|  |
| --- |
| **Math 4** |
| **Subject: Math****Unit: Exploring Tenths** |
| **Learning Target:**  Students will describe and represent decimals (tenths) concretely, pictorially, and symbolically. They learn that tenths can be written as decimals and that a decimal point separates whole numbers from the fraction part. |
| **Curriculum Outcomes:** **N9 01** Write a decimal for a given concrete or pictorial representation.**N902** Represent a given decimal using concrete materials or a pictorial representation.**N903** Explain the meaning of each digit in a given decimal. |
| **Screencast Support:** Exploring Tenths |
| **Resources/AT Tips:** **-nsvs Pearson** [**interactive tools – fractions and decimals**](#interactivetools)**-Screencast** – **Exploring Tenths** -iPads  -**Fraction App** by **Brainingcamp****HD:Users:lorna:Desktop:Screen Shot 2015-07-08 at 6.58.16 PM.png****-** Flats and Rods and/or ten frames.- 1 cm grid paper – for drawing fractions-Place value chart -Cooperative **game** –Matching Fractions-HD:Users:lorna:Desktop:Screen Shot 2015-07-03 at 8.55.14 AM.png **Number Pieces App**  |
| **Lesson Procedure** | **21st Century Skills** |
| **I do:** **Activate Prior Knowledge*** Students need experience with **ten frames** or **base ten blocks**. If using ten frames, have one ten frame represent 1 whole and each block of the frame represent one-tenth, **or** let one 10 rod represent 1 whole and each individual unit represent 1 tenth.
* Tell students base ten blocks can model whole numbers and model fractions. Demonstrate - Ask, ‘How many rods model 5/10? (5). How many rods represent 10/10? (a flat). Manipulate concrete materials.
 |  find, validate remember, understand  communicate  |
| **You do:*** Present the information from Math Sense 4, page 198 explaining tenths in fraction and decimal form as well as how to use a place value mat to show a decimal.
* Present the Screencast –[**Representing Tenths**](http://www.schooltube.com/video/825bf3584ebf473aa1ac/KJohnson%20Math%20Gr.%204%20Fr%20Unit%205%20Lesson%208%20Exploring%20Tenths) for a more in-depth look.
* **Discuss** screencast. Review tenths concept by using **Pearson interactive tools on the Smartboar**d – see **sample below.**
 |  collaborate, communicate analyze, synthesize  |
| **We do:*** Ask students to work on page 199, questions 2, 3, 4 and 5. They may **collaborate** and use any manipulatives available.
* Working in pairs, using iPads, ask students to access and explore the **Fractions app** by Brainingcamp for further reinforcement of tenths.

  |   collaborate, communicate analyze, synthesize critical thinking evaluate, leverage |
| **We share:*** Using base ten blocks, have students take turns **demonstrating** a model of tenths as a fraction and as a decimal. Have them discuss where the **decimal point** would go on the place value mat. They can also **draw** the fraction / decimal on cm grid paper if more practice is required.
 |   collaborate, communicate critical thinking evaluate, leverage create, publish citizenship |
| **Differentiation** |
| **Adaptations:** * Any student needing adaptations or support can **make a cue card** – draw a square to represent 1 whole, and a rod to represent 1 tenth.
* Have students’ practice counting flats by ones and rods by tenths, until they grasp the concept.
* **Review the screencast** and explore fractions using the **app-Fractions by Brainingcamp** as often as needed.
 | **Enrichment:** * Students could model tenths using other materials such as Cuisenaire Rods – an orange rod could represent one whole and a white one, 1/10.
 |
| **Assessment:** Ask students to **write** a response to this question: **Why is the decimal point important**? Encourage them to use pictures, numbers and words. Have them **play ‘**[**matching**](#matching) **fractions’**. Observe students.**Record observations** as you rotate around the room, observing students share what they know. |
| **Teacher Reflection:** **Discourage reading a decimal as a point**. Decimals should be read the same as fractions, ex: 0.4 is ‘zero and 7 tenths’. Letting the students work together allows you to roam, listen and support the students. This further informs the direction of your instructional strategies.  |

**Pearson Interactive Tools –nsvs website**



Matching Fractions

Work with a partner.
You will need 15 cards with fractions written on them, a geoboard,
geobands, Pattern Blocks, square dot paper, and triangular dot paper.

* Place the cards face down.
* One student chooses a card and reads the fraction.
* Work together to model the fraction using a geoboard and
geobands, or Pattern Blocks.
* Draw a picture of your model on paper.
If you used a geoboard to model the fraction,
 draw it on square dot paper.
 If you used Pattern Blocks to model the fraction,
 draw it on triangular dot paper.

**Take It Further:** Write fractions with tenths, such as
, , and  on cards.
Put these cards in your pile.
Repeat the activity.

Master 1.20