Date: _____

Move the screen counters. Make enough.
You may tell an adult where to move.

Need 4 (fixed)



Have 7 (start)



Need stays. Change Have.

☐

Add

☒

Take

☐

Leave

I moved **3**.

Draw your screen result.

Have now:



Taken away:



Have now: **4**.

My check

Speak, point or draw. An adult may record.

**I took 3 away. I counted the 4 left in Have.
Have 4 matches Need 4.**

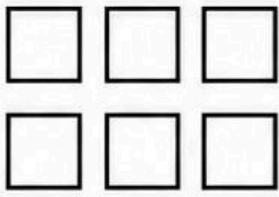
Individual Observation Cues

TEACHER ONLY - keep keys out of student view.

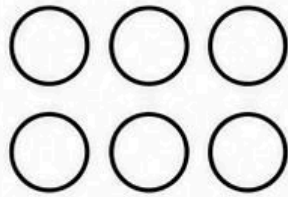
Observe the student's action and check. These are teacher keys.

Required: no change

Need 6



Have 6



Leave. Move 0. Final Have 6.

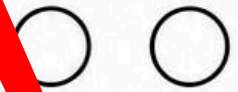
☐ 6 matches Need 6.

Required: zero

Need 0



Have 2

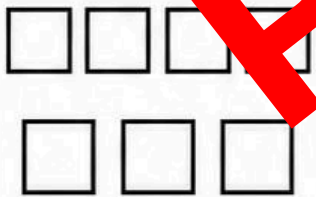


Take 2 away. Final Have 0.

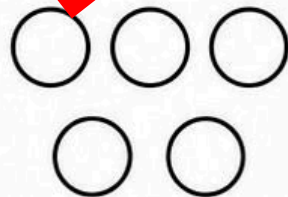
☐ Empty Have matches Need 0.

Follow-up: add

Need 7



Have 5

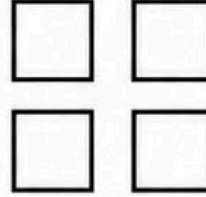


Add 2. Final Have 7.

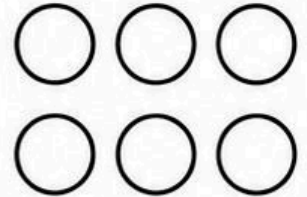
☐ 7 matches Need 7.

Follow-up: take

Need 4



Have 6



Take 2 away. Final Have 4.

☐ 4 matches Need 4.

Ask students to show why. Record any prompt that gives the action, count or answer.

Reading directions, pointing and adult recording are access supports.

Individual Observation Record

Student: _____ Date: _____ Teacher: _____

Physical challenge

Need 10; start Have 8.

Decision: _____

Amount moved: _____

Final Have: _____

Observed action:

How the student checked:

Content prompts:

Virtual challenge

Need 4; start Have 7.

Decision: _____

Amount moved: _____

Final Have: _____

Observed action:

How the student checked:

Content prompts:

Zero and no change

Need 6 / Have 6:

Action: _____

Final Have: _____

Check: _____

Need 0 / Have 2:

Action: _____

Final Have: _____

Check: _____

Strategy and access

- ☐ Counted each once
- ☐ Recognised small groups
- ☐ Matched to goal

Response (how the student communicated):

- ☐ Speaks
- ☐ Points
- ☐ Draws
- ☐ Adult records

Independence:

- ☐ Independent
- ☐ Content prompts
- ☐ Not yet observed

Misconception or next teaching step:

Access supports do not lower achievement. Record prompts that supply the action, count or answer.



Quantity Challenge Rubric

Foundation

Student: _____

Date: _____

Criterion	Emerging	Developing	Secure	Deepening
Represent Need and Have	Confuses or combines the collections.	Builds or counts them with content prompts.	Independently keeps the correct goal and available quantity separate.	Explains and repairs an incorrect goal or current model.
Decide and perform a change	Guesses an action or changes the goal.	Chooses some useful actions with prompts.	Chooses and performs appropriate or no-change to meet the goal in physical AND virtual tasks.	Corrects a current mismatch and explains the precise amount.
Quantify and check enough	Misses or recount objects, or counts groups.	Counts some small collections with reminders.	Counts each once or recognises small groups; checks the final match, including ten and zero.	Checks another valid way and explains unchanged quantity.
Explain a maths decision	Cannot yet connect the decision to the goal.	Shows part of the connection with prompts.	Speaks, points or draws why the action makes enough.	Explains a wrong action, boundary error or useful correction.

Use evidence from both actual task modes and separate zero/no-change checks. Adult reading or recording, pointing, pictures and student-directed adult movement do not lower Secure. Record content prompts that give the action, count or answer. Do not rate reading, speed or handwriting.



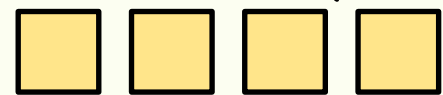
Our Classroom Quantity Challenges Foundation



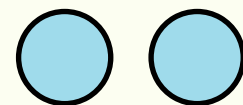
Need and Have

Need 4. Have 2.
Make enough. Click.

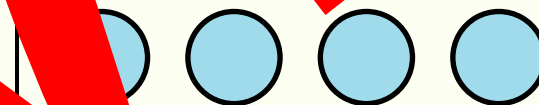
Need 4 (fixed)



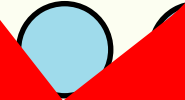
Before: Have 2



After: Have 4



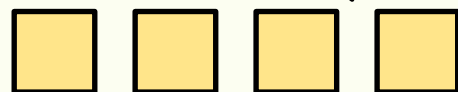
Before: Sp 2



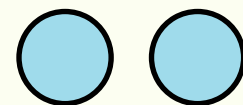
Two collections

Count Need. Count Have.
Keep them separate.

Need 4 (fixed)



Have 2



Make enough.

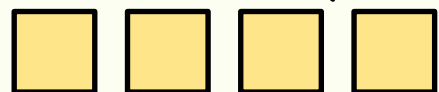
Check Have.



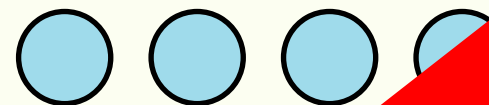
The same objects

Spread the same 4 out
Count again. Still 4.

