Reasoning and Problem Solving
Step 5: Tenths as Decimals

National Curriculum Objectives:

Mathematics Year 3: (3F1a) Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10

Differentiation:

Questions 1, 4 and 7 (Reasoning)
Developing Explain if a statement is correct. Includes numbers smaller than 1 with pictorial support and scaffolding.
Expected Explain if a statement is correct. Includes numbers smaller than 1 with minimal pictorial support and scaffolding.
Greater Depth Explain if a statement is correct. Includes numbers smaller than 1 with minimal pictorial support and scaffolding.

Questions 2, 5 and 8 (Reasoning)
Developing Explain if they agree with a statement. Includes numbers smaller than 1 with pictorial support and scaffolding.
Expected. Explain if they agree with a statement. Includes numbers smaller than 1 with minimal pictorial support and scaffolding.
Greater Depth Explain if they agree with a statement. Includes numbers smaller than 1 with minimal pictorial support and scaffolding.

Questions 3, 6 and 9 (Problem Solving)
Developing Order decimals and fractions from smallest to largest. Includes numbers smaller than 1 with pictorial support and scaffolding.
Expected Order decimals and fractions from smallest to largest. Includes numbers smaller than 1 with minimal pictorial support and scaffolding.
Greater Depth Order decimals and fractions from smallest to largest. Includes numbers smaller than 1 with minimal pictorial support and scaffolding.

More Year 3 Fractions resources.

Did you like this resource? Don't forget to review it on our website.
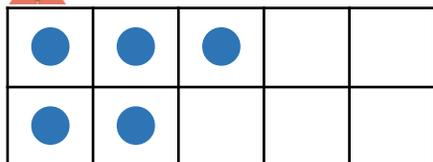
Tenths as Decimals

1a. Harris is using a ten frame and counters to represent tenths. One counter is equal to one tenth.

He says,

I have made 0.5.

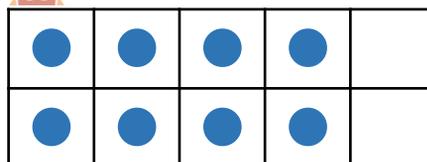Is Harris correct? Explain your answer.

⭐D

R

1b. Sally is using a ten frame and counters to represent tenths. One counter is equal to one tenth.

She says,

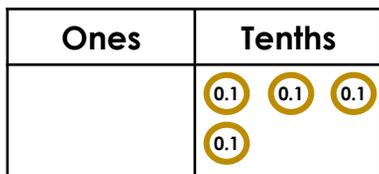I have made 0.7.

Is Sally correct? Explain your answer.

⭐D

R

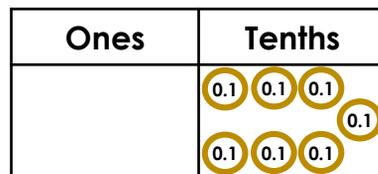**2a.** Which is the odd one out?

A. $\dfrac{4}{10}$

B.

Ones	Tenths
	0.1 0.1 0.1 0.1

C. 0.6

Convince me.

⭐D

R

2b. Which is the odd one out?

A. $\dfrac{9}{10}$

B.

Ones	Tenths
	0.1 0.1 0.1 0.1 0.1 0.1 0.1

C. 0.9

Convince me.

⭐D

R

3a. Order these numbers from smallest to largest.

| 0.4 | 0.8 | 0.2 | 0.9 |

Smallest　　　　　　　　　　Largest

⭐D

PS

3b. Order these numbers from smallest to largest.

| 0.1 | 0.5 | 0.3 | 0.6 |

Smallest　　　　　　　　　　Largest

⭐D

PS

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Reasoning and Problem Solving – Tenths as Decimals – Year 3 Developing

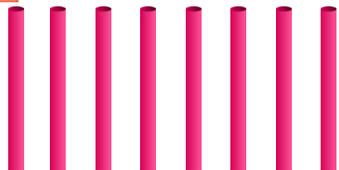**4a.** Laura is using straws to represent tenths. One straw is equal to one tenth.

She says,

> I have made 0.9.
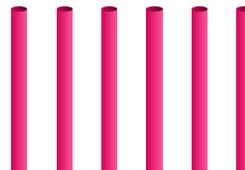
Is Laura correct? Explain your answer.

R

4b. Graham is using straws to represent tenths. One straw is equal to one tenth.

He says,

> I have made 0.6.

Is Graham correct? Explain your answer.

R

5a. Which is the odd one out?

