

INSTRUCTIONAL GUIDANCE: MAGNITUDE ESTIMATION

Review & practice

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Daily review should be brief: about 5–10 minutes. Use active participation strategies so all students respond, every time. Check the Magnitude Estimation: Resources for a slide bank that can be used to support these review and practice routines.

Use these routines for brief whole-class review when students have already been introduced to the number range and are mostly accurate. Keep comparisons within numbers already taught. If many students are inaccurate, pause the review routine and use explicit instruction with concrete or visual supports.

Most of these routines use some version of a left to right number track, which is very powerful for building knowledge of number magnitudes. Make explicit that each space represents an equal jump, not one more.

Linear Board Game: Count and Compare

Purpose

Students practise counting moves along a linear board and linking movement to number order and magnitude.

Use for

Brief whole-class or small-group review of counting-on, number order, and more/less, or pairs practice when the format has been introduced.

Materials

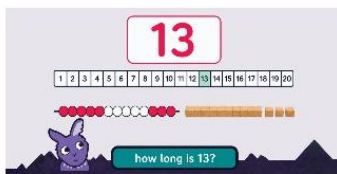
- Foundation: Large displayed linear board game or number path, 0–10 or 1–10; translucent counters; spinner or move cards showing 1, 2, or 3.
- Year 1 variation: 10×10 square 1–100 number grid, number 1 in bottom left and 100 in top right. Set a target start/target number.

Teacher note

Use a linear board with equal-size spaces arranged left to right (or 10×10 grid). All units on the track should represent the same length. Board games are excellent for building knowledge of numerical magnitude because there are many cues to a number's value. Turns with larger numbers take longer, have more individual steps, cover a longer distance and require more number words — all of these reinforce magnitude.

Easier variation

Step	Teacher move	Student response
1. Display	Show the linear board. "This board shows numbers in order. This is my track." Point to top track. "And this is your track." Point to bottom track. "When we roll/spin/choose a card, it tells us how many counters to add to our track."	Students track left to right.
2. Teacher Move	"My turn first." E.g. draw 2. "I will add 2 counters to the track. Count with me. 1, 2." Add 2 counters to the track.	"1, 2."
3. Land	"I am up to number 2. What number?"	"2."
4. Student move	"Now it is your turn." Choose a student to roll. Add an equivalent number of counters to the second track. "Count with me: 1, 2, 3."	
5. Land	"You are up to number 3. What number?"	"3."



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6. Compare	"Here is 3," gesture, "and here is 2. Which is more, 3 or 2?"	"3."
7. Sentence stem	"Say it with me: ____ is more than ____."	"3 is more than 2."
8. Repeat	Continue for several short turns. Alternate turns. Compare each time and state which is more/less and who is farther along the track.	

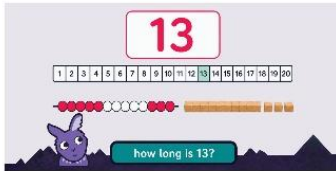
Harder variation

This version requires the teacher and students to use a game piece and start at "0" or to the left of the track prior to the first turn.

Step	Teacher move	Student response
1. Display	Show the linear board. "This board shows numbers in order. This is my track." Point to top track. "And this is your track." Point to bottom track. "When we roll/spin/choose a card, it tells us how far to move our piece along the track."	Students track left to right.
2. Teacher Move	"My turn first." E.g. draw 2. "I move 2 spaces along the track. Count with me. 1, 2." Move the game piece 2 spaces to land on "2".	"1, 2."
3. Land	"I am up to number 2. What number?"	"2."
4. Student move	"Now it is your turn." Choose a student to roll. Then move an equivalent number of spaces along the second track. "Count with me: 1, 2, 3."	
5. Land	"You are up to number 3. What number?"	"3."
6. Compare	"Here is 3," gesture, "and here is 2. Which is more, 3 or 2?"	"3."
7. Sentence stem	"Say it with me: ____ is more than ____."	"3 is more than 2."
8. Repeat	Continue for several short turns. Alternate turns. Compare each time and state which is more/less and who is farther along the track/closer to the destination. When ready, move both pawns along a single track.	

Correction routine

If students count the starting space as the first move: "Let's make sure we count each jump. Watch: jump 1, jump 2."



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Which Number Is More?

Purpose

Students compare two numerals and identify which number represents the greater quantity.

Use for

Brief whole-class review once students can read the target numerals and have had experience linking numerals to quantities.

Materials

- Number recognition cards, displayed numeral cards, optional cardinality chart for checking.