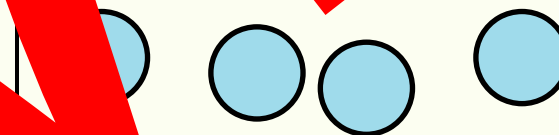
Need 4 (fixed)



Before: Have



After: Have 4



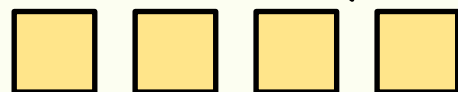
Still 4. Enough.



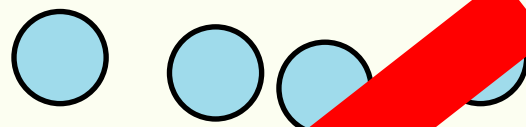
A quick look

How many do you see?
Touch and check.

Need 4 (fixed)



Have 4



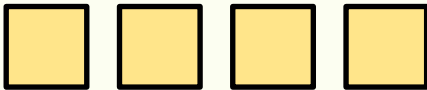
Count and check.



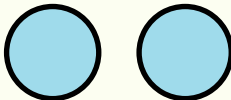
Put in two

Need 4. Have 2.
Add 2. Have Enough.

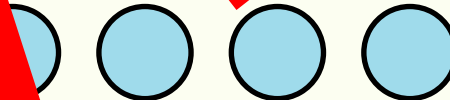
Need 4 (fixed)



Before: Have 2



After: Have 4



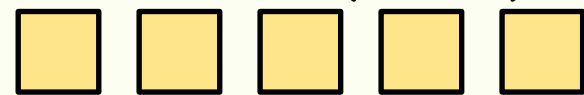
Before: Spent 2



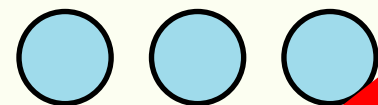
Your turn

Need 5. Have 3.
How many will you add?

Need 5 (fixed)



Have 3



Make enough.

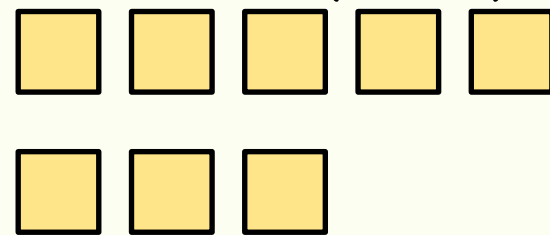
Check Have.



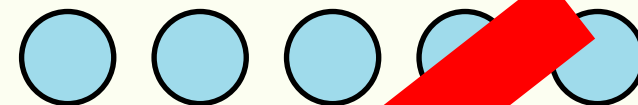
Three more

Need 8. Have 5.
Add 3. Have Enough.

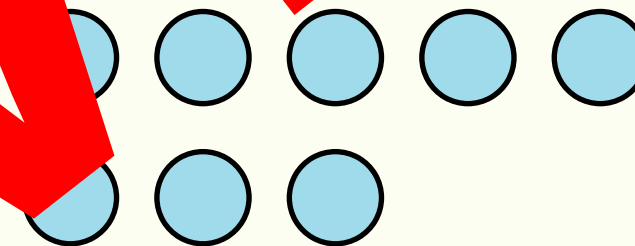
Need 8 (fixed)



Before: Have 5



After: Have 8



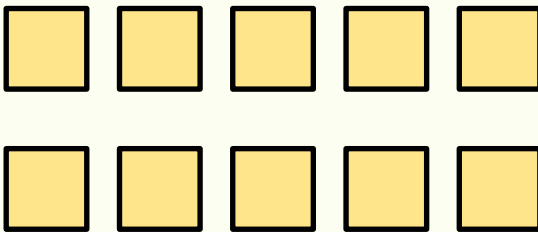
Before: Sp



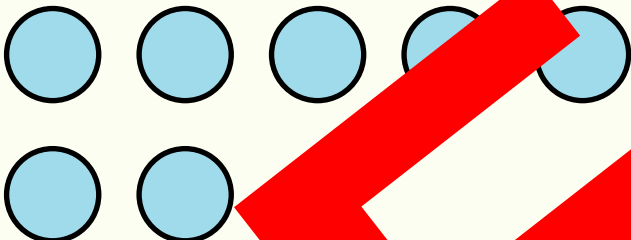
Enough for ten

Need 10. Have 7.
Add 3. Have 10

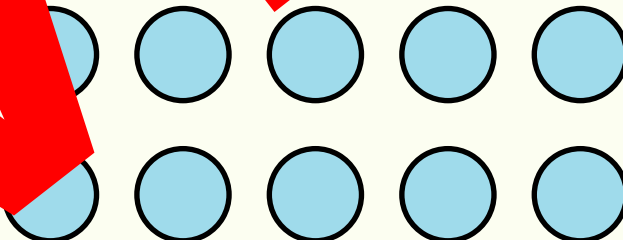
Need 10 (fixed)



Before: Have 7



After: Have 10



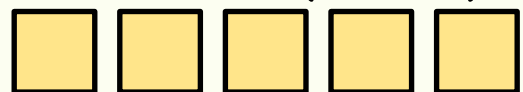
Before: Sp



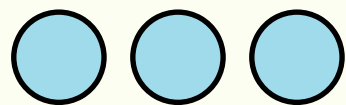
Move the counters

Need 5. Start with 3.
Make enough. Check.

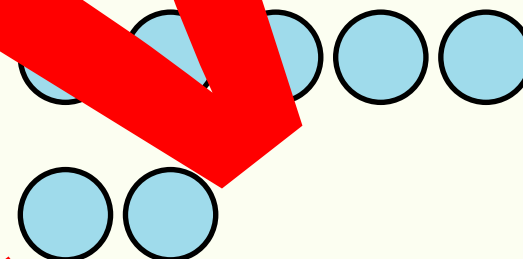
Need 5 (fixed)



Have



Have



Taken away

ed stays. Move only the round counters.