A. $\dfrac{5}{10}$

B. five tenths

C. 0.5

D.

Ones	Tenths
	0.1 0.1 0.1 0.1 0.1 0.1

Convince me.

R

5b. Which is the odd one out?

A. $\dfrac{4}{10}$

B. nine tenths

C. 0.4

D.

Ones	Tenths
	0.1 0.1 0.1 0.1

Convince me.

R

6a. Order these numbers from smallest to largest.

0.8 $\dfrac{6}{10}$ 0.3 $\dfrac{1}{10}$

Smallest   Largest

PS

6b. Order these numbers from smallest to largest.

$\dfrac{2}{10}$ 0.9 $\dfrac{5}{10}$ 0.7
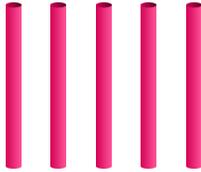
Smallest   Largest

PS

Tenths as Decimals

7a. Yousaf is using straws to represent tenths. One straw is equal to one tenth.

He says,

If I add 2 more straws I will have made 0.8.

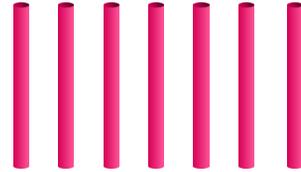Is Yousaf correct? Explain your answer.

R

7b. Isabel is using straws to represent tenths. One straw is equal to one tenth.

She says,

If I add 2 more straws I will have made 0.5.
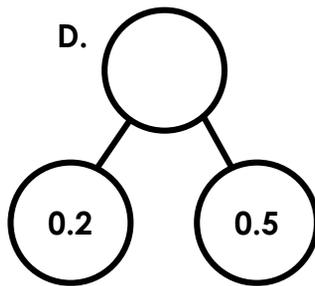
Is Isabel correct? Explain your answer.

R

8a. Which is the odd one out?
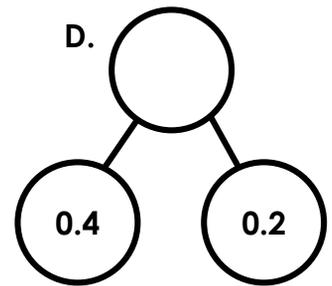
A. $\dfrac{7}{10}$

B. seven tenths

C. 0.9

D. 0.2   0.5

Convince me.

R

8b. Which is the odd one out?

A. $\dfrac{6}{10}$

B. nine tenths

C. 0.6

D. 0.4   0.2

Convince me.

R

9a. Order these numbers from smallest to largest.
Record your answers as decimals.

| one tenth | $\dfrac{6}{10}$ | three tenths | $\dfrac{9}{10}$ |

Smallest   Largest

PS

9b. Order these numbers from smallest to largest.
Record your answers as decimals.

| $\dfrac{7}{10}$ | two tenths | $\dfrac{4}{10}$ | eight tenths |

Smallest   Largest

PS

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Reasoning and Problem Solving – Tenths as Decimals – Year 3 Greater Depth

Developing

1a. Yes because he has used five counters to represent five tenths.

2a. C because it shows $\frac{6}{10}$ and the others are $\frac{4}{10}$.

3a. 0.2, 0.4, 0.8, 0.9

Developing

1b. No because she has used eight counters instead of seven.

2b. B because it shows $\frac{7}{10}$ and the others are $\frac{9}{10}$.

3b. 0.1, 0.3, 0.5, 0.6

Expected

4a. No because she has used eight straws instead of nine.

5a. D because it shows $\frac{6}{10}$ and the others are $\frac{5}{10}$.

6a. $\frac{1}{10}$, 0.3, $\frac{6}{10}$, 0.8

Expected

4b. Yes because he has used six straws to represent six tenths.

5b. B because it shows $\frac{9}{10}$ and the others are $\frac{4}{10}$.

6b. $\frac{2}{10}$, $\frac{5}{10}$, 0.7, 0.9

Greater Depth

7a. Yes because there are $\frac{6}{10}$ already shown. Adding two more straws would represent $\frac{8}{10}$.

8a. C because it shows $\frac{9}{10}$ and the rest are $\frac{7}{10}$.

9a. 0.1, 0.3, 0.6, 0.9

Greater Depth

7b. No because there are already $\frac{7}{10}$ shown. Adding two more straws would represent $\frac{9}{10}$.

8b. B because it shows $\frac{9}{10}$ and the rest are $\frac{9}{10}$.

9b. 0.2, 0.4, 0.7, 0.8

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Reasoning and Problem Solving – Tenths ANSWERS