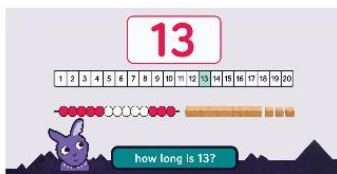
Teacher note

Use more / less and greater than / less than. Avoid "bigger" and "smaller," because those words can lead students to focus on the physical size of the written numeral rather than its value.

Step	Teacher move	Student response
1. Display	Show two numeral cards, for example 4 and 6.	Students look.
2. Read	"Read the numbers."	"4. 6."
3. Compare	"Which number is more, 4 or 6?" Hold up stop hand, pause, then lower hand.	"6."
4. Sentence	"Say the comparison sentence."	"6 is more than 4."
5. Less than	"Which number is less?"	"4 is less than 6."
6. Explain	"How do you know?"	"6 comes after 4." / "6 is farther along."
7. Repeat	Show another pair from the taught range.	Students compare.

Correction routine

If students choose incorrectly, display the number line or cardinality chart: "Let's find both numbers. Which one is farther along? Which one shows more?"



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Visual Magnitude Match

Purpose

Students compare quantities using visual representations before or alongside numerals.

Use for

Quick review of non-symbolic or supported magnitude comparison.

Materials

- Five-frame cards for quantities within 5; ten-frame cards once students are working beyond 5.

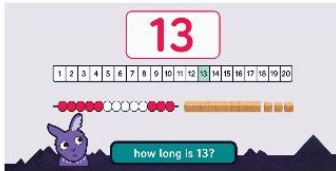
Teacher note

This routine is useful when students need to strengthen the link between number words and quantities before comparing numerals alone. Hold up two five-frame or ten-frame cards and ask which is more, so students connect the spoken number word to the represented quantity.

Step	Teacher move	Student response
1. Display	Show two five-frame or ten-frame cards, for example 5 and 7.	Students look.
2. Ask	"Which is more, 5 or 7?" Emphasise each card as the number is spoken.	"7."
3. Sentence	"Say it."	"7 is more than 5."
4. Less than	"Which is less?"	"5 is less than 7."
5. Explain	"How do you know?" (Turn and talk/choose 1-2 students to share)	"7 has 5 and 2 more." / "7 has more dots."
6. Repeat	Show another known pair.	Students compare.

Correction routine

If students guess, align the two representations and say: "This card has 5. This card has 5 and some more. The card with more dots shows the greater number."



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Number List: Left Is Less, Right Is More

Purpose

Students connect position on a number list or number path to magnitude. This routine also supports number-sequence language such as before, after, one more, and one less.

Use for

Whole-class review once students are familiar with a number list or number path.

Materials

- Number list, number path, or number strip.

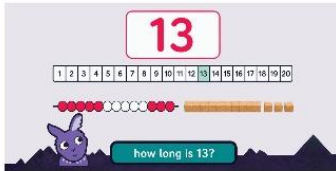
Teacher note

Students should learn that numbers decrease as they move left and increase as they move right, and that magnitude is the distance from zero to the number's position, not just a point on the line.

Step	Teacher move	Student response
1. Display	Show a number list or number path.	Students look.
2. Target	Point to 6. "What number?"	"6."
3. One less	Move one space left. "What number is one less than 6?"	"5."
4. One more	Move one space right. "What number is one more than 6?"	"7."
5. Compare	"Which is more, 5 or 7?"	"7."
6. Sentence	"Say it."	"7 is more than 5."
7. Repeat	Use several known target numbers.	Students respond chorally.

Correction routine

If students confuse direction, point and say: "When we move left, numbers get less. When we move right, numbers get more."



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Linear Board Game: One More, One Less Move

Purpose

Students practise one more and one less through movement on a linear board.

Use for

Daily review once students can identify before and after numbers within the target range.

Materials

- Linear board 0–10 or 1–10, class token.

Teacher note

This routine links before/after to one less/one more. It also reinforces that movement to the right increases the number and movement to the left decreases it.

Step	Teacher move	Student response
1. Place token	Put the token on 6. "What number are we on?"	"6."
2. One more	Move one space right. "What is one more than 6?"	"7."
3. Sentence	"Say it."	"7 is one more than 6."
4. Return	Move the token back to 6.	Students track.
5. One less	Move one space left. "What is one less than 6?"	"5."
6. Sentence	"Say it."	"5 is one less than 6."
7. Repeat	Use several known target numbers.	Students respond chorally.

Correction routine

If students confuse direction, say: "Right is one more. Left is one less. Watch the token move, then say the number."