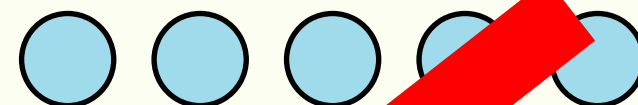
Take away two

Need 3. Have 5.
Take 2 away. Have 3.

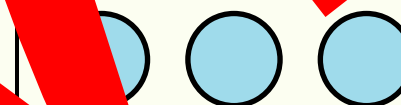
Need 3 (fixed)



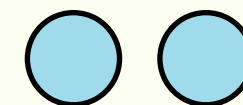
Before: Have 5



After: Have 3



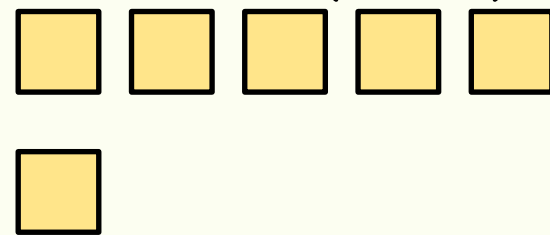
After: Taken away 2



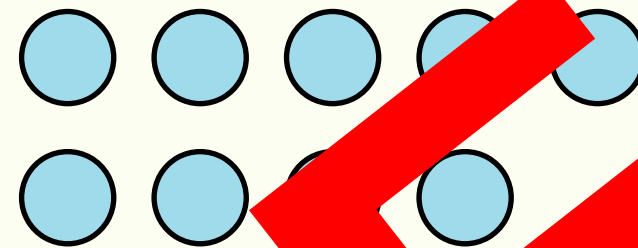
Take away three

Need 6. Have 9.
Take 3 away. Have 6.

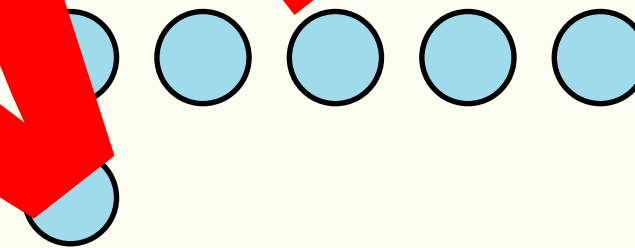
Need 6 (fixed)



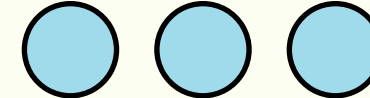
Before: Have 9



After: Have 6



After: Taken away 3

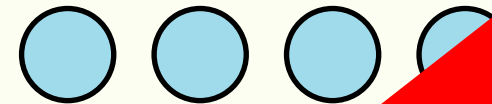


Zero

Need 0. Have 4.
Take all 4 away. Have 0.

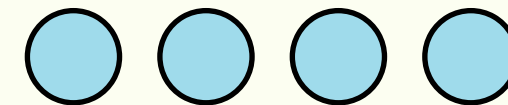
Need 0 (fixed)

Before: Have



After: Have 0

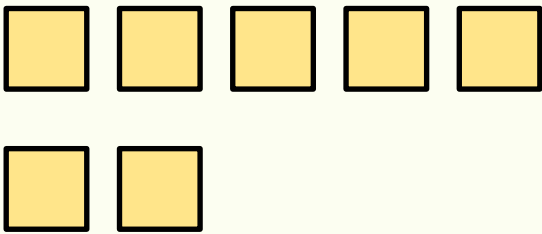
After: Taken away 4



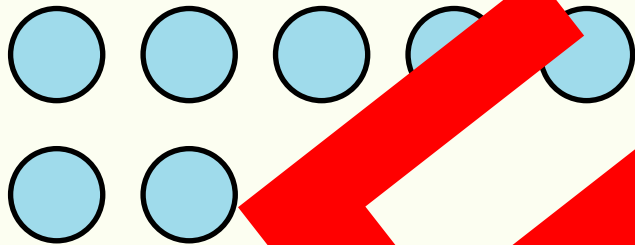
Already enough

Need 7. Have 7.
Leave them. Have 7.

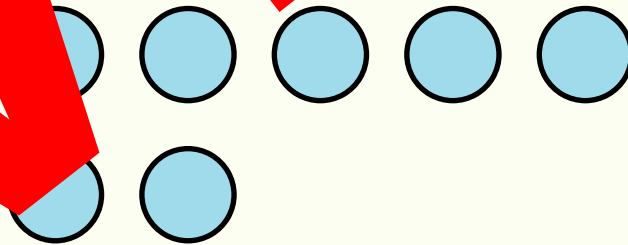
Need 7 (fixed)



Before: Have 7



After: Have 7



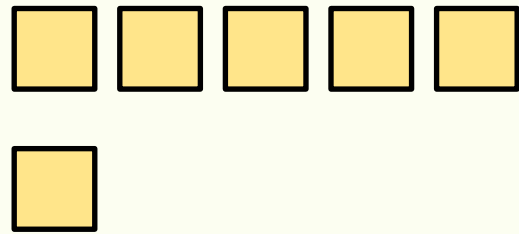
Still 7. Enough.



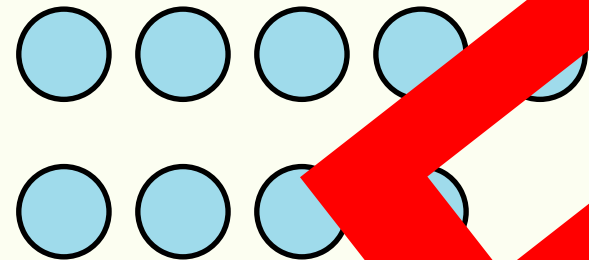
Move the counters

Need 6. Start with 9.
Make enough. Check.

Need 6 (fixed)



Have



Are



Taken away

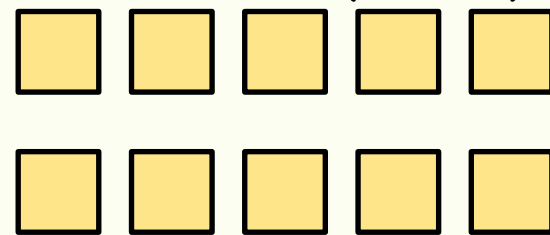
ed stays. Move only the round counters.



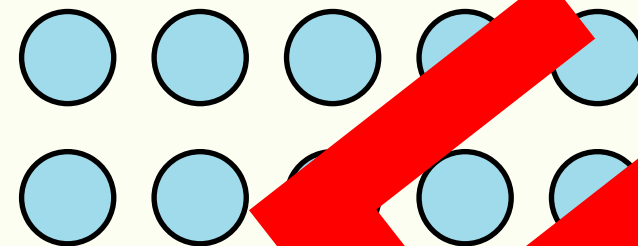
Ten is enough

Need 10. Have 10.
No change. Still 10.

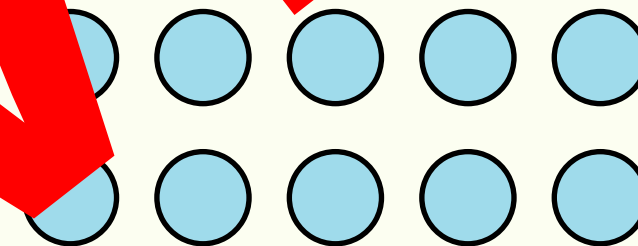
Need 10 (fixed)



Before: Have 1



After: Have 10



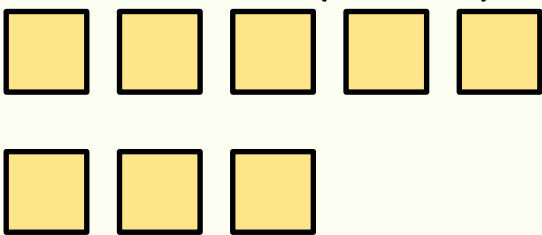
Still 10. Enough.



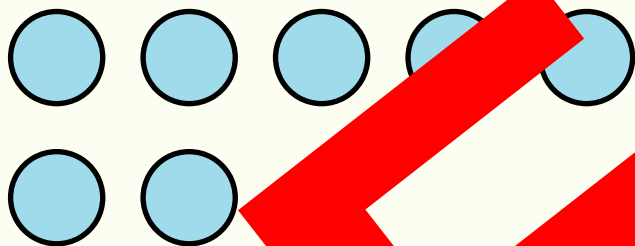
Fix it now

Need 8. Have now.
Add 1. Have

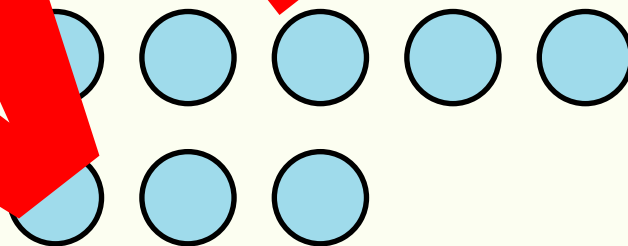
Need 8 (fixed)



Before: Have



After: Have 8



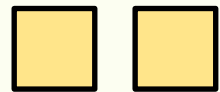
ore: Sp 1



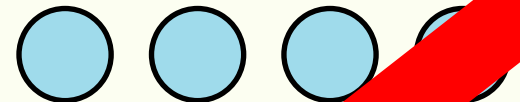
Choose an action

Need 2. Have 4.
Take 2 away or leave them.

Need 2 (fixed)



Have 4



Show your choice.

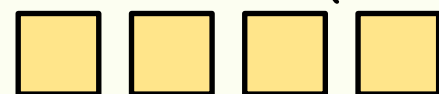
Make enough.



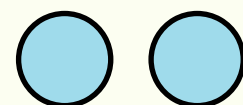
Prep Station

Maker change have
Checker counts. Swap.

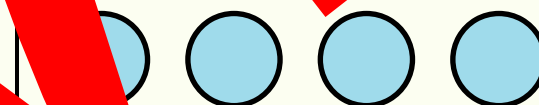
Need 4 (fixed)



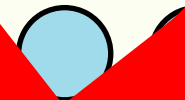
Before: Have 2



After: Have 4



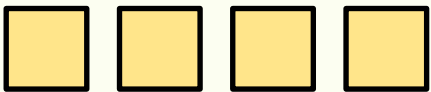
Before: Sp 2



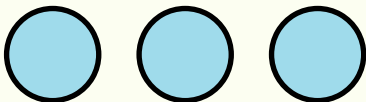
Decision Check

Need 4. Have now.
Add 1. Check

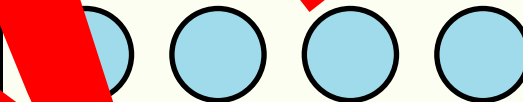
Need 4 (fixed)



Before: Have 3



After: Have 4



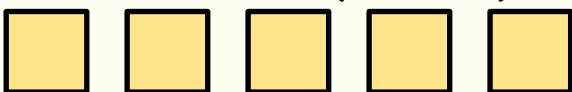
Before: Spent 1



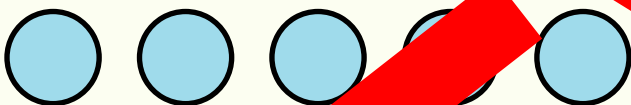
Only count Have

Need 5. Have 5.
Spare 4 stored outside.

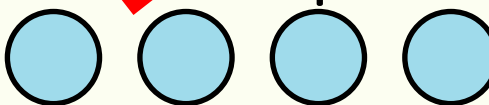
Need 5 (fixed)



Have 5



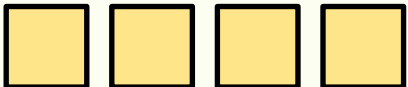
Spare 4



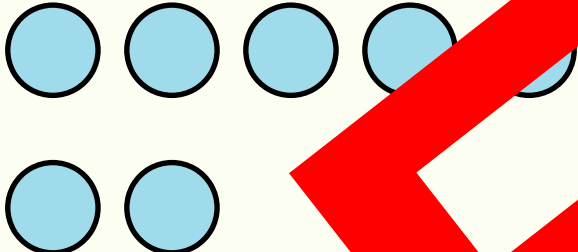
A new challenge

Need 4. Start with 7.
Make enough. Click.

Need 4 (fixed)



Have



Have



Taken away

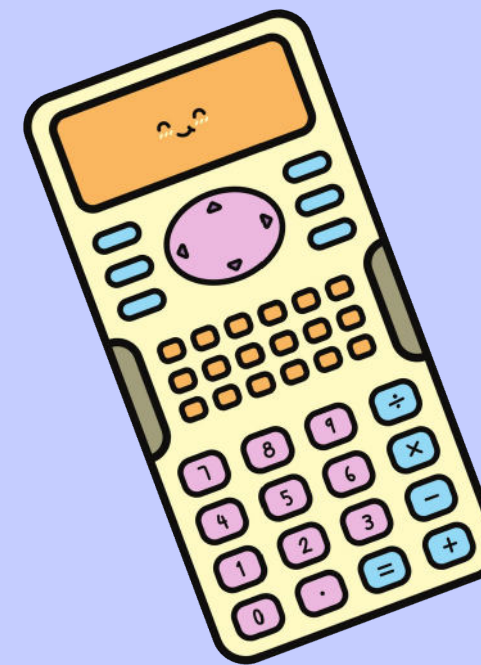
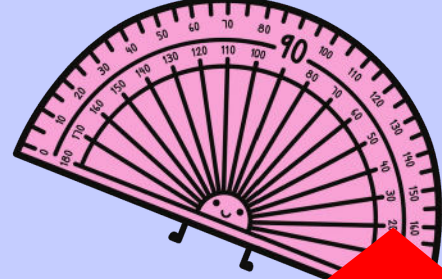
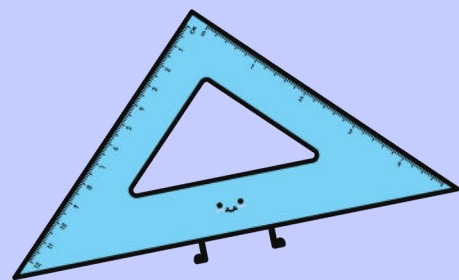
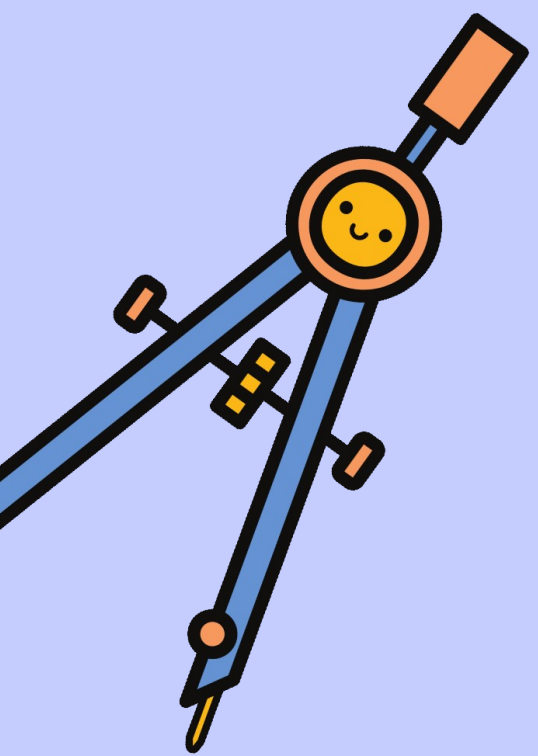
ed stays. Move only the round counters.



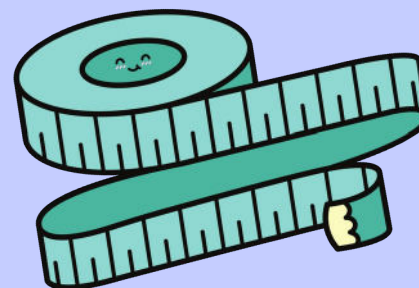
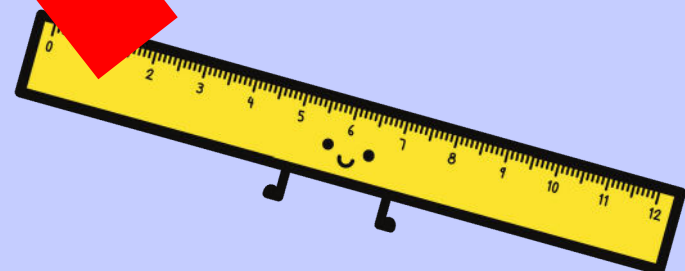
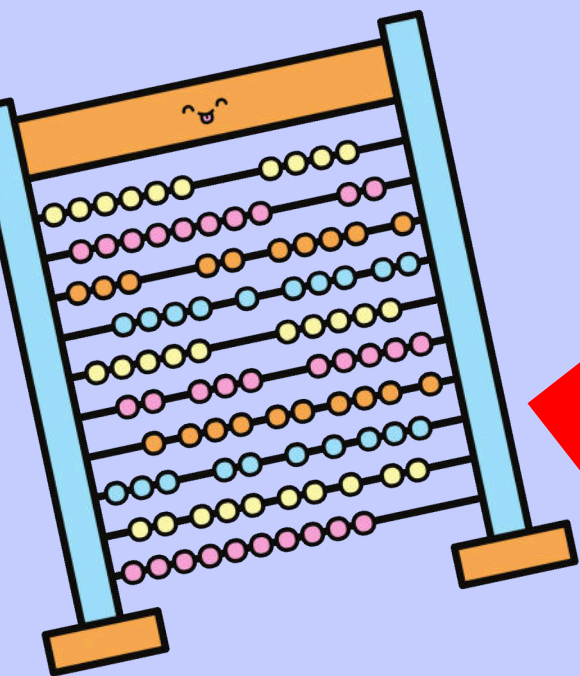
Your check

What did you love?
How do you know there's enough?





Well Done!



Our Classroom Quantity Challenges Foundation Quiz



Question 1: Make enough

Need 4. Have 2.
Make enough.

Need 4 (fixed)

Have 2

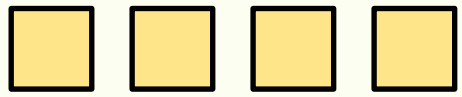
Make enough.
Check Have.



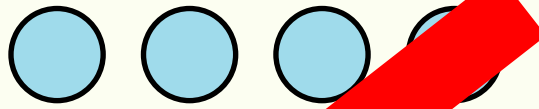
Answer 1

Add 2. Have 4.
Four matches Need 4.

Need 4 (fixed)



Have 4



Count Have.

Matches Need.



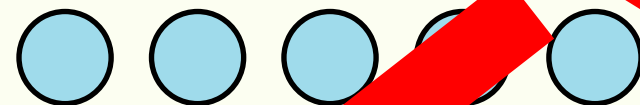
Question 2: Make enough

Need 3. Have 5.
Make enough.

Need 3 (fixed)



Have 5



Make enough.

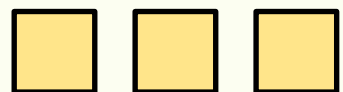
Check Have.



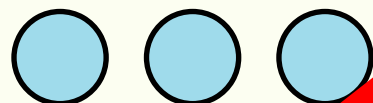
Answer 2

Take 2 away. Have 3.
Three matches Need 3.

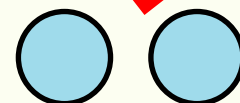
Need 3 (fixed)



Have 3



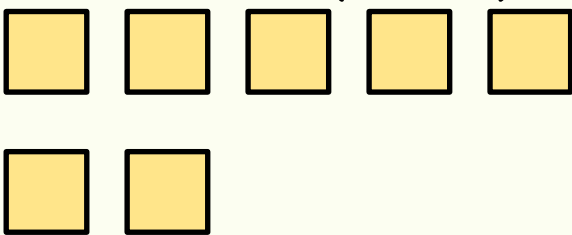
Taken away 2



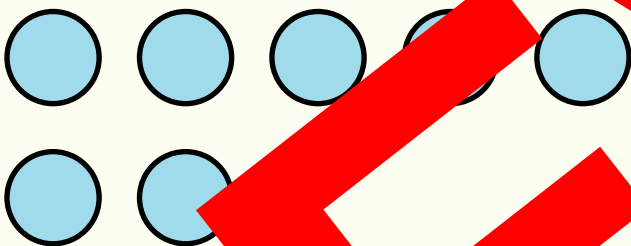
Question 3: Change in

Need 7. Have 7.
Change it?

Need 7 (fixed)



Have 7



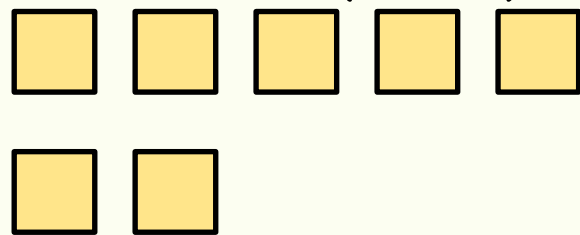
Make enough.
Check Have.



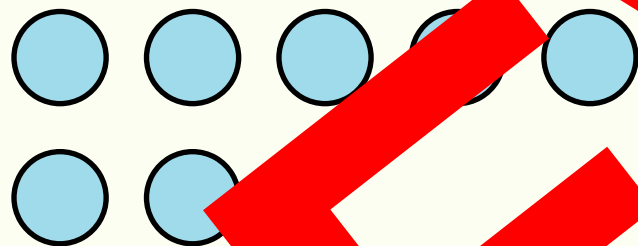
Answer 3

No change. Have 7.
Seven is already enough.

Need 7 (fixed)



Have 7



Count Have.
Matches Need.



Question 4: Make enough

Need 10. Have 7.
Make enough.

Need 10 (fixed)

Have 7

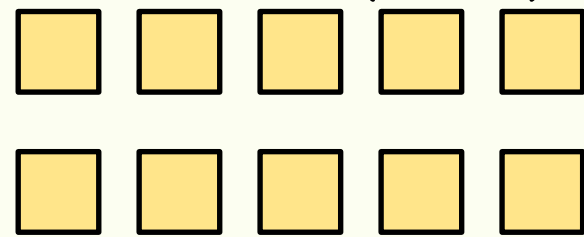
Make enough.
Check Have.



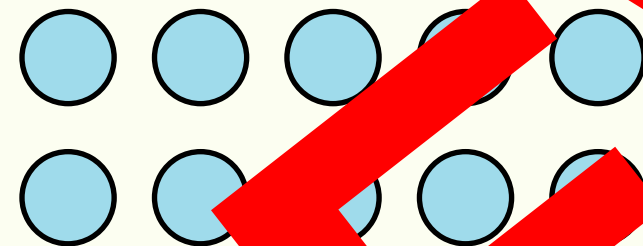
Answer 4

Add 3. Have 10.
Ten matches. Need 10.

Need 10 (fixed)



Have 10



Count Have.
Matches Need.



Question 5: Make enough

Need 0. Have 4.
Make enough.

Need 0 (fixed)

Have 4

Make enough.
Check Have.



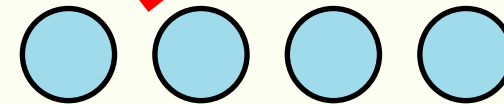
Answer 5

Take all 4 away, have
Empty matches need 0.

Need 0 (fixed)

Have 0

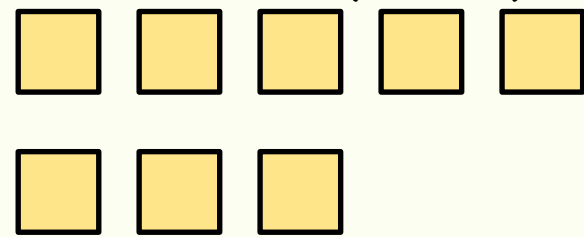
Taken away 4



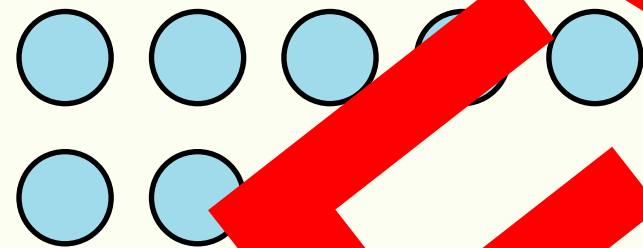
Question 6: Fix it now

Need 8. Have now 7.
Fix it now.

Need 8 (fixed)



Have ,



Make enough.

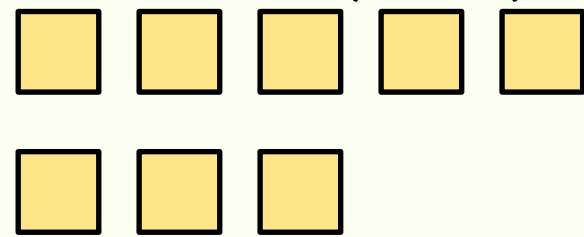
Check Have.



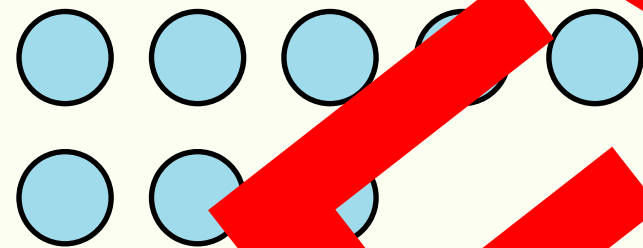
Answer 6

Add 1 to Have now
Have 8. oug

Need 8 (fixed)



Have 8



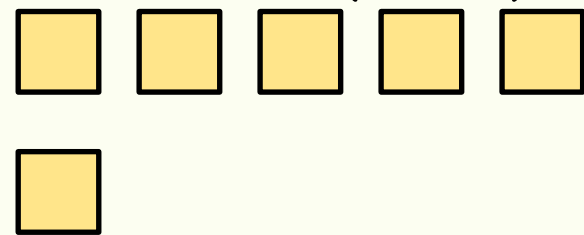
Count Have.
Matches Need.



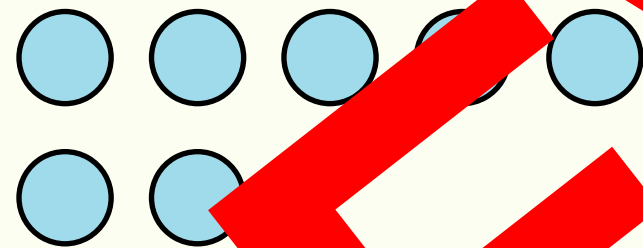
Question 7: Fix it now

Need 6. Have now 7.
Fix it now.

Need 6 (fixed)



Have ,



Make enough.

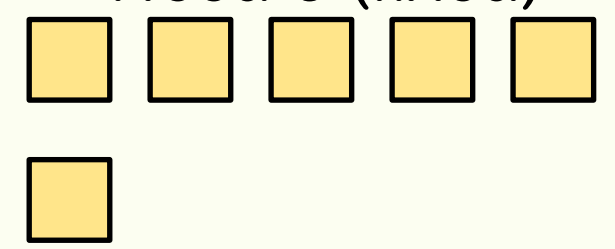
Check Have.



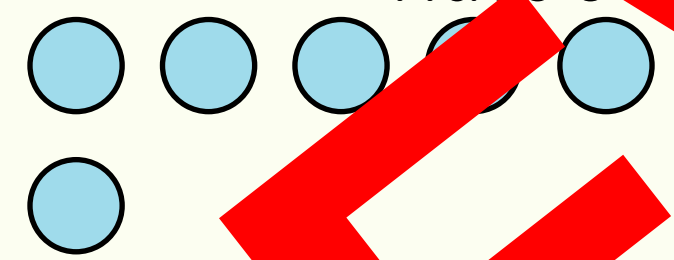
Answer 7

Take 1 from Have 7 no
Have 6. oug

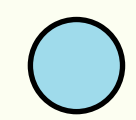
Need 6 (fixed)



Have 6



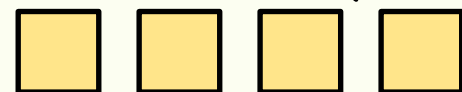
taken away 1



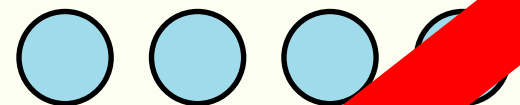
Question 8: Enough!

Need 4. Have 4.
Spare 6 stored outside.

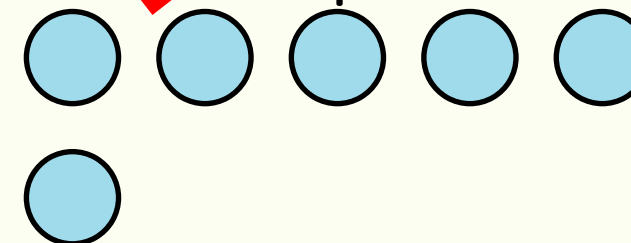
Need 4 (fixed)



Have 4



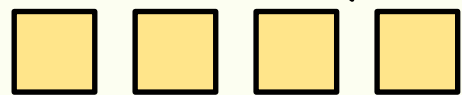
Spare 6



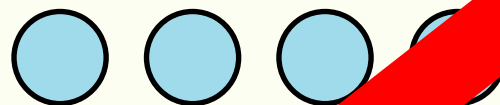
Answer 8

Yes. No change have
The 6 spares pay outside

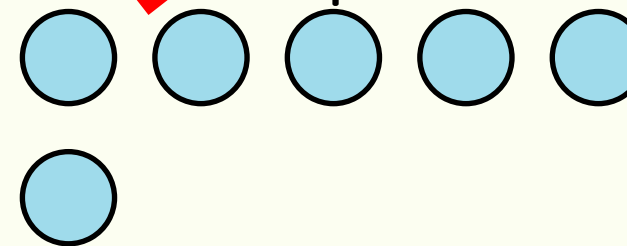
Need 4 (fixed)



Have 4



Spare 6



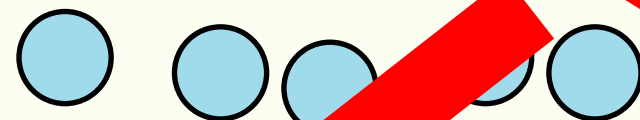
Question 9: Enough now?

Need 5. Have 5.
Same 5, spread out. Enough?

Need 5 (fixed)



Have 5



Make enough.

Check Have.



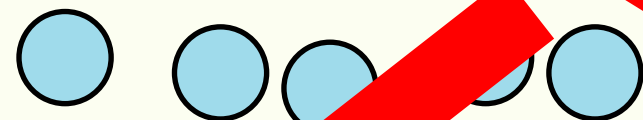
Answer 9

Yes. Still 5. No change.
They are the same 5.

Need 5 (fixed)



Have 5



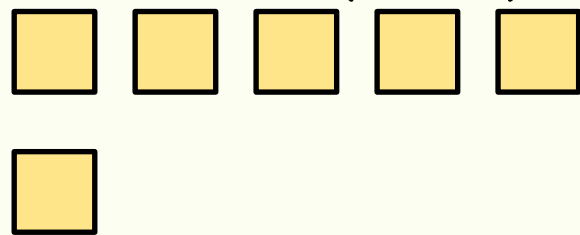
Count Have.
Matches Need.



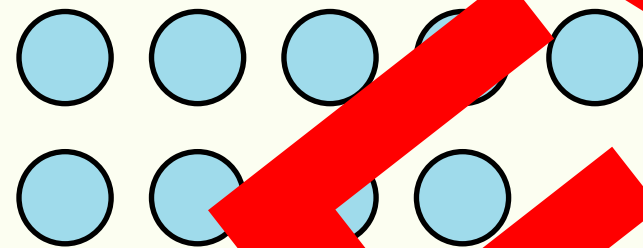
Question 10: Make enough

Need 6. Have 9.
Make enough.

Need 6 (fixed)



Have 9



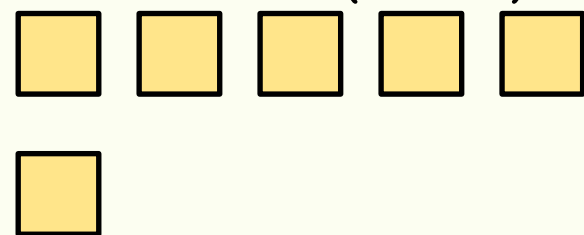
Make enough.
Check Have.



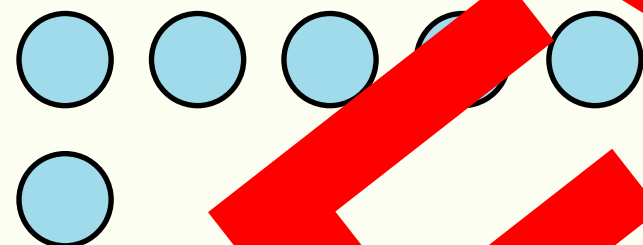
Answer 10

Take 3 away. Have 6
Count only the left. Ha

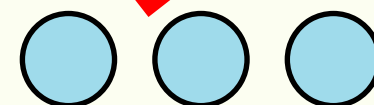
Need 6 (fixed)

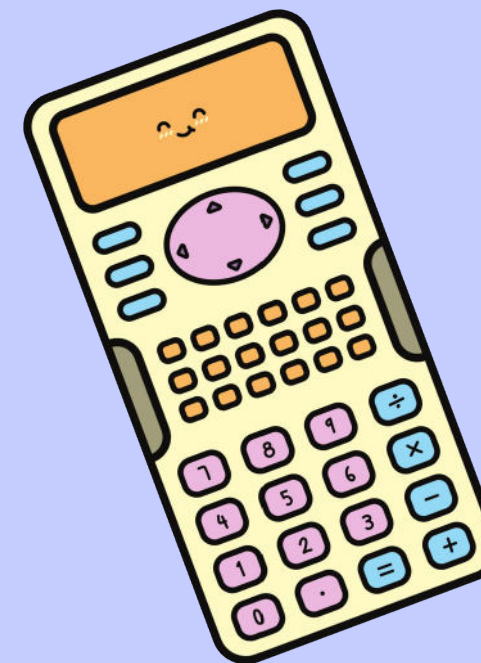
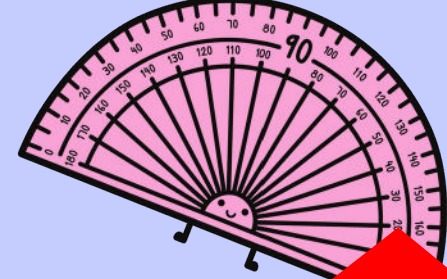
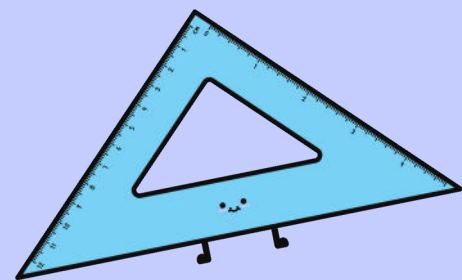
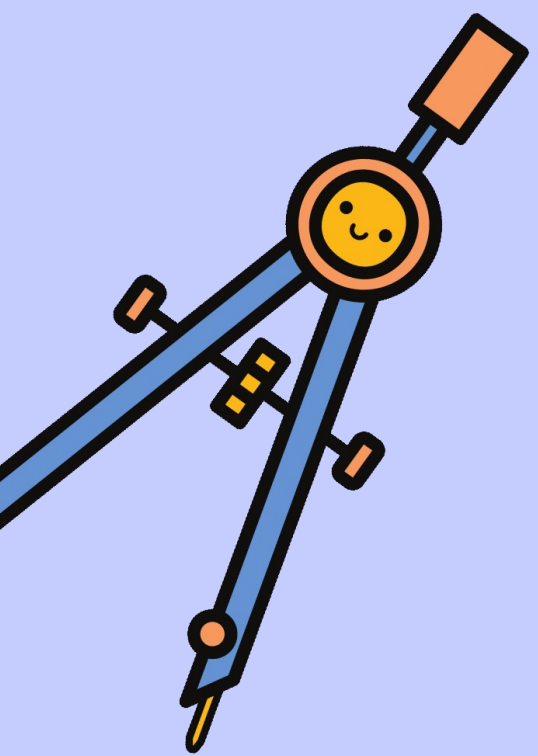


Have 6



taken away 3





Well Done!

